

# AIPULNION®

A/0版 2023/08印

## 模块电源选型手册

AC-DC 电源系列

DC-DC 电源系列

隔离收发模块系列

# AIPULNION

爱浦电源 · 九大核心技术  
炼造精品品质



爱浦公众号



源头工厂



敏捷定制



精密制造



国际认证



全球服务

# China

中国 ▪ 模块电源制造商



## About 关于我们 US

广州市爱浦电子科技有限公司创立于2004年，专业从事模块电源研发、生产、销售和电源解决方案的国家高新技术企业。目前，公司已经通过ISO9001:2015质量管理体系。爱浦电子拥有专业的生产设备：贴片机、回流焊、波峰焊、电源自动化测试设备、EMI实验室等；作为十九年品牌企业，爱浦电子拥有丰富的产品设计经验，已经申请了多项关键技术国家专利；到目前为止，我司产品系列分为1-700W的DC-DC模块电源，2-200W的AC-DC模块电源，通讯隔离收发模块。

- 我们的电源产品广泛应用于军工、铁路、电力、船舶、医疗、通信、工控、智能家居、物联网、充电桩、安防等领域；
- 服务网点遍布全国30个城市，能够为客户提供个性化、全方位、最直接的服务；
- 未来，我们将不断努力，提供更优质、环保、高性价比的产品与服务。

Founded in 2004, Guangzhou Aipu Electron Technology Co.,Ltd specializes in R&D, manufacturing, marketing and power supply solutions. As the high-tech enterprise, Aipu has acquired ISO 9001:2015 approval. We have professional production equipment, such as SMT machine, re-flow soldering machine, wave soldering machine, automatic testing machine and EMI test lab, etc. As the 19-year experience brand enterprise, Aipu has applied many technological patents for inventions. From now on, our main products included: 1-700W DC/DC Converter, 2-200W AC/DC Converter, CAN/485/232 Transceiver Module .

- Our products are widely applied to fields of military, railway, power industry, shipping, medical, communication, industrial control, smart home, internet of thing, charging pile, security etc.
- Our agents spread to 30 main cities of China, ensure to offer prompt service and support immediately and constantly to meet our clients' needs.
- In the future, we will continue to provide high quality, environmentally friendly, cost-effective products to customers from home and abroad.

# ▶ 资质证书 Certification



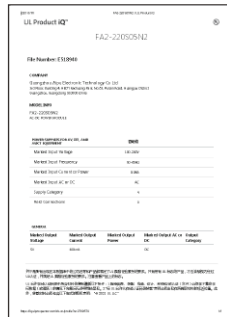
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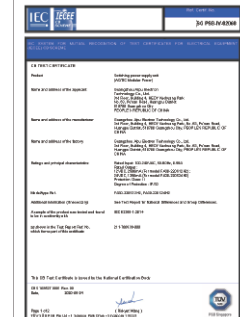
产品CE认证  
Product CE Certification



产品UL认证  
Product UL Certification



产品RoHS认证  
Product RoHS Certification



产品CB认证  
Product CB Certification



产品REACH认证  
Product REACH Certification



车规质量管理体系认证  
IATF 16949 Certification



专利证书(部分)  
The patent certificate



质量管理体系认证  
ISO9001:2015  
Quality Management System Certification

## 隔离收发模块

型号	波特率	同一网络连接节点数	页码	型号	波特率	同一网络连接节点数	页码
RS485-XXL/HSA	100/500Kbps	256	01	PRSCAN-XXHSA	1Mbps	110	01
RS485-XXL/HSAV	100/500Kbps	256	01	RSCAN-XXHSSV	1Mbps	110	01
RS485-XXL/HSSV	100/500Kbps	256	01	RS485-XXL/HSAVC	100/500Kbps	128/32	03
RS485-XXHSAVE	500Kbps	256	03	RS485-XXHSSVE	500Kbps	256	04

## DC-DC (1-25W) 定电压输入隔离模块

型号	功率(W)	输入标压(V)	页码	型号	功率(W)	输入标压(V)	页码
NN1/2-XXSXXANT	1/2	3,3,5	05	NN1-XXDXXANT	1	5,12	06
FN1-XXSXXAN	1	3,3,5,12,15,24	07	FN1-XXSXXBN	1	3,3,5,12,15,24	08
FN1-XXDXXBN	1	5,12,15,24	09	FN1-XXSXXXB3N	1	3,3,5,12,15,24	10
FN1-XXDXXB3N	1	5,12,15,24	11	FN2-XXSXXCN	2	5,12,24	12
FN2-XXDXXCN	2	5,12,24	12	FN2-XXSXXC3N	2	5,12,24	13
FN2-XXDXXC3N	2	5,12,24	13	FN1-XXSXXH6	1	5,12,24	14
FN1-XXDXXH6	1	5,12,24	14	FN2-XXSXXH6	2	5,12,24	15
FN2-XXDXXH6	2	5,12,24	15	FW1-XXSXXB/B3	1	5,12,24	16
FW2-XXSXXC/C3	2	5,12,15,24	17	NN2/3-XXSXXC3N/C4N	2/3	5,12,24	18
NNV25-XXSXXANT	25	5	19	NNV5-XXXXXBN/B3N	5	5	20
FNV5-XXXXXA	5	3,3,5,12,24	21	NW2-XXDXXDR3	2	5,12,24	22
NW1-XXDXXDR3	1	5,12,24	22	NN2-XXSXXF3N	2	5,12,24	23
NN1-XXSXXF3N	1	5,12,24	23	NN2-XXXXXANR3	2	5,12,24	24
NN1-XXXXXA3NR3	1	5	24	NN2-XXSXXFN	2	12,24	25
NN2-XXSXXF	2	12,24	25	NN1-XXSXXMN	1	5,12,15,24	26
NN1-XXSXXM3N	1	5	26	NN1-XXSXXM	1	5,12,24	26
NN3-XXSXXCN	3	5,12	27				

## DC-DC (1-10W) 宽电压输入隔离稳压输出

型号	功率(W)	输入标压(V)	页码	型号	功率(W)	输入标压(V)	页码
KW1-XXDXXER3/E3R3	1	24	28	KW1-XXSXXER3/E3R3	1	24	28
KW3-XXDXXER3/E3R3	3	24	29	KW3-XXSXXER3/E3R3	3	24	29
UD6-XXSXXE3/E23	6	24,48	30	FK6/10-XXSXXE2C3	6/10	FK6: 24 FK10:24,48	31
FK1-48SXXE/E3	1	48	32	FK3-48SXXE/E3	3	48	33

## DC-DC 非隔离模块

型号	输出电流(mA)	输入标压(V)	页码	型号	输出电流(mA)	输入标压(V)	页码
K78XX-500	500	12,24	34	K78XX-1000	1000	24	34
K78XX-2000	2000	12	35				



# DC-DC 模块电源 POWER MODULE



## DC-DC (6-75W) 宽电压输入隔离稳压输出

型号	功率 (W)	输入标压 (V)	页码	型号	功率 (W)	输入标压 (V)	页码
FD6-A3(-T)(-TS)	6	24,48	36	PFD12-XXXXXA3(C)2(-T)-TS)	12	24,48	37
FD12-XXXXXA3(C)4(-T)(-TS)	12	24,48	38	FD6/12-110SXXA3N4(-T)(-TS)	6/12	110	39
FD12/20-110SXXA3(C)3(-T)(-TS)	12/20	110	40	FD6/12/20-XXSXXB2C5	6/12/20	24,48	41
FD15-XXXXXA3(R)2(-T)-TS)	15	24,48	42	(P)FD20-XXXXXA3(R)2(-T)-TS)	20	24,48	43
FD30-A3(R)(-T)(-TS)	30	24,48	44	FD30/50-B3(C)(-T)(-TS)	30/50	24,48	45
FD20-B3(C)3(-T)(-TS)	20	110	46	FD30/40/50-B3(C)3(-T)(-TS)	30/40/50	110	47
BK15-500SXXH2N6	15	500	48	BK25-150SXX12H2N4	25	150	48
BK15/20/25-H1D4	15/20/25	500,600	49	BK40-600SXXW2N4	40	600	50
BK40-850SXXG2N6	40	850	51	WD50-XXSXXK1	50	12,24,48,110	52
WD75-XXSXXM1	75	12,24,48,110	53	DD6-05SXXE3C2	6	5	54
DD10-XXDXXE3C2	10	24,48	55	DD10-XXSXXE3C(N)2	10	24,48	55
DD30-36E0524G9N5	30	48	56				

## DC-DC (100-400W) 宽电压输入隔离稳压输出

型号	功率 (W)	输入电压 (V)	页码	型号	功率 (W)	输入电压 (V)	页码
WD100-N1	100W	12,24,48,110	57	WD100-Q1	100W	24,48,110	58
VD150-N1	150W	48,110	57	WD150-N1	150W	12,24,48,110	57
WD150-Q1	150W	24,48,110	58	BK150-GA1N6	150W	250-1500	59
BK150-GB1N6	150W	250-1500	60	WD200-P1	200W	12,24,48,110	61
WD300-P1	300W	24,48,110	61	WD400-P1	400W	24,48,110	61
WD350~700-R1	350~700W	48	62				

# AC-DC 模块电源

## AC-DC (2-8W) 隔离模块

型号	功率 (W)	输入电压 (VAC/DC)	页码	型号	功率 (W)	输入电压 (VAC/DC)	页码
FA2-N2	2	85-305/120-430	63	FA3-A2N3	3	85-265/120-380	64
FA3/5-B9D4	3/5	FA3: 85-265/120-380 FA5: 90-265/127-380	65	DA3-G9D4	3	85-305/120-430	66
FA3-300SXXY2N3(-T)(-TS)	3	90-528/100-745	67	DA5-G9D4	5	85-305/120-430	68
FA5-220E05XXC2D3	5	85-265/120-380	69	FA5-220SXXG2D4	5	85-305/120-430	70
FA5-Y2D4	5	90-265/120-380	71	FA5-Y2N4	5	85-305/120-430	72
FA6-D2	6	85-265/120-380	73	DA5-300SXXG9N4	5	90-528/127-746	74
DA5-300SXXGA9N4	5	85-418/100-591	75	FA8-220SXXB9N3	8	85-305/120-430	76

## AC-DC (10-25W) 高性能标准隔离模块

型号	功率(W)	输入电压(VAC/DC)	页码	型号	功率(W)	输入电压(VAC/VDC)	页码
FA10-Y2D4	10	85-305/120-430	71	FA10-Y2N4	10	85-305/120-430	72
FA10-220SXXE2D4	10	85-305/100-430	77	FA10-220E05XXE2D4	10	85-265/120-380	77
DA10-220SXXG9N4	10	85-305/120-430	78	DA10-P2D4	10	90-310/127-438	79
DA10-300SXXG9N4	10	90-528/127-746	80	FA10-C2N3	10	85-265/120-380	81
UA10-P2D	10	90-265/127-380	82	FA15-220H05XXXF2D4	15	85-265/120-380	83
FA15-220E05XXF2D4	15	85-265/120-380	84	FA15-220SXXF2D4	15	85-265/120-380	84
FA10-220SXXG2N4	15	85-305/120-430	85	FA15-Y2N3	15	85-305/120-430	67
DA20-F2D2	20	85-265/230-370	86	FA20-F2D4	20	85-265/120-380	84
FA20-P2D4	20	85-265/120-380	87	FA20-300SXXH2D4(-T)(-TS)	20	90-528/100-745	88
FA20-220HXXXXXH2D4	20	85-265/120-370	88	DA24-G2N3Y	24	85-305/120-430	89
FA25-H2D4	25	85-305/120-430	90	UA25-220EXXXH2	25	85-265/120-380	90
FA15-220SXXB9N3(-1)	25	85-305/120-430	91	FA15-220SXXG2N4	25	85-305/120-430	92
DA20-220SXXG2N4	25	85-305/120-430	93	FA20-220E05XXH2N4	25	85-265/120-370	94
FA20-220H05XXH2D4	25	85-265/120-370	95				

## AC-DC (30-75W) 隔离模块

型号	功率(W)	输入电压(VAC/DC)	页码	型号	功率(W)	输入电压(VAC/VDC)	页码
FA30-H2D4	30	85-305/120-430	90	WA75-L1	75	100-265/140-380	96
DA48-220S24B	48	110-270/150-385	97	FA40-H3N4	40	85-265/120-380	98
FA40-W2D4/W2N4	40	W2D4: 85-265/120-380 W2N4: 85-305/120-430	99	DA45-220T05XXXG9N3	45	85-265/120-380	100

## AC-DC (100-200W) 隔离模块

型号	功率(W)	输入电压(VAC/DC)	页码	型号	功率(W)	输入电压(VAC/VDC)	页码
DA120-G1N4	120	85-900VAC	101	WA100-L1	100	100-265/140-380	96
DA150-G9N3	150	85-264VAC	102	NA150-L1	150	165-265/200-380	96
NA200-M1	200	165-265/230-370	103				

## AC-DC 滤波器模块

型号	输入电压(VAC)	页码	型号	输入电压(VAC)	页码
LC-AC01F2	85-305	104	LC-AC01P2	85-265	105



## 电力行业模块

### AC-DC 电力行业模块

型号	功率(W)	输入电压(VAC/VDC)	页码	型号	功率(W)	输入电压(VAC/VDC)	页码
FA2-220S05N2	2	85-305/120-430	63	FA3-220SXXA2N3	3	85-265/120-380	64
DA5-220S12G9D4	5	85-305/120-430	68	FA6-220SXXD2	6	85-265/120-380	73
FA10-220S24E2D4	10	85-305/120-430	77	FA10-220SXXC2N3	10	85-265/120-380	81
UA10-220S12P2D	10	90-265/127-380	82	FA15-220H051212F2D4	15	85-265/120-380	83
FA15-220E0512F2D4	15	85-265/120-380	84	FA15-220S12Y2N3	15	85-305/120-430	67
DA20-220D12F2D2	20	85-265/230-370	86	FA20-220S12F2D4	20	85-265/120-380	84
DA24-220S12G2N3Y	24	85-305/120-430	89	FA25-220SXXH2D4	25	85-305/120-430	90
FA40-220S24H3N4	40	85-265/120-380	98	DA120-1000S28G1N4	120	85-900VAC	101

### DC-DC 电力行业模块

型号	功率(W)	输入标压(VDC)	页码	型号	功率(W)	输入标压(VDC)	页码
FN1-XXSXXAN	1	3.3,5,9,12,15,24	07	NN1-XXSXXANT	1	3.3,5	05
FN1-05D12BN	1	5	09	FN1-05S05B3N	1	5	10
KW1-24D12ER3	1	24	28	FK1-48S05E	1	48	32
KW1-24S12E3R3	1	24	28	FN2-05S05C3N	2	5	13
FN2-05D15C3N	2	5	13	FN2-XXSXXCN	2	5,12,24	12
FW2-05S05C	2	5	17	KW3-XXDXXER3/E3R3	3	24	29
NN3-12S12C3N	3	12	18	FK6-XXSXXE2C3	6	24	31
FD6-XXSXXA3	6	24,48	36	FK10-18SXXE2C3	10	24	31
PFD12-XXSXXA3N2	12	24,48	37	FD20-XXSXXA3C2	20	24,48	43
FD30-XXSXXB3C	30	24,48	45	K7805-2000	25	12	35



## 轨道交通模块

### AC-DC 轨道交通行业模块

型号	功率(W)	输入电压(VAC/VDC)	页码	型号	功率(W)	输入电压(VAC/VDC)	页码
FA15-220S05F2D4	5	85-265/120-380	84	UA10-220S12P2D	3	90-265/127-380	82
FA15-220S12Y2N3	5	85-305/120-430	67				

### DC-DC 轨道交通行业模块

型号	功率(W)	输入标压(VDC)	页码	型号	功率(W)	输入标压(VDC)	页码
FN1-XXSXXAN	1	3.3,5,12,15,24	07	FN1-XXDXXB3N	1	5,12,15,24	11
FW1-XXSXXB	1	5,12,24	16	FW1-XXSXXB3	1	5,12,24	16
FK6-18S12E2C3	6	24	31	FD12-110SXXA3(C)(N)3	12	110	40
FD20-110S12A3C3	20	110	40	FD20-110S24B3C3	20	110	46
FD50-110SXXB3(C)(N)3	50	110	47	FD50-XXSXXB3C	50	24,48	45
WD75-24S12M1	75	24	53	WD75-110S12M1	75	110	53
WD150-110S24Q1	150	24,48,110	58				



## 充电桩模块

### AC-DC 充电桩行业模块

型号	功率(W)	输入电压(VAC/VDC)	页码	型号	功率(W)	输入电压(VAC/VDC)	页码
FA5-220S05B9D4	5	90-265/127-380	65	DA10-220S12P2D4	10	90-310/127-438	79
FA10-220S05E2D4	10	85-305/100-430	77	FA15-220S12F2D4	15	85-265/120-380	84
FA15-220S12Y2N3	15	85-305/120-430	67	FA25-220SXXH2D4	25	85-305/120-430	90
FA30-220S12H2D4	30	85-305/120-430	90	FA40-220S12W2N4	40	85-305/120-430	99

### DC-DC 充电桩行业模块

型号	功率(W)	输入标压(VDC)	页码	型号	功率(W)	输入标压(VDC)	页码
NN1-05D12ANT	1	5	06	FN1-05S05AN	1	5	07
FN1-12D12B3N	1	12	11	KW3-24S05E3R3	3	24	29
PFD12-18SXXA3C2	12	24	37				

### 隔离收发模块 充电桩行业模块

型号	波特率	同一网络连接节点数	页码	型号	波特率	同一网络连接节点数	页码
RS485-05HSA	500Kbps	256	01	PRSCAN-05HSA	1Mbps	110	01

### 滤波器模块 充电桩行业模块

型号	输入电压(VAC)	页码	型号	输入电压(VAC)	页码
LC-AC01F2	85-305	104	LC-AC01P2	85-265	105



## 通信行业模块

### AC-DC 通信行业模块

型号	功率(W)	输入电压(VAC/VDC)	页码	型号	功率(W)	输入电压(VAC/VDC)	页码
FA3-220S05A2N3	3	85-265/120-380	64	WA100-220S12L1	100W	100-265/140-380	96
UA10-220S05P2D	10	90-265/127-380	82				

### DC-DC 通信行业模块

型号	功率(W)	输入标压(VDC)	页码	型号	功率(W)	输入标压(VDC)	页码
FN1-XXSXXAN	1	3.3,5,12,15,24	07	NN1-XXSXXANT	1	3.3,5	05
FN1-05D12BN	1	5	09	FN1-05S05BN	1	5	08
FN1-05S09B3N	1	5	10	FN2-05S05CN	2	5	12
KW3-24S05ER3	3	24	29	KW3-24D12ER3	3	24	29
FD6-18D09A3	6	24	36	PFD12-18S05A3C2	12	24	37
K783V3-1000	-	24	34	FD30-18S12B3	30	24	45
FD50-XXSXXB3C	50	24,48	45	WD150-48S12Q1	150	48	58
WD700-48S28R1	700	48	62				





## 光伏专用模块

### DC-DC 光伏行业模块

型号	功率(W)	输入电压(VDC)	页码	型号	功率(W)	输入电压(VDC)	页码
BK15-600S05H1N4	15	200-1200	49	BK15-500S12H2N6	15	100-1000	48
BK25-150S12H2N4	25	64-280	48	BK25-500SXXH1N4	25	100-1000	49
BK25-600SXXH1N4	25	200-1200	49	BK25-600D15H1N4	25	200-1200	49
BK40-600S12W2N4	40	200-1200	50	BK40-850S24G2N6	40	200-1500	51
BK150-500S28BA1N6	150	250-1500	59	BK150-800S24GB1N6	150	250-1500	60



## 物联网模块

### AC-DC 物联网模块

型号	功率(W)	输入电压(VAC/VDC)	页码	型号	功率(W)	输入电压(VAC/VDC)	页码
FA3-220S05A2N3	3	85-265/120-380	64	DA3-220S05G9D4	1	85-305/120-430	66
DA5-220S05G9D4	5	85-305/120-430	68	FA5-220S12Y2N4	1	85-305/120-430	72
DA10-220S12G9N4	10	85-305/120-430	78	FA15-220S12F2D4	1	85-265/120-380	84
FA25-220S12H2D4	25	85-305/120-430	90				

### DC-DC 物联网模块

型号	功率(W)	输入标压(VDC)	页码	型号	功率(W)	输入标压(VDC)	页码
FN1-XXSXXAN	1	3.3,5,12	07	NN1-3V3S3V3ANT	1	3.3	05
FN2-05S05CN	2	5	12	KW3-24S05ER3	3	24	29
FD6-18S05A3	6	24	36	PFD12-36S12A3C2	12	48	37
PFD20-18S05A3C2	20	24	43	PFD20-36S12A3N2	20	48	43



◆ 产品特性/Product Features

- RS485-XXHSAV波特率高达 High baud rate up to : 500Kbps
- RS485-XXLSAV波特率高达 High baud rate up to : 100Kbps
- RSCAN-XXHSA、RSCAN-XXHSSV波特率高达 High baud rate up to : 1Mbps
- 内置隔离电源 Integrated isolated DC/DC converter
- RS485-XXHSA同一网络可支持连接256个节点  
The bus is able to support 256 nodes at maximum
- RSCAN-XXHSA同一网络可支持连接110个节点  
The bus is able to support 110 nodes at maximum
- RS485-XXXSA两端隔离 Two-port isolation : 3750VAC
- RSCAN-XXHSA隔离电压 Isolation voltage : 2500VDC
- RSCAN-XXHSSV、RS485-XXXSSV隔离电压 Isolation voltage : 4000VDC
- 塑料外壳,小型SMD封装和DIP封装自由选择,符合UL94V-0级 小型 SIP封装  
Case:Plastic,meet UL94V-0,compact SIP packing
- 工作环境温度 Operating Temp:-40°C~+85°C
- 总线保护 Bus protection
- 应用领域:仪器仪表、通信、纯数字电路、一般低频模拟电路、继电器驱动电路、数据交换电路等领域  
Application Field:Instrumentation, communication, pure digital circuit, general low frequency analog circuit, relay drive circuit, data exchange circuit, etc.
- 测试条件:如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.

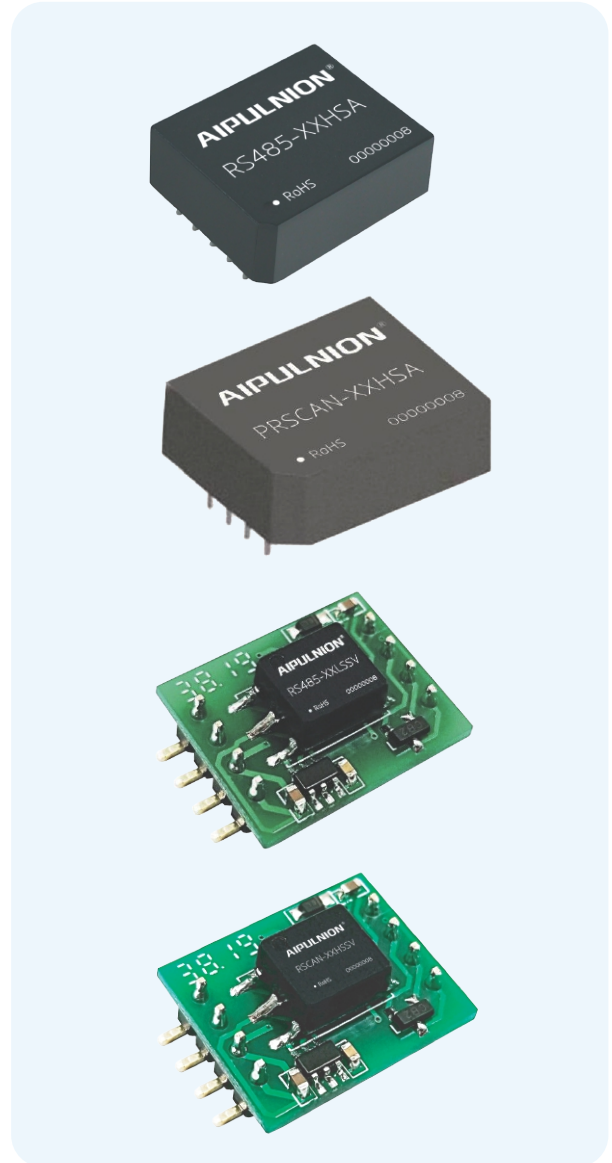
◆ 产品列表/Product List



产品型号 Part no.	输入电压 Input voltage	输入电流 Input current		认证 Certificate
	范围 Range	静态电流 Static current	发送电流 Send current	
	(VDC)	(mA)		
RS485-3V3HSA	3.15-3.45	50	100	符合RoHS
RS485-05HSA	4.75-5.25	40	80	
RS485-3V3LSA	3.15-3.45	50	100	
RS485-05LSA	4.75-5.25	40	80	
RS485-3V3HSAV	3.15-3.45	50	100	
RS485-05HSAV	4.75-5.25	40	80	
RS485-3V3LSAV	3.15-3.45	50	100	
RS485-05LSAV	4.75-5.25	40	80	
RS485-3V3HSSV	3.15-3.45	40	130	
RS485-05HSSV	4.75-5.25	50	130	
RS485-3V3LSSV	3.15-3.45	40	130	
RS485-05LSSV	4.75-5.25	50	130	
PRSCAN-3V3HSA	3.15-3.45	40	100	
PRSCAN-05HSA	4.75-5.25	30	80	
RSCAN-3V3HSSV	3.15-3.45	30	60	
RSCAN-05HSSV	4.75-5.25	40	70	

注1:因篇幅有限,以上只是部分产品列表,若需列表以外产品,请与本公司销售部联系。  
Note 1: Due to space limitations, above is only a part of our product list, please contact our sales team for more items.

◆ 产品实物图/Product Photos

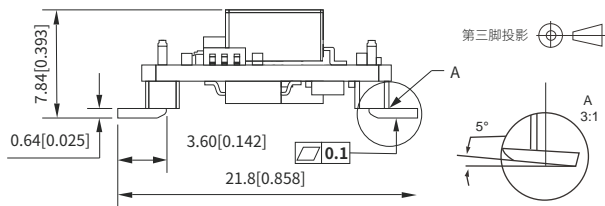
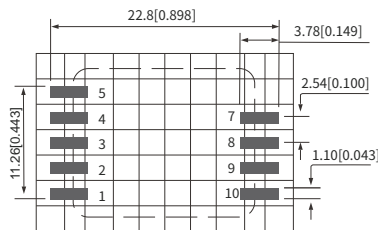
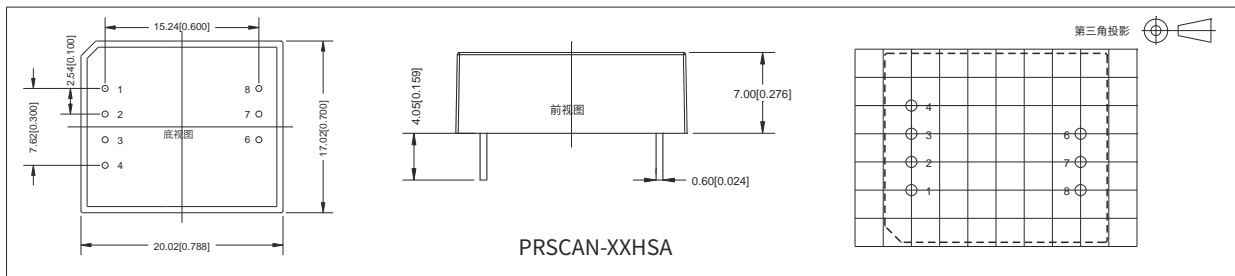
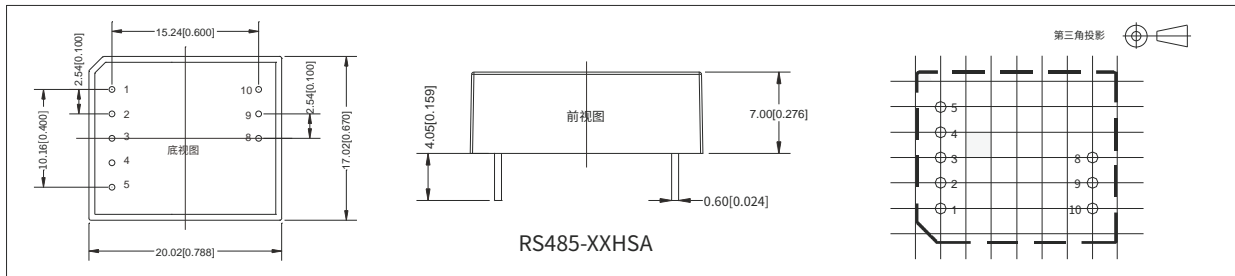


◆ 命名方式/Nomination Method

PRS 485 - 05 H S A V  
① ② ③ ④ ⑤ ⑥ ⑦

- ①:产品系列:(P)RS为隔离收发模块系列。
- ②:通信方式:“485”表示通信方式是485通信,“232”表示通信方式是232通信,“CAN”表示通信方式是CAN通信。
- ③:输入电压:“5”表示输入电压5V,“3V3”表示输入电压3.3V。
- ④:通信速率:“H”表示高速通信,未标注为普通速率;“L”为低速。
- ⑤:通道数量:“S”为单路,“D”为双路。
- ⑥:插脚方式:“A”表示直插,“S”表示SMD。
- ⑦:输出供电引脚:“V”表示输出带供电引脚,无/“N”代表无供电引脚。

封装尺寸/Packing Dimension



单位 (Unit): mm  
 印刷板俯视图 (Printed board vertical view)  
 栅格间距 (lattice spacing): 2.54mm (0.1inch)  
 未注尺寸公差 (General tolerance): ±0.5mm  
 未注明引脚直径公差 (Pin section tolerances): ±0.10mm

引脚定义		
引脚	标识	功能
1	+Vin	输入电源正
2	-Vin	输入电源负
3	TXD	发送引脚
4	RXD	接收引脚
5	CON	发送、接收控制脚
7	+V0	隔离电源输出正
8	B	RS485H B引脚
9	A	RS485H A引脚
10	RGND	隔离电源输出地
封装尺寸	21.80*14.80*7.20mm	
	0.858*0.583*0.309mm	
引脚型号	RS485-XXSSV	

引脚定义		
引脚	标识	功能
1	+Vin	输入电源正
2	-Vin	输入电源负
3	TXD	发送引脚
4	RXD	接收引脚
5	CON	发送、接收控制脚
8	B	RS485H B引脚
9	A	RS485H A引脚
10	RGND	隔离电源输出地
封装尺寸	20.02*17.02*7.00mm	
	0.788*0.670*0.276mm	
引脚型号	RS485-XXHSA(V)	

引脚定义		
引脚	标识	功能
1	+Vin	输入电源正
2	-Vin	输入电源负
3	TXD	CAN发送引脚
4	RXD	CAN接收引脚
6	CANH	CAN H引脚
7	CANL	CAN L引脚
8	CGND	隔离电源输出地
封装尺寸	20.02*17.02*7.00mm	
	0.788*0.670*0.276mm	
引脚型号	PRSCAN-XXHSA	

引脚定义		
引脚	标识	功能
1	VCC	输入电源正
2	GND	输入电源地
3	TXD	CAN发送引脚
4	RXD	CAN接收引脚
5	V0	隔离电源输出正
6	CANH	CAN H引脚
7	CANL	CAN L引脚
8	CGND	隔离电源输出地
封装尺寸	21.80*14.80*7.20mm	
	0.858*0.583*0.309mm	
引脚型号	RSCAN-XXHSSV	

注意:电源模块的各管脚定义如与选型手册不符,应以实物标签上的标注为准。  
 Note:if the definition of pin is not in accordance with the model selection manual, please refer to the label on actual item.

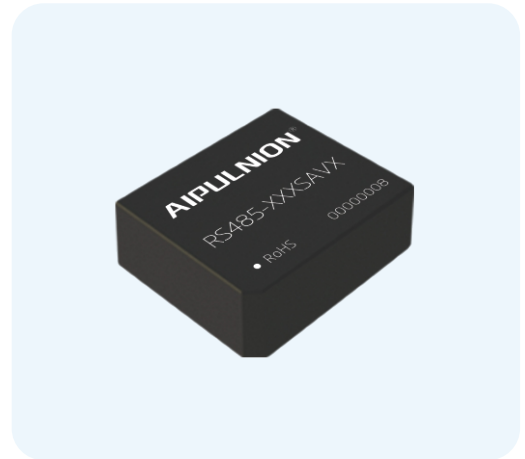


### 产品特性 / Product Features

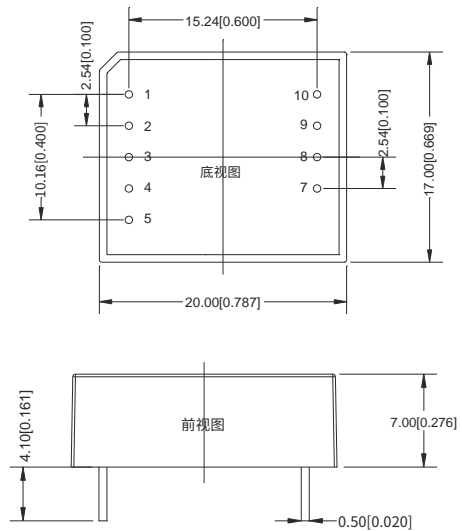
- RS485-XXSAVC/RS485-XXHSAVE波特率高达 High baud rate up to : 500Kbps
- RS485-XXLSAVC波特率高达 High baud rate up to : 115200bps
- 内置隔离电源 Integrated isolated DC/DC converter
- RS485-XXSAVC同一网络可支持连接128个节点  
The bus is able to support 128 nodes at maximum
- RS485-XXLSAVC同一网络可支持连接32个节点  
The bus is able to support 32 nodes at maximum
- RS485-XXHSAVE同一网络可支持连接256个节点  
The bus is able to support 256 nodes at maximum
- 两端隔离 Two-port isolation : RS485-XXSAVC: 3000VAC RS485-XXHSAVE: 4000VDC
- 塑料外壳, 小型SMD封装和DIP封装自由选择, 符合UL94V-0级 小型 SIP封装  
Case: Plastic, meet UL94V-0, compact SIP packing
- 工作环境温度 Operating Temp: -40°C~+85°C
- 自动切换收发状态 Receiving & Sending switch automatically
- 总线保护 Bus protection

● **应用领域:** 仪器仪表、通信、纯数字电路、一般低频模拟电路、继电器驱动电路、数据交换电路等领域  
Application Field: Instrumentation, communication, pure digital circuit, general low frequency analog circuit, relay drive circuit, data exchange circuit, etc.

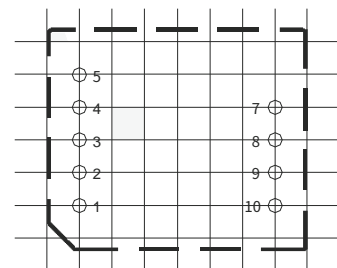
● **测试条件:** 如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



### 封装尺寸 / Packing Dimension



第三角投影



单位 (Unit): mm  
 印刷板俯视图 (Printed board vertical view)  
 栅格间距 (lattice spacing): 2.54mm(0.1inch)  
 未注尺寸公差 (General tolerance): ±0.5mm  
 未注明引脚直径公差 (Pin section tolerances): ±0.10mm

### 产品列表 / Product List



产品型号 Part no.	输入电压 Input voltage	输入电流 Input current		认证 Certificate
	范围值 Range (VDC)	静态电流 Static current (mA)	发送电流 Send current (mA)	
RS485-3V3HSAVC	3.15-3.45	50	100	符合RoHS
RS485-05HSAVC	4.75-5.25	40	80	
RS485-3V3LSAVC	3.15-3.45	50	100	
RS485-05LSAVC	4.75-5.25	40	80	
RS485-3V3HSAVE	3.15-3.45	50	100	
RS485-05HSAVE	4.75-5.25	40	80	

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 Note 1: Due to space limitations, above is only a part of our product list, please contact our sales team for more items.

引脚定义		
引脚	标识	功能
1	VCC	输入电源
2	GND	电源地
3	TXD	发送端
4	RXD	接收端
5	NC	空脚
7	V0	隔离输出电源
8	B	信号脚 B
9	A	信号脚 A
10	RGND	隔离电源地
封装尺寸	20.00*17.00*7.00mm	
	0.787*0.669*0.276mm	
引脚型号	RS485-XXSAVC	

引脚定义		
引脚	标识	功能
1	+VIN	输入电源正
2	-VIN	输入电源负
3	TXD	发送脚
4	RXD	接收脚
5	CON	发送、接收控制引脚
7	+V0	隔离电源输出正
8	B	引脚 B
9	A	引脚 A
10	RGND	隔离电源地
封装尺寸	20.00*17.00*7.00mm	
	0.787*0.669*0.276mm	
引脚型号	RS485-XXHSAVE	





### 产品特性/Product Features

- 波特率高达 High baud rate up to : 500Kbps
- 内置隔离电源 Integrated isolated DC/DC converter
- 同一网络可支持连接256个节点  
The bus is able to support 256 nodes at maximum
- 两端隔离 Two-port isolation : 4000VDC
- 工作环境温度 Operating Temp:-40°C~+85°C
- 总线保护 Bus protection
- 塑料外壳, 小型SMD封装和DIP封装自由选择, 符合UL94V-0级 小型 SIP封装  
Case:Plastic,meet UL94V-0,compact SIP packing
- 应用领域: 仪器仪表、通信、纯数字电路、一般低频模拟电路、继电器驱动电路、数据交换电路等领域  
Application Field: Instrumentation, communication, pure digital circuit, general low frequency analog circuit, relay drive circuit, data exchange circuit, etc.
- 测试条件: 如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



### 产品列表/Product List

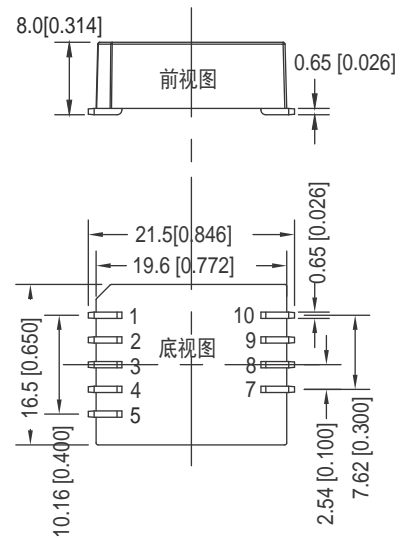


产品型号 Part no.	输入电压 Input voltage	输入电流 Input current		认证 Certificate
	范围值 Range (VDC)	静态电流 Static current (mA)	发送电流 Send current (mA)	
RS485-3V3HSSVE	3.15-3.45	50	100	符合RoHS
RS485-05HSSVE	4.75-5.25	40	80	

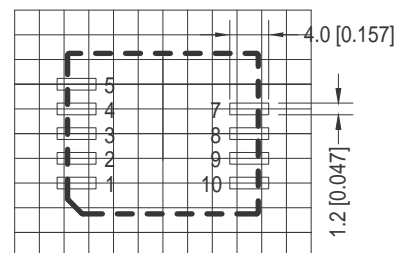
注1: 因篇幅有限, 以上只是部分产品列表, 若需列表以外产品, 请与本公司销售部联系。  
Note 1: Due to space limitations, above is only a part of our product list, please contact our sales team for more items.

引脚定义		
引脚	标识	功能
1	VCC	电源输入
2	GND	电源地
3	TXD	数据发送端
4	RXD	数据接收端
5	CON	收发状态切换控制脚
7	V <sub>OUT</sub>	隔离电源输出
8	B	引脚 B
9	A	引脚 A
10	RGND	隔离电源地
封装尺寸	20.00*17.00*7.00mm	
引脚型号	0.787*0.669*0.276mm	
	RS485-XXHSSVE	

### 封装尺寸/Packing Dimension



第三角投影

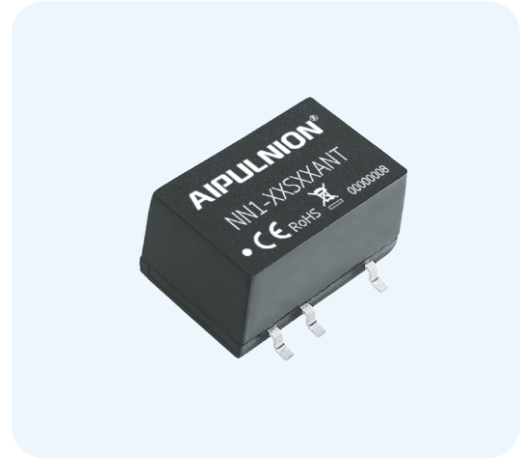


单位 (Unit): mm  
 印刷板俯视图 (Printed board vertical view)  
 栅格间距 (lattice spacing): 2.54mm(0.1inch)  
 未注尺寸公差 (General tolerance): ±0.5mm  
 未注明引脚直径公差 (Pin section tolerances): ±0.10mm



◆ 产品特性/Product Features

- 定电压输入, 隔离非稳压输出 Fixed input voltage, isolated & unregulated output
- 空载输入电流低至5mA No load input current as low as 5mA
- 效率高达89% Transfer efficiency up to 89%
- 隔离电压 (Isolation voltage) : 3000VDC
- 塑料外壳, 符合UL94V-0级 小型 SIP封装 Case: Plastic, meet UL94V-0, compact SIP packing
- 工作环境温度 Operating Temp: -40°C~+105°C
- 保护功能: 有短路保护, 可自恢复 Protection: Short circuit, self-recovery
- 应用领域: 仪器仪表、通信、纯数字电路、一般低频模拟电路、继电器驱动电路、数据交换电路等领域  
Application Field: Instrumentation, communication, pure digital circuit, general low frequency analog circuit, relay drive circuit, data exchange circuit, etc.
- 测试条件: 如无特殊指定, 所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



◆ 产品列表/Product List



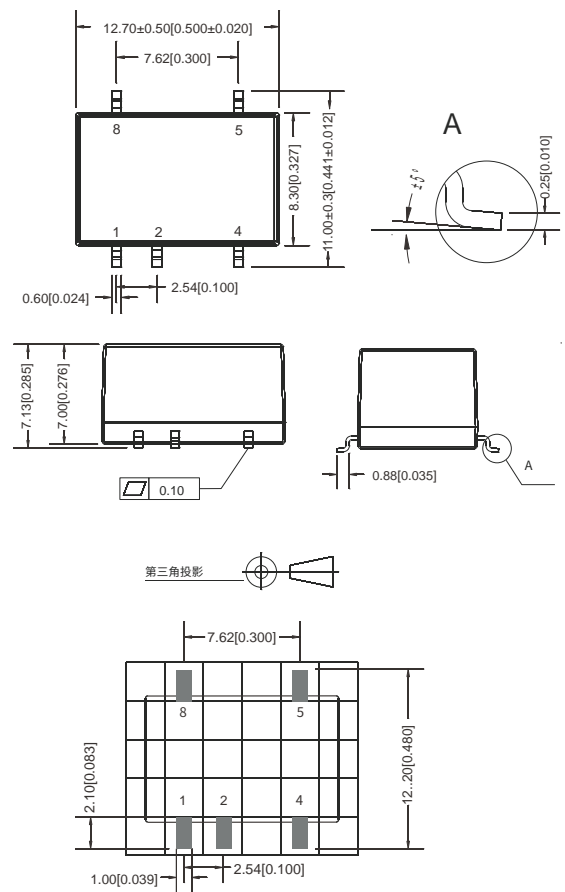
产品型号 Part no.	输入电压 Input voltage		输入电流 Input current		输出电压/电流 Output voltage/current			输出效率 Output efficiency (%TYP)
	范围值 Range (VDC)	输出空载 Output no load (mA)	电压 Voltage (VDC)	电流 (mA) Current (mA)				
				MIN	MAX			
NN1-3V3S3V3ANT	2.97-3.63	5	3.3	30	303	76		
NN1-3V3S05ANT			5	20	200	82		
NN1-3V3S09ANT			9	11	111	85		
NN1-3V3S12ANT			12	8	83	87		
NN1-3V3S15ANT			15	7	67	87		
NN1-3V3S24ANT			24	4	42	85		
NN1-05S3V3ANT			4.5-5.5	5	3.3	20	303	82
NN1-05S05ANT					5	20	200	86
NN1-05S09ANT					9	11	111	89
NN1-05S12ANT					12	8	83	89
NN1-05S15ANT	15	7			67	89		
NN1-05S24ANT	24	4			42	88		
NN2-05S3V3ANT	4.5-5.5	35	3.3	60	600	80		
NN2-05S05ANT			5	40	400	84		
NN2-05S09ANT			9	22	222	86		
NN2-05S12ANT			12	17	167	88		
NN2-05S15ANT			15	13	133	88		
NN2-05S24ANT			24	8	83	88		

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Note 1: Due to space limitations, above is only a part of our product list, please contact our sales team for more items.  
注2: 表格中为满载效率(%TYP), 波动幅度为±2%, 满载输出效率等于输出的总功率除以电源模块的输入功率。  
Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.

管脚号码 Pin-out	1	2	4	5	8
单路 Single	-Vin	+Vin	GND	+Vo	NC
功能	输入负极	输入正极	输出地	输出正极	无功能
封装代号 Packing Code/Dimension	L*W*H				
ANT	12.70*11.00*7.13mm				
	0.500*0.441*0.285inch				

NC:不能与任何外部电路连接

封装尺寸/Packing Dimension



单位 (Unit): mm  
印刷板俯视图 (Printed board vertical view)  
栅格间距 (lattice spacing): 2.54mm (0.1inch)  
未注尺寸公差 (General tolerance): ±0.5mm  
未注明引脚直径公差 (Pin section tolerances): ±0.10mm



## 产品特性/Product Features

- 定电压输入, 隔离非稳压双路输出 Fixed input voltage, isolated&unregulated double output
- 空载输入电流低 Low no-load input current
- 效率高达85% Transfer efficiency up to 85%
- 隔离电压 (Isolation voltage) : 1500VDC
- 塑料外壳, 符合UL94V-0级 小型 SIP封装 Case:Plastic,meet UL94V-0,compact SIP packing
- 工作环境温度 Operating Temp:-50°C~+85°C
- 测试条件: 如无特殊指定, 所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



## 产品列表/Product List



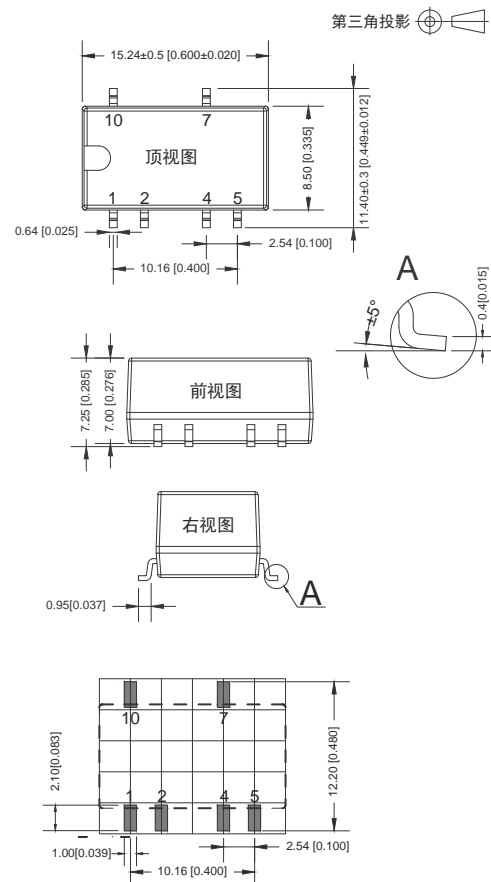
产品型号 Part no.	输入电压 Input voltage	输出电压电流 Output voltage/current		输出效率 Output efficiency
	范围值 Range (VDC)	电压 Voltage (VDC)	电流 (mA) Current (mA) MAX	(%TYP)
NN1-05D12ANT	4.5-5.5	±12	±42	84
NN1-12D12ANT	10.8-13.2	±12	±42	85

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注2: 表格中为满载效率(%TYP), 波动幅度为±2%, 满载输出效率等于输出的总功率除以电源模块的输入功率。  
Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.

管脚号码 Pin-out	1	2	4	5	7	10
双路 Dual	GND	+Vin	0V	-Vo	+Vo	NC
功能	输入电源地	输入正极	输出公共端	输出负极	输出正极	无功能
封装代号 Packing Code/ Dimension	L*W*H					
ANT	15.24*7.50*6.50mm					
	0.600*0.296*0.256inch					

NC: 不能与任何外部电路连接

## 封装尺寸/Packing Dimension



单位 (Unit) : mm  
印刷板俯视图 (Printed board vertical view)  
栅格间距 (lattice spacing) : 2.54mm (0.1inch)  
未注尺寸公差 (General tolerance) : ±0.5mm  
未注明引脚直径公差 (Pin section tolerances) : ±0.10mm



◆ 产品特性 / Product Features

- 定电压输入, 隔离非稳压输出 Fixed input voltage, isolated & unregulated output
  - 空载输入电流低至8mA No load input current as low as 8mA
  - 效率高达80% Transfer efficiency up to 80%
  - 隔离电压 (Isolation voltage) : 1500VDC
  - 塑料外壳, 符合UL94V-0级 小型 SIP封装 Case: Plastic, meet UL94V-0, compact SIP packing
  - 工作环境温度 Operating Temp: -40°C~+105°C
  - 保护功能: 有短路保护, 可自恢复 Protection: Short circuit, self-recovery
- 应用领域: 仪器仪表、通信、纯数字电路、一般低频模拟电路、继电器驱动电路、数据交换电路等领域  
Application Field: Instrumentation, communication, pure digital circuit, general low frequency analog circuit, relay drive circuit, data exchange circuit, etc.
- 测试条件: 如无特殊指定, 所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



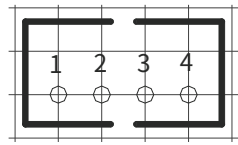
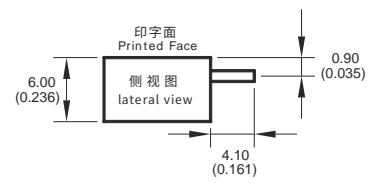
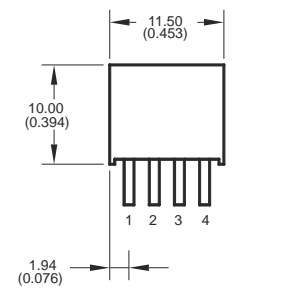
◆ 产品列表 / Product List



产品型号 Part no.	输入电压 Input voltage	输入电流 Input current	输出电压/电流 Output voltage/current		输出效率 Output efficiency (%TYP)
	范围值 Range (VDC)	输出空载 Output no load (mA)	电压 Voltage (VDC)	电流 (mA) Current (mA) MAX	
FN1-3V3S3V3AN	2.97-3.63	30	3.3	303	72
FN1-3V3S05AN			5	200	76
FN1-3V3S12AN		45	12	83	80
FN1-05S3V3AN	4.5-5.5	25	3.3	300	72
FN1-05S05AN			17	5	200
FN1-05S09AN		20	9	110	80
			12	83	80
			15	67	80
FN1-05S15AN		24	42	80	
FN1-12S3V3AN		10.8-13.2	15	3.3	300
FN1-12S05AN	11			5	200
FN1-12S09AN	15		9	110	80
FN1-12S12AN	16		12	83	80
FN1-12S15AN	13		15	67	80
FN1-12S24AN	15		24	42	80
FN1-15S05AN	13.5-16.5	10	5	200	80
FN1-15S12AN			12	12	83
FN1-15S15AN		10	15	67	80
FN1-24S3V3AN	21.6-26.4	7	3.3	300	72
FN1-24S05AN			5	200	80
FN1-24S09AN			9	110	80
FN1-24S12AN		8	12	83	80
			15	67	80
FN1-24S15AN		24	42	80	
FN1-24S24AN					

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Note 2: The fluctuation range of full load efficiency (%TYP) is ±2%, full load output efficiency = total output power/module's input power.

封装尺寸 / Packing Dimension



单位 (Unit): mm  
印刷板俯视图 (Printed board vertical view)  
栅格间距 (lattice spacing): 2.54mm (0.1inch)  
未注尺寸公差 (General tolerance): ±0.5mm

管脚号码 Pin-out	1	2	3	4
单路 Single	-Vin	+Vin	-Vo	+Vo
功能	输入负极	输入正极	输出负极	输出正极
封装代号 Packing Code/Dimension	L*W*H			
A	11.50*6.00*10.00mm			
	0.453*0.236*0.394inch			

注意: 电源模块的各管脚定义如与选型手册不符, 应以实物标签上的标注为准。  
Note: If the definition of pin is not in accordance with the model selection manual, please refer to the label on actual item.





### ◆ 产品特性 / Product Features

- 定电压输入, 隔离非稳压输出 Fixed input voltage, isolated & unregulated output
- 空载输入电流低至8mA No load input current as low as 8mA
- 效率高达80% Transfer efficiency up to 80%
- 隔离电压 (Isolation voltage) : 1500VDC
- 塑料外壳, 符合UL94V-0级 小型 SIP封装 Case: Plastic, meet UL94V-0, compact SIP packing
- 工作环境温度 Operating Temp: -40°C~+105°C
- 部分型号通过CE、RoHS认证 Some models have passed CE, RoHS certification
- 应用领域: 仪器仪表、通信、纯数字电路、一般低频模拟电路、继电器驱动电路、数据交换电路等领域  
Application Field: Instrumentation, communication, pure digital circuit, general low frequency analog circuit, relay drive circuit, data exchange circuit, etc.
- 测试条件: 如无特殊指定, 所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



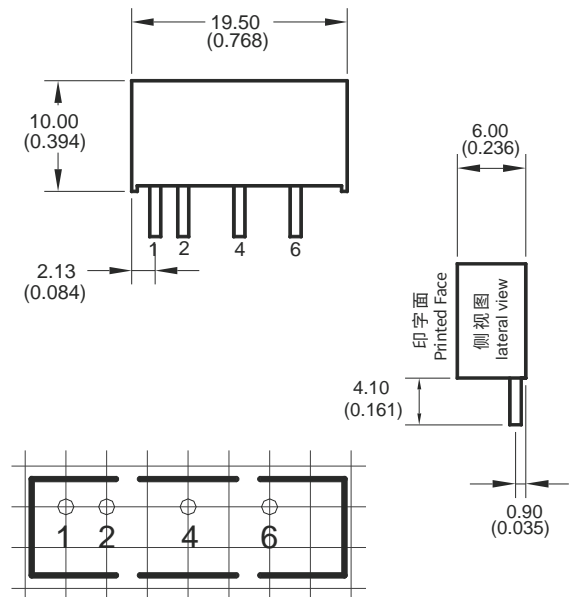
### ◆ 产品列表 / Product List



产品型号 Part no.	输入电压 Input voltage	输入电流 Input current	输出电压/电流 Output voltage/current		输出效率 Output efficiency (%TYP)
	范围值 Range (VDC)	输出空载 Output no load (mA)	电压 Voltage (VDC)	电流 (mA) Current (mA) MAX	
FN1-3V3S3V3BN	2.97-3.63	40	3.3	303	72
FN1-3V3S05BN		30	5	200	78
FN1-05S3V3BN	4.5-5.5	19	3.3	303	74
FN1-05S05BN		19	5	200	80
FN1-05S09BN		23	9	111	80
FN1-05S12BN		22	12	83	80
FN1-05S15BN		25	15	67	80
FN1-05S24BN		33	24	42	80
FN1-12S3V3BN		10.8-13.2	16	3.3	303
FN1-12S05BN	10		5	200	80
FN1-12S09BN	15		9	111	80
FN1-12S12BN	14		12	83	80
FN1-12S15BN	13		15	67	80
FN1-12S24BN	14		24	42	80
FN1-15S05BN	13.5-16.5	11	5	200	80
FN1-15S12BN		12	12	83	80
FN1-15S15BN		11	15	67	80
FN1-15S24BN		12	24	42	80
FN1-24S3V3BN	21.6-26.4	7	3.3	303	74
FN1-24S05BN			5	200	80
FN1-24S09BN			9	111	80
FN1-24S12BN			12	83	80
FN1-24S15BN			15	67	80
FN1-24S24BN			24	42	80

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Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency = total output power/module's input power.

### 封装尺寸 / Packing Dimension



单位 (Unit): mm  
 印刷板俯视图 (Printed board vertical view)  
 栅格间距 (lattice spacing): 2.54mm (0.1inch)  
 未注尺寸公差 (General tolerance): ±0.5mm

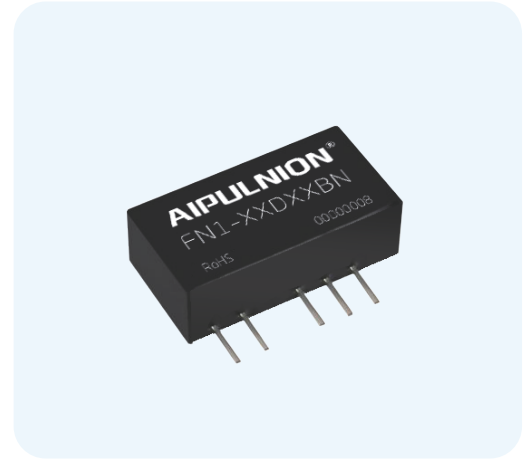
管脚号码 Pin-out	1	2	4	6
单路 Single	+Vin	-Vin	-Vo	+Vo
功能	输入正极	输入负极	输出负极	输出正极
封装代号 Packing Code/ Dimension	L*W*H			
B	19.50*6.00*10.00mm			
	0.768*0.236*0.394inch			

注意: 电源模块的各管脚定义如与选型手册不符, 应以实物标签上的标注为准。  
Note: If the definition of pin is not in accordance with the model selection manual, please refer to the label on actual item.



◆ 产品特性 / Product Features

- 定电压输入, 隔离非稳压输出 Fixed input voltage, isolated & unregulated output
- 空载输入电流低至8mA No load input current as low as 8mA
- 效率高达80% Transfer efficiency up to 80%
- 隔离电压 (Isolation voltage) : 1500VDC
- 塑料外壳, 符合UL94V-0级 小型 SIP封装 Case: Plastic, meet UL94V-0, compact SIP packing
- 工作环境温度 Operating Temp: -40°C~+105°C
- 保护功能: 有短路保护, 可自恢复 Protection: Short circuit, self-recovery
- 应用领域: 仪器仪表、通信、纯数字电路、一般低频模拟电路、继电器驱动电路、数据交换电路等领域  
Application Field: Instrumentation, communication, pure digital circuit, general low frequency analog circuit, relay drive circuit, data exchange circuit, etc.
- 测试条件: 如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



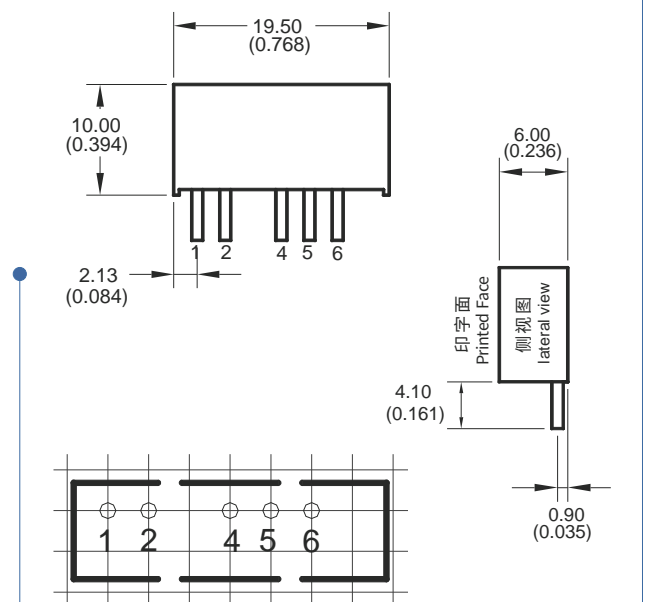
◆ 产品列表 / Product List



产品型号 Part no.	输入电压 Input voltage	输入电流 Input current	输出电压/电流 Output voltage/current		输出效率 Output efficiency (%TYP)
	范围值 Range (VDC)	输出空载 Output no load (mA)	电压 Voltage (VDC)	电流 (mA) Current (mA) MAX	
FN1-05D05BN	4.5-5.5	30	±5	±100	80
FN1-05D09BN		26	±9	±56	80
FN1-05D12BN		27	±12	±42	80
FN1-05D15BN		31	±15	±33	80
FN1-05D24BN		30	±24	±21	80
FN1-12D05BN	10.8-13.2	9	±5	±100	80
FN1-12D09BN		16	±9	±56	80
FN1-12D12BN		14	±12	±42	80
FN1-12D15BN		12	±15	±33	80
FN1-12D24BN		16	±24	±21	80
FN1-15D05BN	13.5-16.5	11	±5	±100	80
FN1-15D12BN		15	±12	±42	80
FN1-15D15BN		14	±15	±33	80
FN1-24D05BN	21.6-26.4	22	±5	±100	80
FN1-24D09BN		7	±9	±56	80
FN1-24D12BN		8	±12	±42	80
FN1-24D15BN		9	±15	±33	80

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 Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency = total output power/module's input power.

封装尺寸 / Packing Dimension



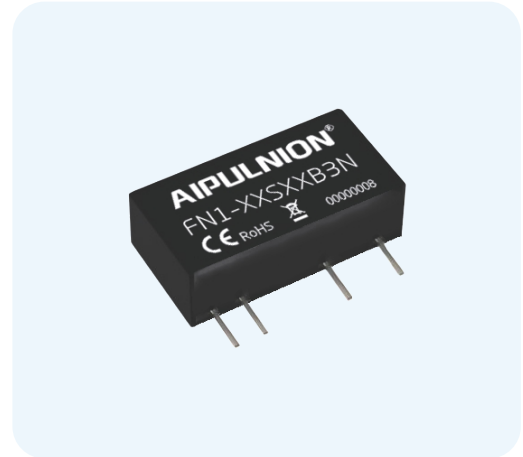
单位 (Unit): mm  
 印刷板俯视图 (Printed board vertical view)  
 栅格间距 (lattice spacing): 2.54mm (0.1inch)  
 未注尺寸公差 (General tolerance): ±0.5mm

引脚号码 Pin-out	1	2	4	5	6
双路 Dual	+Vin	-Vin	-Vo	COM	+Vo
功能	输入正极	输入负极	输出负极	公共端	输出正极
封装代号 Packing Code/Dimension	L*W*H				
B	19.50*6.00*10.00mm				
	0.768*0.236*0.394inch				



◆ 产品特性 / Product Features

- 定电压输入, 隔离非稳压输出 Fixed input voltage, isolated & unregulated output
- 空载输入电流低至8mA No load input current as low as 8mA
- 效率高达81% Transfer efficiency up to 81%
- 隔离电压 (Isolation voltage) : 3000VDC
- 塑料外壳, 符合UL94V-0级 小型 SIP封装 Case: Plastic, meet UL94V-0, compact SIP packing
- 工作环境温度 Operating Temp: -40°C~+105°C
- 部分型号通过CE、RoHS认证 Some models have passed CE, RoHS certification
- 应用领域: 仪器仪表、通信、纯数字电路、一般低频模拟电路、继电器驱动电路、数据交换电路等领域  
Application Field: Instrumentation, communication, pure digital circuit, general low frequency analog circuit, relay drive circuit, data exchange circuit, etc.
- 测试条件: 如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.

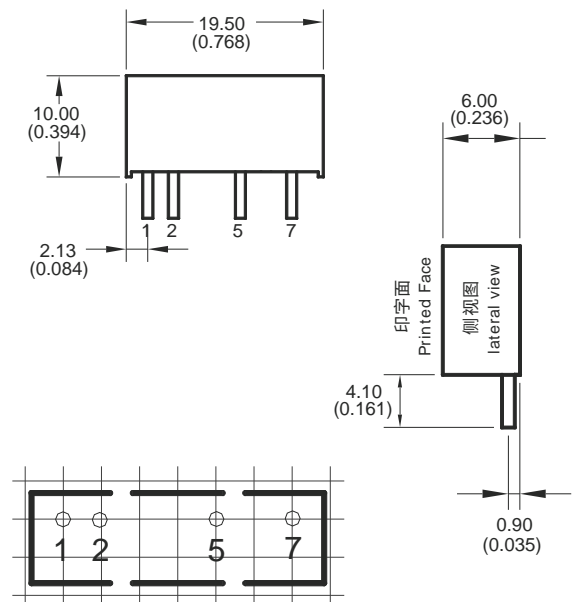


◆ 产品列表 / Product List



产品型号 Part no.	输入电压 Input voltage	输入电流 Input current	输出电压电流 Output voltage/current		输出效率 Output efficiency
	范围值 Range (VDC)	输出空载 Output no load (mA)	电压 Voltage (VDC)	电流 (mA) Current (mA) MAX	(%TYP)
FN1-3V3S3V3B3N	2.97-3.63	25	3.3	303	73
FN1-3V3S05B3N			5	200	78
FN1-3V3S24B3N			24	42	78
FN1-05S3V3B3N	4.5-5.5	20	3.3	303	73
FN1-05S05B3N			5	200	80
FN1-05S09B3N			9	111	80
FN1-05S12B3N			12	83	80
FN1-05S15B3N			15	67	81
FN1-05S24B3N			24	42	81
FN1-12S3V3B3N	10.8-13.2	20	3.3	303	75
FN1-12S05B3N			5	200	80
FN1-12S09B3N			9	111	80
FN1-12S12B3N			12	83	80
FN1-12S15B3N			15	67	81
FN1-12S24B3N			24	42	81
FN1-15S05B3N	13.5-16.5	12	5	200	80
FN1-15S09B3N			9	111	80
FN1-15S12B3N		10	12	83	80
FN1-15S15B3N			15	67	81
FN1-15S24B3N			24	42	80
FN1-24S3V3B3N	21.6-26.4	8	3.3	303	75
FN1-24S05B3N		6	5	200	79
FN1-24S09B3N		8	9	111	80
FN1-24S12B3N			12	83	81
FN1-24S15B3N			15	67	81

封装尺寸 / Packing Dimension



单位 (Unit): mm  
 印刷板俯视图 (Printed board vertical view)  
 栅格间距 (lattice spacing): 2.54mm (0.1inch)  
 未注尺寸公差 (General tolerance): ±0.5mm

管脚号码 Pin-out	1	2	5	7
单路 Single	+Vin	-Vin	-Vo	+Vo
功能	输入正极	输入负极	输出负极	输出正极
封装代号 Packing Code/Dimension	L*W*H			
B	19.50*6.00*10.00mm			
	0.768*0.236*0.394inch			

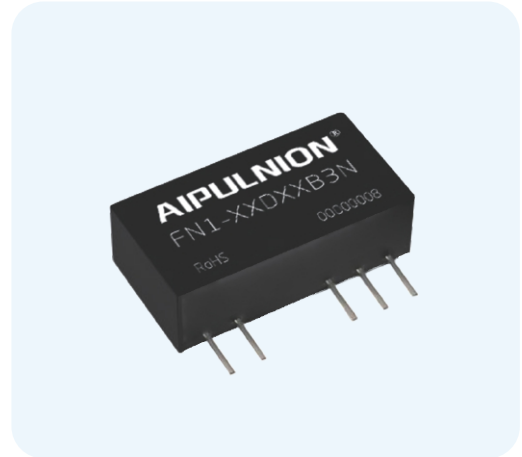
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注意: 电源模块的各管脚定义如与选型手册不符, 应以实物标签上的标注为准。  
 Note: If the definition of pin is not in accordance with the model selection manual, please refer to the label on actual item.



◆ 产品特性 / Product Features

- 定电压输入, 隔离非稳压输出 Fixed input voltage, isolated & unregulated output
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- 效率高达81% Transfer efficiency up to 81%
- 隔离电压 (Isolation voltage) : 3000VDC
- 塑料外壳, 符合UL94V-0级 小型 SIP封装 Case: Plastic, meet UL94V-0, compact SIP packing
- 工作环境温度 Operating Temp: -40°C~+105°C
- 保护功能: 有短路保护, 可自恢复 Protection: Short circuit, self-recovery
- 应用领域: 仪器仪表、通信、纯数字电路、一般低频模拟电路、继电器驱动电路、数据交换电路等领域  
Application Field: Instrumentation, communication, pure digital circuit, general low frequency analog circuit, relay drive circuit, data exchange circuit, etc.
- 测试条件: 如无特殊指定, 所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



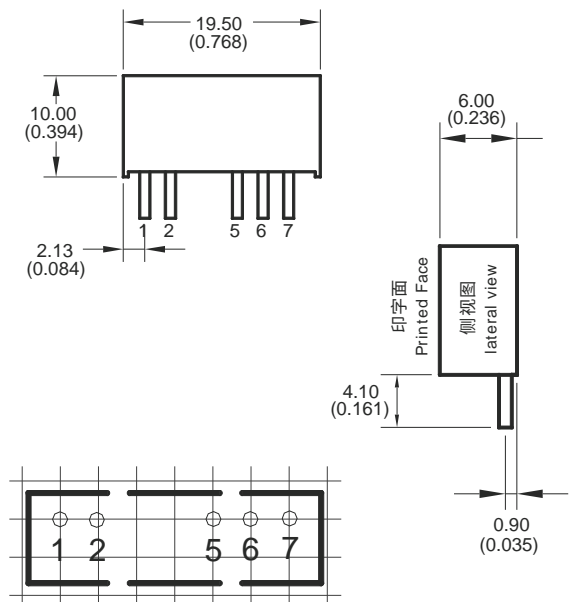
◆ 产品列表 / Product List



产品型号 Part no.	输入电压 Input voltage	输入电流 Input current	输出电压电流 Output voltage/current		输出效率 Output efficiency (%TYP)
	范围值 Range (VDC)	输出空载 Output no load (mA)	电压 Voltage (VDC)	电流 (mA) Current (mA) MAX	
FN1-05D05B3N	4.5-5.5	17	±5	±100	80
FN1-05D09B3N		23	±9	±56	80
FN1-05D12B3N		25	±12	±42	80
FN1-05D15B3N		28	±15	±33	81
FN1-05D24B3N		33	±24	±21	81
FN1-12D05B3N	10.8-13.2	12	±5	±100	80
FN1-12D09B3N		14	±9	±56	81
FN1-12D12B3N		6	±12	±42	81
FN1-12D15B3N		16	±15	±33	81
FN1-12D24B3N		16	±24	±21	80
FN1-15D05B3N	13.5-16.5	12	±5	±100	80
FN1-15D15B3N		13	±15	±31	81
FN1-15D24B3N		12	±24	±21	78
FN1-24D05B3N	21.6-26.4	8	±5	±100	80
FN1-24D09B3N			±9	±56	80
FN1-24D12B3N			±12	±42	81
FN1-24D15B3N			±15	±33	79

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Note 1: Due to space limitations, above is only a part of our product list, please contact our sales team for more items.  
注2: 表格中为满载效率 (%TYP), 波动幅度为 ±2%, 满载输出效率等于输出的总功率除以电源模块的输入功率。  
Note 2: The fluctuation range of full load efficiency (%TYP) is ±2%, full load output efficiency = total output power/module's input power.

封装尺寸 / Packing Dimension



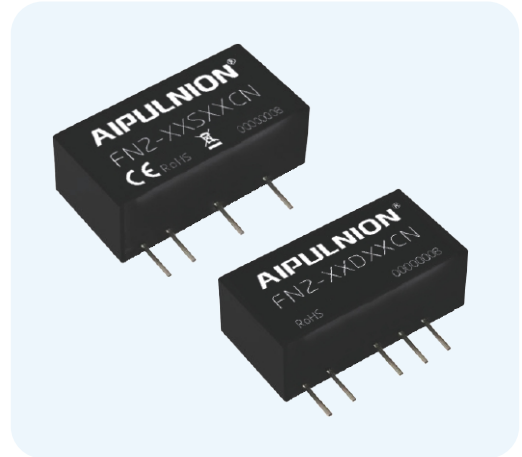
单位 (Unit): mm  
印刷板俯视图 (Printed board vertical view)  
栅格间距 (lattice spacing): 2.54mm (0.1inch)  
未注尺寸公差 (General tolerance): ±0.5mm

管脚号码 Pin-out	1	2	5	6	7
双路 Dual	+Vin	-Vin	-Vo	COM	+Vo
功能	输入正极	输入负极	输出负极	公共端	输出正极
封装代号 Packing Code/ Dimension	L*W*H				
B	19.50*6.00*10.00mm				
	0.768*0.236*0.394inch				



◆ 产品特性 / Product Features

- 定电压输入, 隔离非稳压输出 Fixed input voltage, isolated & unregulated output
- 空载输入电流低至10mA No load input current as low as 10mA
- 效率高达86% Transfer efficiency up to 86%
- 隔离电压 (Isolation voltage) : 1500VDC
- 塑料外壳, 符合UL94V-0级 小型 SIP封装 Case: Plastic, meet UL94V-0, compact SIP packing
- 工作环境温度 Operating Temp: -40°C~+105°C
- 保护功能: 有短路保护, 可自恢复 Protection: Short circuit, self-recovery (仅双路输出 Only dual output)
- 部分型号通过CE、RoHS认证 Some models have passed CE, RoHS certification
- 应用领域: 仪器仪表、通信、纯数字电路、一般低频模拟电路、继电器驱动电路、数据交换电路等领域  
Application Field: Instrumentation, communication, pure digital circuit, general low frequency analog circuit, relay drive circuit, data exchange circuit, etc.
- 测试条件: 如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



◆ 产品列表 / Product List

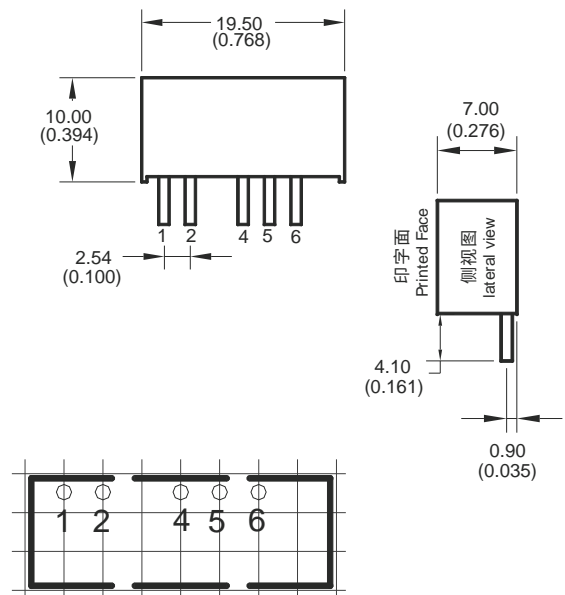


产品型号 Part no.	输入电压 Input voltage	输入电流 Input current	输出电压电流 Output voltage/current		输出效率 Output efficiency
	范围值 Range (VDC)	输出空载 Output no load (mA)	电压 Voltage (VDC)	电流 (mA) Current (mA) MAX	(%TYP)
FN2-05S3V3CN	4.5-5.5	50	3.3	400	79
FN2-05S05CN			5	400	84
FN2-05S09CN			9	220	79
FN2-05S12CN			12	167	84
FN2-05S15CN			15	133	84
FN2-05S24CN			24	83	84
FN2-12S05CN	10.8-13.2	20	5	400	80
FN2-12S09CN			9	220	82
FN2-12S12CN			12	167	84
FN2-12S15CN			15	133	84
FN2-12S24CN			24	83	84
FN2-24S3V3CN	21.6-26.4	10	3.3	400	79
FN2-24S05CN			5	400	80
FN2-24S09CN			9	220	86
FN2-24S12CN			12	167	84
FN2-24S15CN			15	133	86
FN2-24S24CN			24	83	86
FN2-05D05CN	4.5-5.5	50	±5	±200	80
FN2-05D09CN		50	±9	±110	84
FN2-05D12CN		28	±12	±83	84
FN2-05D15CN		50	±15	±67	82
FN2-12D05CN	10.8-13.2	18	±5	±200	80
FN2-12D09CN			±9	±110	82
FN2-12D12CN			±12	±83	84
FN2-12D15CN			±15	±67	84
FN2-24D05CN	21.6-26.4	10	±5	±200	80
FN2-24D09CN			±9	±110	86
FN2-24D12CN			±12	±83	84
FN2-24D15CN			±15	±67	84

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 Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.

注意: 电源模块的各引脚定义如与选型手册不符, 应以实物标签上的标注为准。  
 Note: If the definition of pin is not in accordance with the model selection manual, please refer to the label on actual item.

封装尺寸 / Packing Dimension

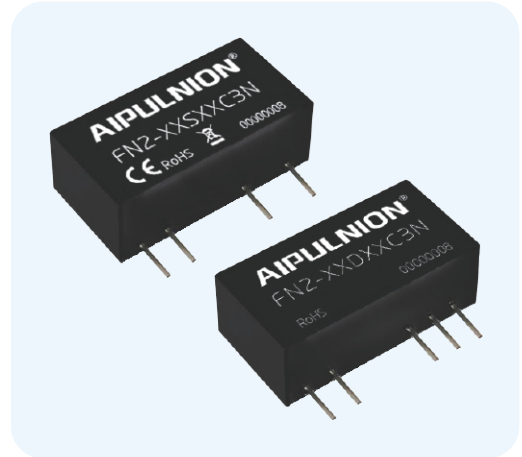


单位 (Unit): mm  
 印刷板俯视图 (Printed board vertical view)  
 栅格间距 (lattice spacing): 2.54mm(0.1inch)  
 未注尺寸公差 (General tolerance): ±0.5mm

管脚号码 Pin-out	1	2	4	5	6
单路 Single	+Vin	GND	-Vo	NP	+Vo
单路功能	输入正极	输入地	输出负极	空脚	输出正极
双路 Dual	+Vin	GND	-Vo	COM	+Vo
双路功能	输入正极	输入地	输出负极	公共端	输出正极
封装代号 Packing Code / Dimension	L*W*H				
C	19.50*7.00*10.00mm				
	0.768*0.276*0.394inch				

◆ 产品特性/Product Features

- 定电压输入, 隔离非稳压输出 Fixed input voltage, isolated&unregulated output
- 空载输入电流低至10mA No load input current as low as 10mA
- 效率高达86% Transfer efficiency up to 86%
- 隔离电压 (Isolation voltage) : 3000VDC
- 塑料外壳, 符合UL94V-0级 小型 SIP封装 Case:Plastic,meet UL94V-0,compact SIP packing
- 工作环境温度 Operating Temp:-40°C~+105°C
- 保护功能:有短路保护,可自恢复 Protection:Short circuit,self-recovery (仅双路输出Only dual output)
- 部分型号通过CE、RoHS认证 Some models have passed CE, RoHS certification
- 应用领域:仪器仪表、通信、纯数字电路、一般低频模拟电路、继电器驱动电路、数据交换电路等领域  
Application Field:Instrumentation, communication, pure digital circuit, general low frequency analog circuit, relay drive circuit, data exchange circuit, etc.
- 测试条件:如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



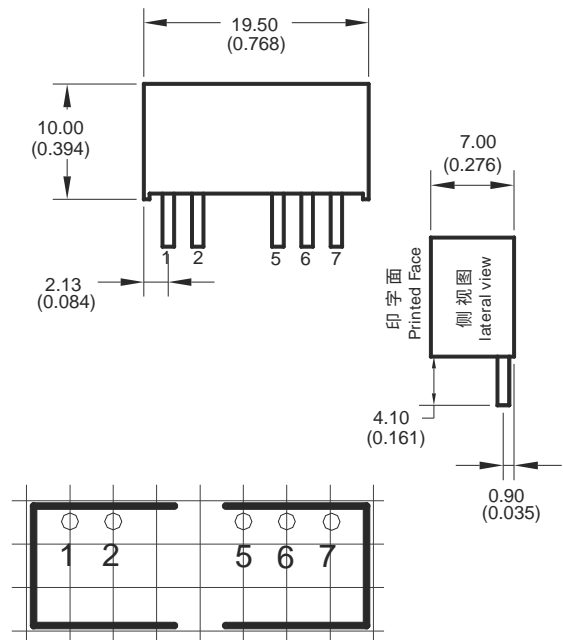
◆ 产品列表/Product List



产品型号 Part no.	输入电压 Input voltage	输入电流 Input current	输出电压电流 Output voltage/current		输出效率 Output efficiency
	范围值 Range (VDC)	输出空载 Output no load (mA)	电压 Voltage (VDC)	电流 (mA) Current (mA) MAX	(%TYP)
FN2-05S3V3C3N	4.5-5.5	50	3.3	600	72
FN2-05S05C3N		24	5	400	80
FN2-05S09C3N		50	9	220	84
FN2-05S12C3N		50	12	167	83
FN2-05S15C3N		26	15	133	82
FN2-05S24C3N		50	24	83	84
FN2-12S05C3N	10.8-13.2	20	5	400	82
FN2-12S09C3N			9	220	81
FN2-12S12C3N			12	167	84
FN2-12S15C3N			15	133	85
FN2-12S24C3N			24	83	84
FN2-24S3V3C3N	21.6-26.4	10	3.3	600	87
FN2-24S05C3N		6	5	400	80
FN2-24S09C3N		7	9	220	86
FN2-24S12C3N		6	12	167	84
FN2-24S15C3N		10	15	133	86
FN2-24S24C3N		10	24	83	86
FN2-05D05C3N	4.5-5.5	35	±5	±200	80
FN2-05D09C3N			±9	±111	84
FN2-05D12C3N			±12	±83	83
FN2-05D15C3N			±15	±67	83
FN2-12D05C3N	10.8-13.2	20	±5	±200	80
FN2-12D09C3N			±9	±111	82
FN2-12D12C3N			±12	±83	84
FN2-12D15C3N			±15	±67	84
FN2-24D05C3N	21.6-26.4	10	±5	±200	80
FN2-24D09C3N			±9	±111	84
FN2-24D12C3N			±12	±83	84
FN2-24D15C3N			±15	±67	84

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 Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.

封装尺寸/Packing Dimension



单位 (Unit): mm  
 印刷板俯视图 (Printed board vertical view)  
 栅格间距 (lattice spacing): 2.54mm(0.1inch)  
 未注尺寸公差 (General tolerance): ±0.5mm

管脚号码 Pin-out	1	2	5	6	7
单路 Single	+Vin	-Vin	-Vo	NP	+Vo
单路功能	输入正极	输入负极	输出负极	空脚	输出正极
双路 Dual	+Vin	-Vin	-Vo	COM	+Vo
双路功能	输入正极	输入负极	输出负极	公共端	输出正极
封装代号 Packing Code/ Dimension	L*W*H				
C	19.50*7.00*10.00mm				
	0.768*0.276*0.394inch				

◆ 产品特性 / Product Features

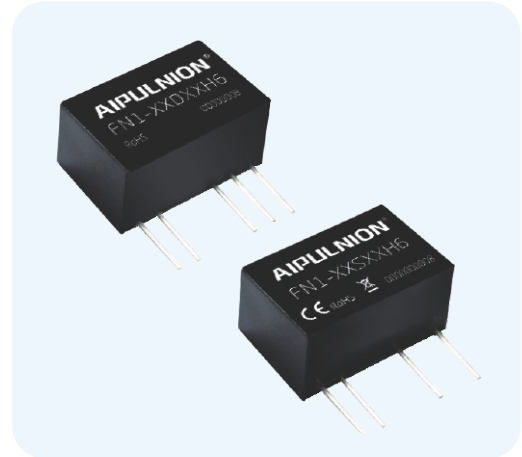
- 定电压输入, 隔离非稳压输出 Fixed input voltage, isolated & unregulated output
- 空载输入电流低至10mA No load input current as low as 10mA
- 效率高达84% Transfer efficiency up to 84%
- 隔离电压 (Isolation voltage) : 6000VDC
- 塑料外壳, 符合UL94V-0级 小型 SIP封装 Case: Plastic, meet UL94V-0, compact SIP packing
- 工作环境温度 Operating Temp: -40°C ~ +105°C
- 保护功能: 有短路保护, 可自恢复 Protection: Short circuit, self-recovery

- 应用领域: 仪器仪表、通信、纯数字电路、一般低频模拟电路、继电器驱动电路、数据交换电路等领域

Application Field: Instrumentation, communication, pure digital circuit, general low frequency analog circuit, relay drive circuit, data exchange circuit, etc.

- 测试条件: 如无特殊指定, 所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得

Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



◆ 产品列表 / Product List



产品型号 Part no.	输入电压 Input voltage	输入电流 Input current	输出电压/电流 Output voltage/current		输出效率 Output efficiency (%TYP)
	范围值 Range (VDC)	输出空载 Output no load (mA)	电压 Voltage (VDC)	电流 (mA) Current (mA) MAX	
FN1-05S3V3H6	4.5-5.5	20	3.3	200	71
FN1-05S05H6		20	5	111	80
FN1-05S12H6		40	12	83	74
FN1-05S15H6		40	15	67	74
FN1-05S24H6		23	24	200	80
FN1-12S05H6	10.8-13.2	10	5	111	75
FN1-12S12H6		13	12	83	83
FN1-12S15H6		20	15	67	79
FN1-24S05H6	21.6-26.4	7	5	200	80
FN1-24S12H6		10	12	111	76
FN1-24S15H6		10	15	83	76
FN1-05D05H6	4.5-5.5	40	±5	±100	76
FN1-05D09H6		40	±9	±56	78
FN1-05D12H6		25	±12	±42	82
FN1-05D15H6		40	±15	±33	74
FN1-12D05H6		10.8-13.2	10	±5	±100
FN1-12D09H6	20		±9	±56	78
FN1-12D12H6	20		±12	±42	71
FN1-12D15H6	20		±15	±33	73
FN1-24D05H6	21.6-26.4	10	±5	±100	73
FN1-24D09H6		10	±9	±56	77
FN1-24D12H6		10	±12	±42	74
FN1-24D15H6		80	±15	±33	84

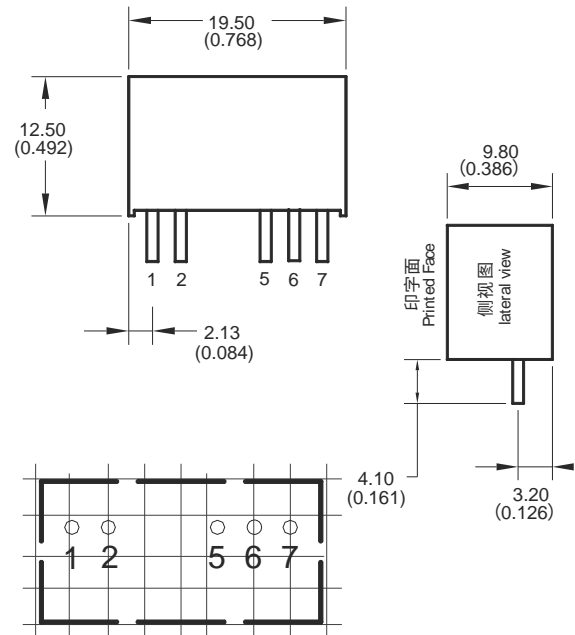
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Note 1: Due to space limitations, above is only a part of our product list, please contact our sales team for more items.

注2: 表格中为满载效率(%TYP), 波动幅度为±2%, 满载输出效率等于输出的总功率除以电源模块的输入功率。

Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.

封装尺寸 / Packing Dimension



单位 (Unit): mm

印刷板俯视图 (Printed board vertical view)

栅格间距 (lattice spacing): 2.54 mm (0.1 inch)

未注尺寸公差 (General tolerance): ±0.5 mm

管脚号码 Pin-out	1	2	5	6	7
单路 Single	+Vin	-Vin	-Vo	NP	+Vo
单路功能	输入正极	输入负极	输出负极	空脚	输出正极
双路 Dual	+Vin	-Vin	-Vo	COM	+Vo
双路功能	输入正极	输入负极	输出负极	公共端	输出正极
封装代号 Packing Code/Dimension	L*W*H				
H	19.50*9.80*12.50mm				
	0.768*0.386*0.492inch				

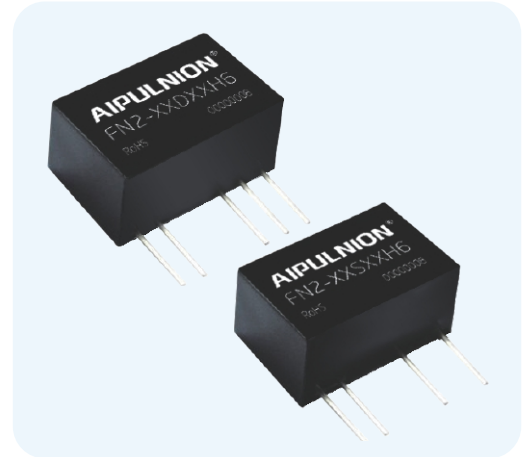
注意: 电源模块的各管脚定义如与选型手册不符, 应以实物标签上的标注为准。

Note: If the definition of pin is not in accordance with the model selection manual, please refer to the label on actual item.



◆ 产品特性 / Product Features

- 定电压输入, 隔离非稳压输出 Fixed input voltage, isolated & unregulated output
  - 空载输入电流低至15mA No load input current as low as 15mA
  - 效率高达88% Transfer efficiency up to 88%
  - 隔离电压 (Isolation voltage) : 6000VDC
  - 塑料外壳, 符合UL94V-0级 小型 SIP封装 Case: Plastic, meet UL94V-0, compact SIP packing
  - 工作环境温度 Operating Temp: -40°C~+105°C
  - 保护功能: 有短路保护, 可自恢复 Protection: Short circuit, self-recovery
- 应用领域: 仪器仪表、通信、纯数字电路、一般低频模拟电路、继电器驱动电路、数据交换电路等领域  
Application Field: Instrumentation, communication, pure digital circuit, general low frequency analog circuit, relay drive circuit, data exchange circuit, etc.
- 测试条件: 如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



◆ 产品列表 / Product List

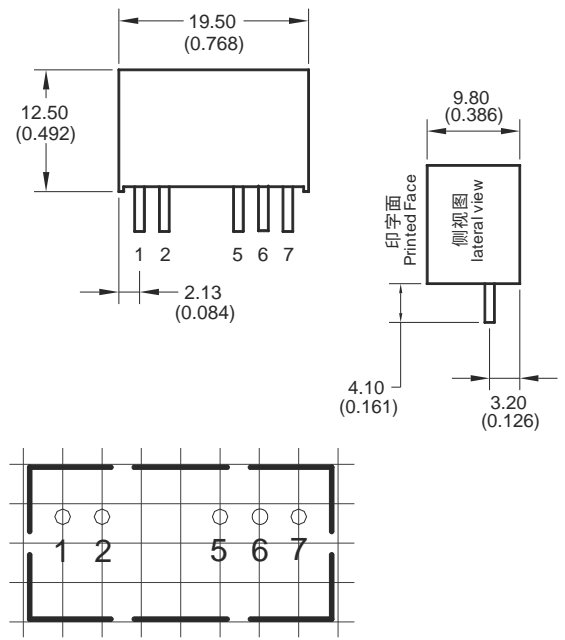


产品型号 Part no.	输入电压 Input voltage	输入电流 Input current	输出电压电流 Output voltage/current		输出效率 Output efficiency
	范围值 Range (VDC)	输出空载 Output no load (mA)	电压 Voltage (VDC)	电流 (mA) Current (mA) MAX	(%TYP)
FN2-05S05H6	4.5-5.5	22	5	400	81
FN2-05S12H6		50	12	167	77
FN2-05S15H6		50	15	133	77
FN2-05S24H6		50	24	83	79
FN2-12S05H6	10.8-13.2	11	5	400	82
FN2-12S12H6		13	12	167	88
FN2-12S15H6		17	15	133	86
FN2-24S05H6	21.6-26.4	8	5	400	81
FN2-24S12H6		5	12	167	86
FN2-24S15H6		15	15	133	82
FN2-24S24H6		11	24	83	85
FN2-05D05H6	4.5-5.5	28	±5	±200	76
FN2-05D12H6		31	±12	±83	81
FN2-05D15H6		80	±15	±67	78
FN2-12D05H6	10.8-13.2	12	±5	±200	83
FN2-12D09H6		35	±9	±110	78
FN2-12D12H6		35	±12	±83	78
FN2-12D15H6		14	±15	±67	86
FN2-24D05H6	21.6-26.4	15	±5	±200	77
FN2-24D12H6		15	±12	±83	80
FN2-24D15H6		10	±15	±67	86

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Note 2: The fluctuation range of full load efficiency (%TYP) is ±2%, full load output efficiency = total output power/module's input power.

封装尺寸 / Packing Dimension



单位 (Unit): mm  
印刷板俯视图 (Printed board vertical view)  
栅格间距 (lattice spacing): 2.54mm (0.1inch)  
未注尺寸公差 (General tolerance): ±0.5mm

管脚号码 Pin-out	1	2	5	6	7
单路 Single	+Vin	-Vin	-Vo	NP	+Vo
单路功能	输入正极	输入负极	输出负极	空脚	输出正极
双路 Dual	+Vin	-Vin	-Vo	COM	+Vo
双路功能	输入正极	输入负极	输出负极	公共端	输出正极
封装代号 Packing Code/ Dimension	L*W*H				
H	19.50*9.80*12.50mm				
	0.768*0.386*0.492inch				



◆ 产品特性/Product Features

- 定电压输入, 隔离稳压输出 Fixed input voltage, Isolated voltage regulator output
- 空载输入电流低至11mA No load input current as low as 11mA
- 效率高达79% Transfer efficiency up to 79%
- 隔离电压 (Isolation voltage) : B: 1500VDC / B3: 3000VDC
- 塑料外壳, 符合UL94V-0级 小型 SIP封装 Case:Plastic,meet UL94V-0,compact SIP packing
- 工作环境温度 Operating Temp:-40°C~+105°C
- 部分型号通过CE、RoHS认证 Some models have passed CE, RoHS certification

- 应用领域: 仪器仪表、通信、纯数字电路、一般低频模拟电路、继电器驱动电路、数据交换电路等领域  
Application Field: Instrumentation, communication, pure digital circuit, general low frequency analog circuit, relay drive circuit, data exchange circuit, etc.
- 测试条件: 如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



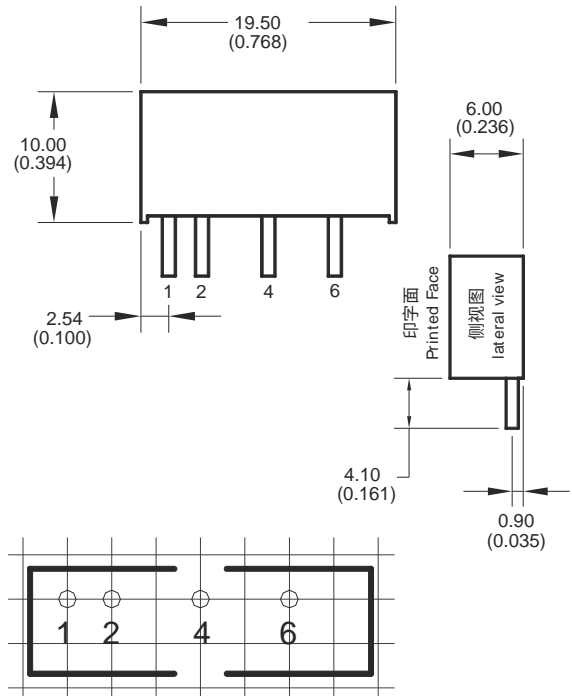
◆ 产品列表/Product List



产品型号 Part no.	输入电压 Input voltage	输入电流 Input current	输出电压/电流 Output voltage/current		输出效率 Output efficiency
	范围值 Range (VDC)	输出空载 Output no load (mA)	电压 Voltage (VDC)	电流 (mA) Current (mA) MAX	(%TYP)
FW1-05S05B	4.75-5.25	30	5	200	72
FW1-05S12B			12	83	78
FW1-05S15B			15	67	77
FW1-05S24B			24	42	73
FW1-12S05B	11.4-12.6	15	5	200	77
FW1-12S12B			12	83	77
FW1-12S15B			15	67	74
FW1-12S24B			24	42	67
FW1-24S05B	22.8-25.2	10	5	200	74
FW1-24S12B			12	83	76
FW1-24S15B			15	67	77
FW1-24S24B			24	42	67
FW1-05S05B3	4.75-5.25	29	5	200	71
FW1-05S12B3		23	12	83	78
FW1-05S15B3		30	15	67	77
FW1-05S24B3		40	24	42	73
FW1-12S05B3	11.4-12.6	10	5	200	77
FW1-12S12B3		10	12	83	79
FW1-12S15B3		11	15	67	74
FW1-24S05B3	22.8-25.2	7	5	200	74
FW1-24S12B3		11	12	83	76
FW1-24S15B3		8	15	67	77
FW1-24S24B3		13	24	42	67

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注2: 表格中为满载效率(%TYP), 波动幅度为±2%, 满载输出效率等于输出的总功率除以电源模块的输入功率。  
Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.

封装尺寸/Packing Dimension



单位 (Unit): mm  
印刷板俯视图 (Printed board vertical view)  
栅格间距 (lattice spacing): 2.54mm (0.1inch)  
未注尺寸公差 (General tolerance): ±0.5mm

管脚号码 Pin-out	1	2	4	6
单路 Single	+Vin	-Vin	-Vo	+Vo
功能	输入正极	输入负极	输出负极	输出正极
封装代号 Packing Code/Dimension	L*W*H			
B	19.50*6.00*10.00mm			
	0.768*0.236*0.394inch			

注意: 电源模块的各管脚定义如与选型手册不符, 应以实物标签上的标注为准。  
Note: If the definition of pin is not in accordance with the model selection manual, please refer to the label on actual item.





◆ 产品特性/Product Features

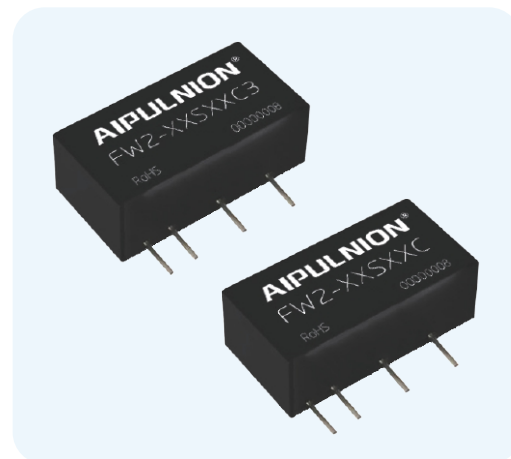
- 定电压输入, 隔离稳压输出 Fixed input voltage, Isolated voltage regulator output
- 空载输入电流低至11mA No load input current as low as 11mA
- 效率高达80% Transfer efficiency up to 80%
- 隔离电压 (Isolation voltage) : C: 1000VDC / C3: 3000VDC
- 塑料外壳, 符合UL94V-0级 小型 SIP封装 Case: Plastic, meet UL94V-0, compact SIP packing
- 工作环境温度 Operating Temp: -40°C~+105°C
- 保护功能: 有短路保护, 可自恢复 Protection: Short circuit, self-recovery

- 应用领域: 仪器仪表、通信、纯数字电路、一般低频模拟电路、继电器驱动电路、数据交换电路等领域

Application Field: Instrumentation, communication, pure digital circuit, general low frequency analog circuit, relay drive circuit, data exchange circuit, etc.

- 测试条件: 如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得

Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



◆ 产品列表/Product List



产品型号 Part no.	输入电压 Input voltage	输入电流 Input current	输出电压/电流 Output voltage/current		输出效率 Output efficiency
	范围值 Range (VDC)	输出空载 Output no load (mA)	电压 Voltage (VDC)	电流 (mA) Current (mA) MAX	(%TYP)
FW2-05S05C	4.75-5.25	27	5	400	68
FW2-05S12C		26	12	167	78
FW2-12S05C	11.4-12.6	12	5	400	74
FW2-12S12C		11	12	167	82
FW2-15S05C	14.25-15.75	16	5	400	70
FW2-15S15C		9	15	100	75
FW2-24S05C	22.8-25.2	8	5	400	73
FW2-24S12C		7	12	167	79
FW2-24S15C		11	15	133	80
FW2-05S05C3	4.75-5.25	27	5	400	68
FW2-05S12C3		26	12	167	78
FW2-12S05C3	11.4-12.6	12	5	400	74
FW2-12S12C3		11	12	167	82
FW2-15S05C3	14.25-15.75	16	5	400	70
FW2-15S15C3		9	15	100	75
FW2-24S05C3	22.8-25.2	8	5	400	73
FW2-24S12C3		7	12	167	79
FW2-24S15C3		11	15	133	80

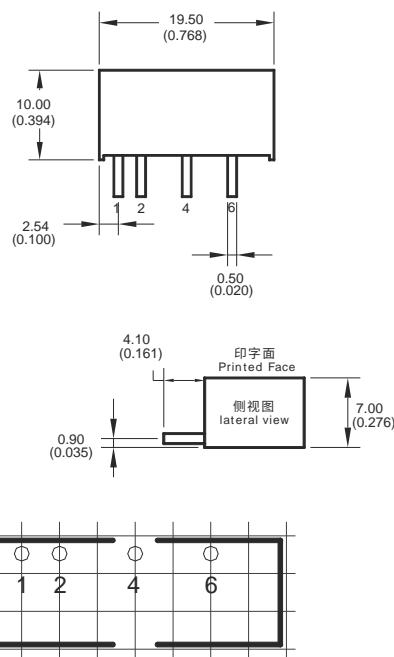
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Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.

封装尺寸/Packing Dimension



单位 (Unit): mm

印刷板俯视图 (Printed board vertical view)

栅格间距 (lattice spacing): 2.54mm (0.1inch)

未注尺寸公差 (General tolerance): ±0.5mm

管脚号码 Pin-out	1	2	4	6
单路 Single	+Vin	-Vin	-Vo	+Vo
功能	输入正极	输入负极	输出负极	输出正极
封装代号 Packing Code Dimension	L*W*H			
C	19.50*7.00*10.00mm			
	0.768*0.276*0.394inch			

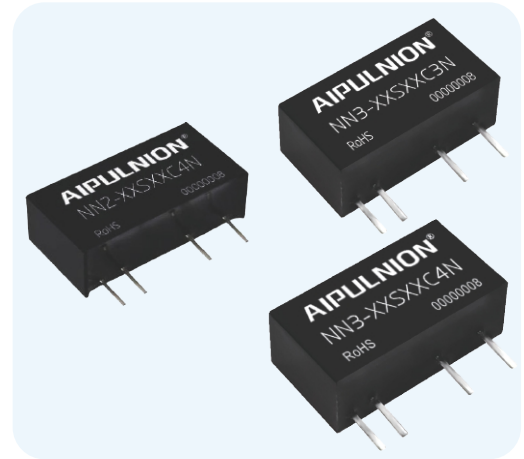
注意: 电源模块的各管脚定义如与选型手册不符, 应以实物标签上的标注为准。

Note: If the definition of pin is not in accordance with the model selection manual, please refer to the label on actual item.



### ◆ 产品特性 / Product Features

- 定电压输入, 隔离非稳压输出 Fixed input voltage, isolated & unregulated output
- 空载输入电流低至12mA No load input current as low as 12mA
- 效率高达86% Transfer efficiency up to 86%
- 隔离电压 (Isolation voltage) : C3N:3000VDC, C4N:4000VDC
- 塑料外壳, 符合UL94V-0级 小型 SIP封装 Case: Plastic, meet UL94V-0, compact SIP packing
- 工作环境温度 Operating Temp: NN2: -40~+105°C, NN3: -40°C~+85°C
- 保护功能: 有短路保护, 可自恢复 Protection: Short circuit, self-recovery
- 应用领域: 仪器仪表、通信、纯数字电路、一般低频模拟电路、继电器驱动电路、数据交换电路等领域  
Application Field: Instrumentation, communication, pure digital circuit, general low frequency analog circuit, relay drive circuit, data exchange circuit, etc.
- 测试条件: 如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



### ◆ 产品列表 / Product List

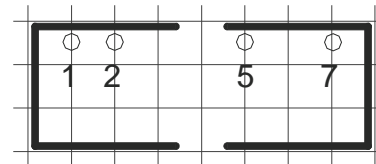
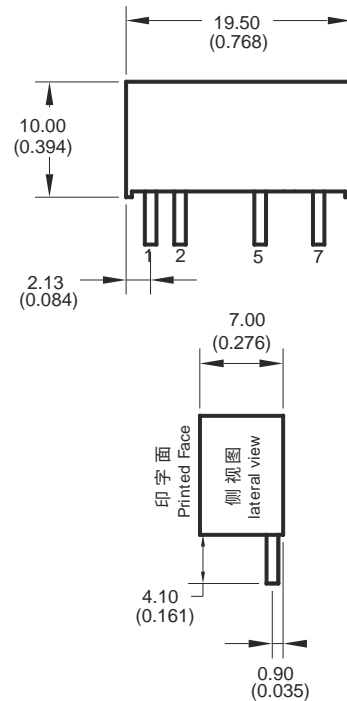


产品型号 Part no.	输入电压 Input voltage	输入电流 Input current	输出电压/电流 Output voltage/current		输出效率 Output efficiency
	范围值 Range	输出空载 Output no load	电压 Voltage	电流 (mA) Current (mA)	(%TYP)
	(VDC)	(mA)	(VDC)	MAX	
NN3-05S05C3N	4.5-5.5	5	5	600	83
NN2-05S24C4N		16	24	83	86
NN3-12S05C3N	10.8-13.2	12	5	600	82
NN3-12S12C3N		12	12	250	86
NN3-24S24C4N	21.6-26.4	24	24	125	86
NN3-12S05C4N	10.8-13.2	12	5	600	82
NN3-12S12C4N		12	12	250	86

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 Note 2: The fluctuation range of full load efficiency (%TYP) is ±2%, full load output efficiency = total output power / module's input power.

管脚号码 Pin-out	1	2	5	7
单路 Single	+Vin	GND	-Vo	+Vo
功能	输入正极	输入地	输出负极	输出正极
封装代号 Packing Code/Dimension	L*W*H			
C	19.50*7.00*10.00mm			
	0.768*0.276*0.394inch			

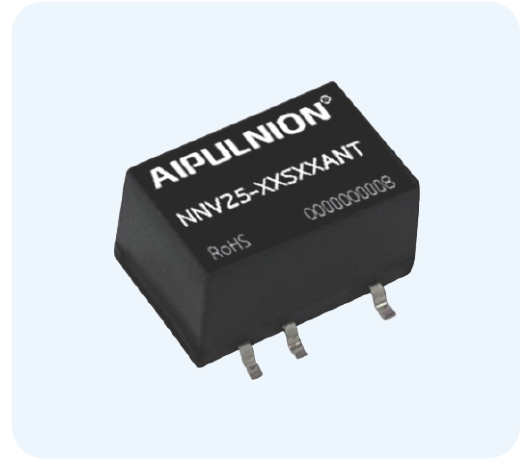
### 封装尺寸 / Packing Dimension



单位 (Unit): mm  
 印刷板俯视图 (Printed board vertical view)  
 栅格间距 (lattice spacing): 2.54mm (0.1inch)  
 未注尺寸公差 (General tolerance): ±0.25mm

◆ 产品特性/Product Features

- 定电压输入, 隔离非稳压输出 Fixed input voltage, isolated & unregulated output
- 空载输入电流低至5mA No load input current as low as 5mA
- 效率高达82% Transfer efficiency up to 82%
- 隔离电压 (Isolation voltage) : 1500VDC
- 塑料外壳, 符合UL94V-0级 小型 SIP封装 Case: Plastic, meet UL94V-0, compact SIP packing
- 工作环境温度 Operating Temp: -50°C~+115°C
- 保护功能: 有短路保护, 可自恢复 Protection: Short circuit, self-recovery
- 应用领域: 仪器仪表、通信、纯数字电路、一般低频模拟电路、继电器驱动电路、数据交换电路等领域  
Application Field: Instrumentation, communication, pure digital circuit, general low frequency analog circuit, relay drive circuit, data exchange circuit, etc.
- 测试条件: 如无特殊指定, 所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



◆ 产品列表/Product List



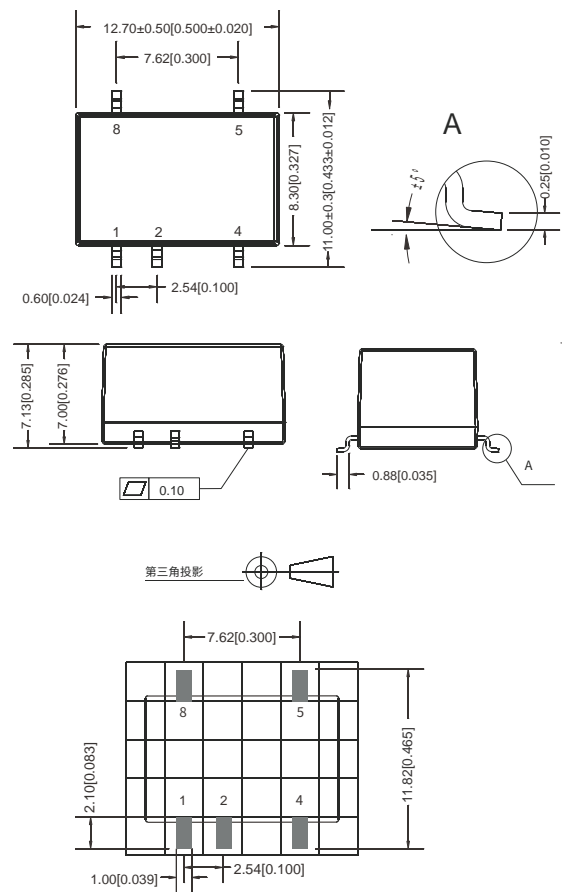
产品型号 Part no.	输入电压 Input voltage		输入电流 Input current		输出电压电流 Output voltage/current		输出效率 Output efficiency (%TYP)
	范围值 Range	输出空载 Output no load	电压 Voltage	电流 (mA) Current (mA)	MIN	MAX	
	(VDC)	(mA)	(VDC)	(mA)			
NNV25-05S05ANT	4.5-5.5	5	5	5	50	82	

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注2: 表格中为满载效率(%TYP), 波动幅度为±2%, 满载输出效率等于输出的总功率除以电源模块的输入功率。  
Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.

管脚号码 Pin-out	1	2	4	5	8
单路 Single	-Vin	+Vin	GND	+Vo	NC
功能	输入负极	输入正极	输出地	输出正极	无功能
封装代号 Packing Code/Dimension	L*W*H				
ANT	12.70*11.00*7.13mm				
	0.500*0.441*0.285inch				

NC:不能与任何外部电路连接

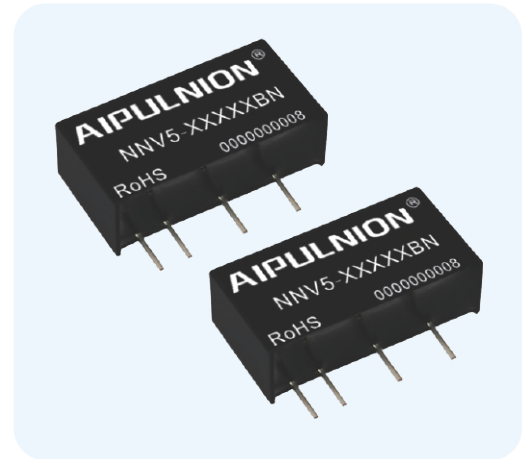
封装尺寸/Packing Dimension



单位 (Unit) : mm  
印刷板俯视图 (Printed board vertical view)  
栅格间距 (lattice spacing) : 2.54mm (0.1inch)  
未注尺寸公差 (General tolerance) : ±0.25mm  
未注明引脚直径公差 (Pin section tolerances) : ±0.10mm

◆ 产品特性 / Product Features

- 定电压输入, 隔离非稳压输出 Fixed input voltage, isolated & unregulated output
- 空载输入电流低至8mA No load input current as low as 8mA
- 效率高达83% Transfer efficiency up to 83%
- 隔离电压 (Isolation voltage) : BN: 1500VDC / B3N: 3000VDC
- 塑料外壳, 符合UL94V-0级 小型 SIP封装 Case: Plastic, meet UL94V-0, compact SIP packing
- 可满载工作环境温度 Operating Temp: -40°C ~ +85°C
- 部分型号通过CE、RoHS认证 Some models have passed CE, RoHS certification
- 应用领域: 仪器仪表、通信、纯数字电路、一般低频模拟电路、继电器驱动电路、数据交换电路等领域  
Application Field: Instrumentation, communication, pure digital circuit, general low frequency analog circuit, relay drive circuit, data exchange circuit, etc.
- 测试条件: 如无特殊指定, 所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



◆ 产品列表 / Product List

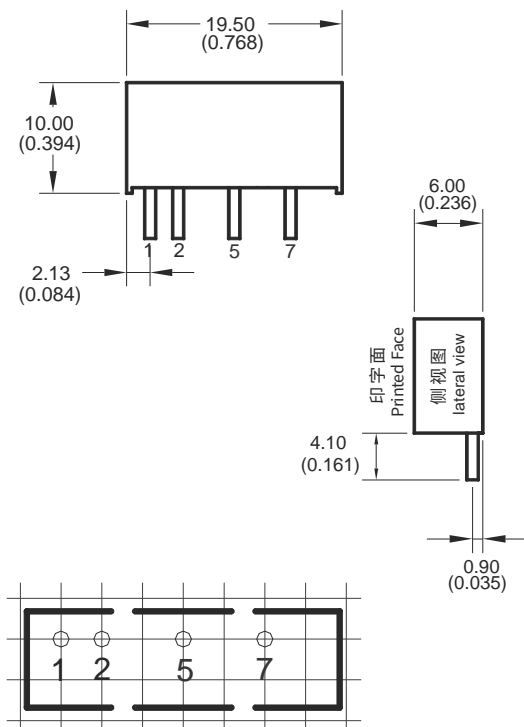


产品型号 Part no.	输入电压 Input voltage	输入电流 Input current	输出电压/电流 Output voltage/current		输出效率 Output efficiency
	范围值 Range (VDC)	输出空载 Output no load (mA)	电压 Voltage (VDC)	电流 (mA) Current (mA) MAX	(%TYP)
NNV5-05S05B3N	4.5-5.5	6	5	100	83
NNV5-05S05BN		6	5	100	83

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注2: 表格中为满载效率(%TYP), 波动幅度为±2%, 满载输出效率等于输出的总功率除以电源模块的输入功率。  
Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.

管脚号码 Pin-out	1	2	5	7
单路 Single	+Vin	GND	-Vo	+Vo
功能	输入正极	输入地	输出负极	输出正极
封装代号 Packing Code/ Dimension	L*W*H			
B	19.50*6.00*10.00mm			
	0.768*0.236*0.394inch			

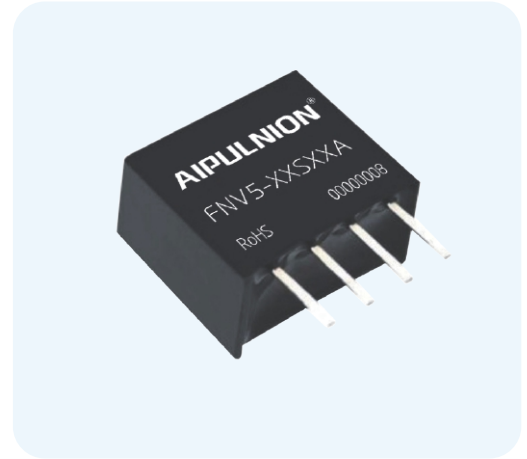
封装尺寸 / Packing Dimension



单位 (Unit): mm  
 印刷板俯视图 (Printed board vertical view)  
 栅格间距 (lattice spacing): 2.54mm (0.1inch)  
 未注尺寸公差 (General tolerance): ±0.50mm

◆ 产品特性/ Product Features

- 定电压输入, 隔离非稳压输出 Fixed input voltage, isolated & unregulated output
- 空载输入电流低至7mA No load input current as low as 7mA
- 效率高达75% Transfer efficiency up to 75%
- 隔离电压 (Isolation voltage) : 1500VDC
- 塑料外壳, 符合UL94V-0级 小型 SIP封装 Case: Plastic, meet UL94V-0, compact SIP packing
- 工作环境温度 Operating Temp: -40°C~+85°C
- 保护功能: 有短路保护, 可自恢复 Protection: Short circuit, self-recovery
- 应用领域: 仪器仪表、通信、纯数字电路、一般低频模拟电路、继电器驱动电路、数据交换电路等领域  
Application Field: Instrumentation, communication, pure digital circuit, general low frequency analog circuit, relay drive circuit, data exchange circuit, etc.
- 测试条件: 如无特殊指定, 所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



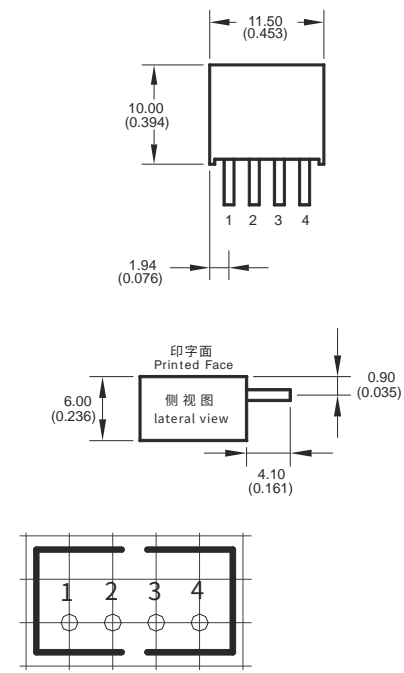
◆ 产品列表/ Product List



产品型号 Part no.	输入电压 Input voltage		输入电流 Input current		输出电压电流 Output voltage/current		输出效率 Output efficiency
	范围值 Range (VDC)	输出空载 Output no load (mA)	电压 Voltage (VDC)	电流 (mA) Current (mA) MAX	(%TYP)		
FNV5-3V3S3V3A	2.97-3.63	45	3.3	150	70		
FNV5-3V3S05A			5	100	70		
FNV5-3V3S12A			12	42	70		
FNV5-05S3V3A	4.5-5.5	30	3.3	150	74		
FNV5-05S05A			5	100	75		
FNV5-05S09A			9	55	75		
FNV5-05S12A			12	42	76		
FNV5-05S15A			15	33	77		
FNV5-05S24A			24	21	72		
FNV5-12S3V3A	10.8-13.2	13	3.3	150	74		
FNV5-12S05A			5	100	74		
FNV5-12S09A			9	55	74		
FNV5-12S12A			12	42	75		
FNV5-12S15A			15	33	75		
FNV5-12S24A			24	21	71		
FNV5-24S3V3A	21.6-26.4	7	3.3	150	70		
FNV5-24S05A			5	100	74		
FNV5-24S09A			9	55	75		
FNV5-24S12A			12	42	75		
FNV5-24S15A			15	33	76		
FNV5-24S24A			24	21	76		

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注2: 表格中为满载效率 (%TYP), 波动幅度为±2%, 满载输出效率等于输出的总功率除以电源模块的输入功率。  
Note 2: The fluctuation range of full load efficiency (%TYP) is ±2%, full load output efficiency = total output power/module's input power.

封装尺寸/ Packing Dimension



单位 (Unit): mm  
印刷板俯视图 (Printed board vertical view)  
栅格间距 (lattice spacing): 2.54mm (0.1 inch)  
未注尺寸公差 (General tolerance): ±0.5mm

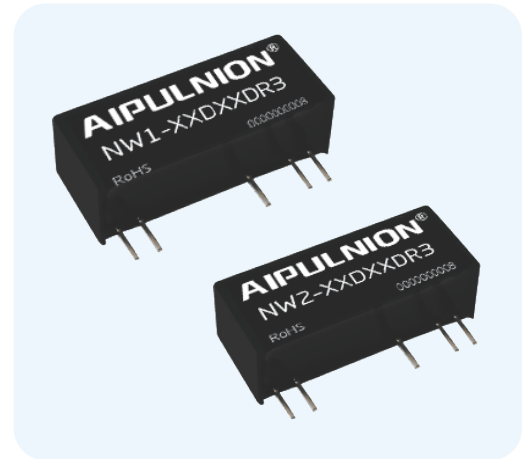
管脚号码 Pin-out	1	2	3	4
单路 Single	GND	+Vin	-Vo	+Vo
功能	输入地	输入正极	输出负极	输出正极
封装代号 Packing Code/Dimension	L*W*H			
A	11.50*6.00*10.00mm			
	0.453*0.236*0.394inch			

注意: 电源模块的各管脚定义如与选型手册不符, 应以实物标签上的标注为准。  
Note: If the definition of pin is not in accordance with the model selection manual, please refer to the label on actual item.



◆ 产品特性 / Product Features

- 定电压输入, 隔离非稳压输出 Fixed input voltage, isolated & unregulated output
- 空载输入电流低至4mA No load input current as low as 4mA
- 效率高达83% Transfer efficiency up to 83%
- 隔离电压 (Isolation voltage) : 1500VDC
- 塑料外壳, 符合UL94V-0级 小型 SIP封装 Case: Plastic, meet UL94V-0, compact SIP packing
- 工作环境温度 Operating Temp: -40°C~+85°C
- 保护功能: 有短路保护, 可自恢复 Protection: Short circuit, self-recovery
- 应用领域: 仪器仪表、通信、纯数字电路、一般低频模拟电路、继电器驱动电路、数据交换电路等领域  
Application Field: Instrumentation, communication, pure digital circuit, general low frequency analog circuit, relay drive circuit, data exchange circuit, etc.
- 测试条件: 如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



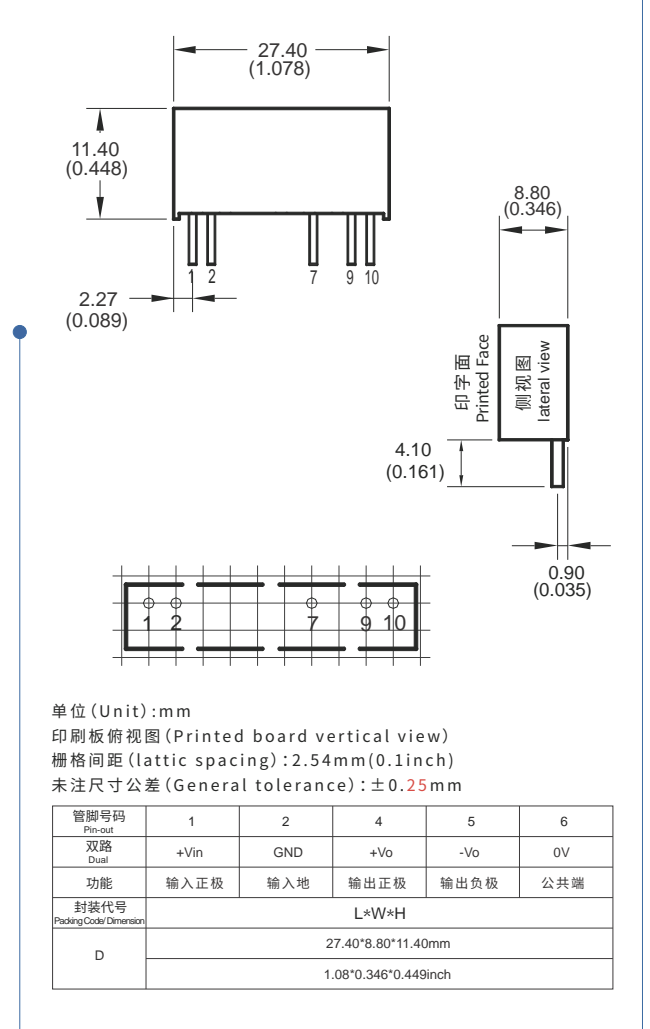
◆ 产品列表 / Product List



产品型号 Part no.	输入电压 Input voltage	输入电流 Input current	输出电压电流 Output voltage/current		输出效率 Output efficiency
	范围值 Range (VDC)	输出空载 Output no load (mA)	电压 Voltage (VDC)	电流 (mA) Current (mA) MAX	(%TYP)
NW1-05D05DR3	4.75-5.25	11	±5	±100	77
NW1-05D09DR3		14	±9	±56	80
NW1-05D12DR3		17	±12	±42	82
NW1-05D15DR3		25	±15	±33	80
NW1-12D05DR3	11.4-12.6	5	±5	±100	80
NW1-12D09DR3		6	±9	±56	83
NW1-12D12DR3		8	±12	±42	81
NW1-12D15DR3		11	±15	±33	83
NW1-24D05DR3	22.8-25.2	4	±5	±100	80
NW1-24D12DR3		6	±12	±42	82
NW1-24D15DR3		8	±15	±33	83
NW2-05D05DR3	4.75-5.25	11	±5	±200	77
NW2-05D09DR3		14	±9	±111	77
NW2-05D12DR3		17	±12	±83	77
NW2-05D15DR3		25	±15	±67	77
NW2-05D05DR3	11.4-12.6	4	±5	±200	77
NW2-05D09DR3		8	±9	±111	77
NW2-05D12DR3		9	±12	±83	80
NW2-05D15DR3		11	±15	±67	79
NW2-05D05DR3	22.8-25.2	4	±5	±200	76
NW2-05D12DR3		6	±12	±83	77
NW2-05D15DR3		8	±15	±67	80

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Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.

封装尺寸 / Packing Dimension



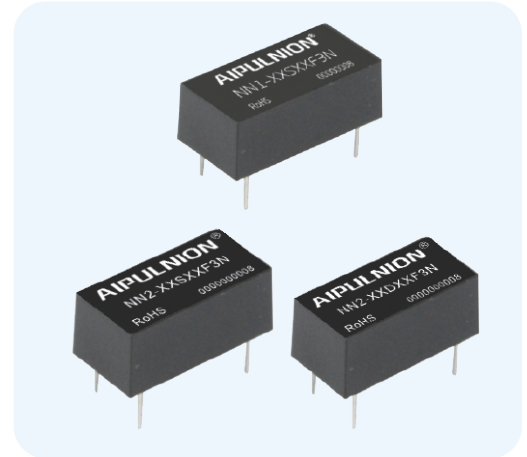
注意: 电源模块的各管脚定义如与选型手册不符, 应以实物标签上的标注为准。  
Note: If the definition of pin is not in accordance with the model selection manual, please refer to the label on actual item.





### ◆ 产品特性 / Product Features

- 定电压输入, 隔离非稳压输出 Fixed input voltage, isolated & unregulated output
- 空载输入电流低至8mA No load input current as low as 8mA
- 效率高达86% Transfer efficiency up to 86%
- 隔离电压 (Isolation voltage) : 3000VDC
- 塑料外壳, 符合UL94V-0级 小型 SIP封装 Case: Plastic, meet UL94V-0, compact SIP packing
- 工作环境温度 Operating Temp: -40°C~+85°C
- 保护功能: 有短路保护, 可自恢复 Protection: Short circuit, self-recovery
- 应用领域: 仪器仪表、通信、纯数字电路、一般低频模拟电路、继电器驱动电路、数据交换电路等领域  
Application Field: Instrumentation, communication, pure digital circuit, general low frequency analog circuit, relay drive circuit, data exchange circuit, etc.
- 测试条件: 如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



### ◆ 产品列表 / Product List



产品型号 Part no.	输入电压 Input voltage	输入电流 Input current	输出电压电流 Output voltage/current		输出效率 Output efficiency
	范围值 Range (VDC)	输出空载 Output no load (mA)	电压 Voltage (VDC)	电流 (mA) Current (mA) MAX	(%TYP)
NN1-05S3V3F3N	4.5-5.5	20	3.3	303	75
NN1-05S05F3N		20	5	200	80
NN1-12S05F3N	10.8-13.2	15	5	200	80
NN1-24S05F3N	21.6-26.4	7	5	200	79
NN2-05S05F3N	4.5-5.5	8	5	400	80
NN2-05S12F3N		18	12	167	80
NN2-05S15F3N		20	15	133	80
NN2-12S05F3N	10.8-13.2	10	5	400	84
NN2-12S12F3N		10	12	167	86
NN2-12S15F3N		10	15	133	83
NN2-24S05F3N	21.6-26.4	8	5	400	82
NN2-24S12F3N		8	12	167	86
NN2-24S15F3N		8	15	133	83
NN2-05D05F3N	4.5-5.5	8	±5	±200	80
NN2-05D12F3N		18	±12	±83	80
NN2-05D15F3N		20	±15	±67	80
NN2-12D05F3N	10.8-13.2	10	±5	±200	84
NN2-12D12F3N		10	±12	±83	86
NN2-12D15F3N		10	±15	±67	83
NN2-24D05F3N	21.6-26.4	8	±5	±200	82
NN2-24D12F3N		8	±12	±83	86
NN2-24D15F3N		8	±15	±67	83

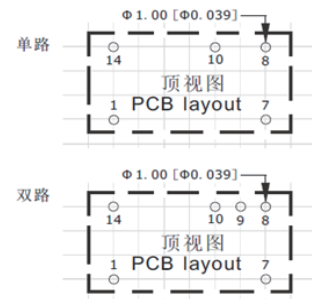
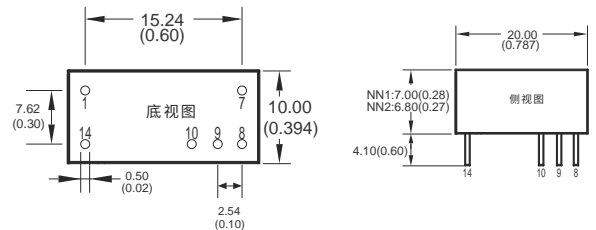
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Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.

### 封装尺寸 / Packing Dimension



单位 (Unit): mm

印刷板俯视图 (Printed board vertical view)

栅格间距 (lattice spacing): 2.54mm (0.1inch)

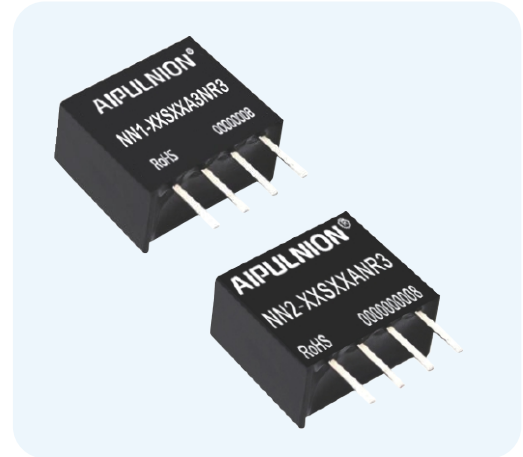
未注尺寸公差 (General tolerance): ±0.25mm

管脚号码 Pin-out	1	7	8	9	10	14
单路 Single	GND	NC	+Vo	NP	-Vo	+Vin
功能	输入地	无功能	输出正极	无此脚	输出负极	输入正
双路 Dual	GND	NC	+Vo	COM	-Vo	+Vin
功能	输入地	无功能	输出正极	输出公共端	输出负极	输入正
封装代号 Packing Code/Dimension	L*W*H					
F	NN1: 20.00*10.00*7.00mm / NN2: 20.00*10.00*6.80mm					
	NN1: 0.787*0.394*0.276inch / NN2: 0.787*0.394*0.270inch					



### ◆ 产品特性 / Product Features

- 定电压输入, 隔离非稳压输出 Fixed input voltage, isolated & unregulated output
  - 空载输入电流低至8mA No load input current as low as 8mA
  - 效率高达86% Transfer efficiency up to 86%
  - 隔离电压 (Isolation voltage) : ANR3: 1500VDC/ A3NR3: 3000VDC
  - 塑料外壳, 符合UL94V-0级 小型 SIP封装 Case: Plastic, meet UL94V-0, compact SIP packing
  - 工作环境温度 Operating Temp: -40°C~+85°C
  - 保护功能: 有短路保护, 可自恢复 Protection: Short circuit, self-recovery
- 应用领域: 仪器仪表、通信、纯数字电路、一般低频模拟电路、继电器驱动电路、数据交换电路等领域  
Application Field: Instrumentation, communication, pure digital circuit, general low frequency analog circuit, relay drive circuit, data exchange circuit, etc.
- 测试条件: 如无特殊指定, 所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



### ◆ 产品列表 / Product List



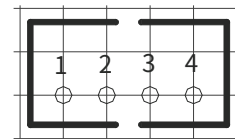
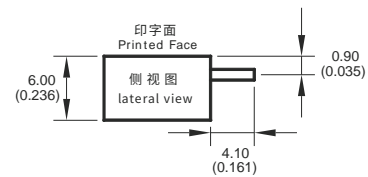
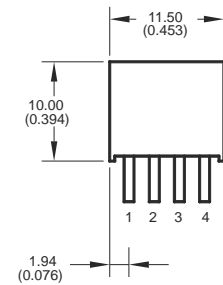
产品型号 Part no.	输入电压 Input voltage		输入电流 Input current		输出电压/电流 Output voltage/current		输出效率 Output efficiency (%TYP)
	范围值 Range (VDC)	输出空载 Output no load (mA)	电压 Voltage (VDC)	电流 (mA) Current (mA) MAX			
NN1-05S3V3A3NR3	4.5-5.5	8	3.3	300	78		
NN1-05S05A3NR3			5	200	85		
NN1-05S09A3NR3		10	9	110	86		
NN1-05S12A3NR3			12	83	86		
NN1-05S15A3NR3			15	67	86		
NN1-05S24A3NR3			24	42	86		
NN2-05S05ANR3	4.5-5.5	6	5	400	80		
NN2-05S12ANR3		18	12	167	80		
NN2-12S3V3ANR3	10.8-13.2	10	3.3	400	82		
NN2-12S05ANR3			5	400	84		
NN2-12S12ANR3			12	167	86		
NN2-12S15ANR3			15	133	83		
NN2-24S05ANR3	21.6-26.4	8	5	400	82		
NN2-24S12ANR3			12	167	86		
NN2-24S15ANR3			15	133	83		

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注2: 表格中为满载效率 (%TYP), 波动幅度为±2%, 满载输出效率等于输出的总功率除以电源模块的输入功率。  
Note 2: The fluctuation range of full load efficiency (%TYP) is ±2%, full load output efficiency = total output power/module's input power.

管脚号码 Pin-out	1	2	3	4
单路 Single	GND	+Vin	-Vo	+Vo
功能	输入地	输入正极	输出负极	输出正极
封装代号 Packing Code/ Dimension	L*W*H			
A	11.50*6.00*10.00mm			
	0.453*0.236*0.394inch			

### 封装尺寸 / Packing Dimension

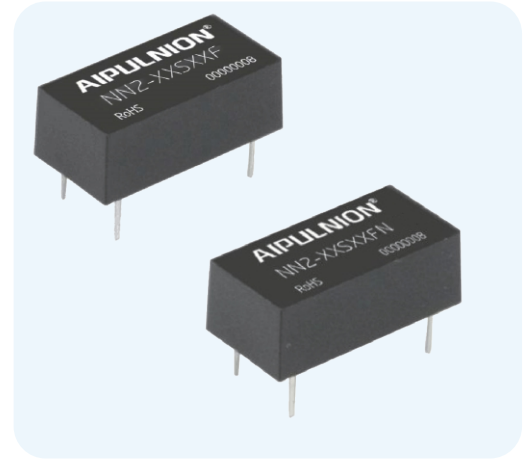


单位 (Unit): mm  
印刷板俯视图 (Printed board vertical view)  
栅格间距 (lattice spacing): 2.54mm (0.1inch)  
未注尺寸公差 (General tolerance): ±0.5mm



### ◆ 产品特性 / Product Features

- 定电压输入, 隔离非稳压输出 Fixed input voltage, isolated & unregulated output
  - 空载输入电流低至8mA No load input current as low as 8mA
  - 效率高达86% Transfer efficiency up to 86%
  - 隔离电压 (Isolation voltage) :1500VDC
  - 塑料外壳, 符合UL94V-0级 小型 DIP封装 Case: Plastic, meet UL94V-0, compact DIP packing
  - 工作环境温度 Operating Temp: -40°C~+85°C
  - 部分有保护功能: FN: 有短路保护, 可自恢复 FN: Protection: Short circuit, self-recovery
- **应用领域:** 仪器仪表、通信、纯数字电路、一般低频模拟电路、继电器驱动电路、数据交换电路等领域  
 Application Field: Instrumentation, communication, pure digital circuit, general low frequency analog circuit, relay drive circuit, data exchange circuit, etc.
- **测试条件:** 如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
 Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



### ◆ 产品列表 / Product List



产品型号 Part no.	输入电压 Input voltage	输入电流 Input current	输出电压/电流 Output voltage/current		输出效率 Output efficiency (%TYP)
	范围值 Range (VDC)	输出空载 Output no load (mA)	电压 Voltage (VDC)	电流 (mA) Current (mA) MAX	
	NN2-12S12F	10.8-13.2	10	12	
NN2-24S05F	21.6-26.4	8	5	400	83
NN2-24S15F		8	15	133	86
NN2-12S12FN	10.8-13.2	33	12	167	85
NN2-24S05FN	21.6-26.4	8	5	400	80

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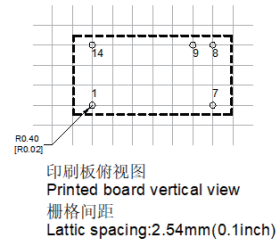
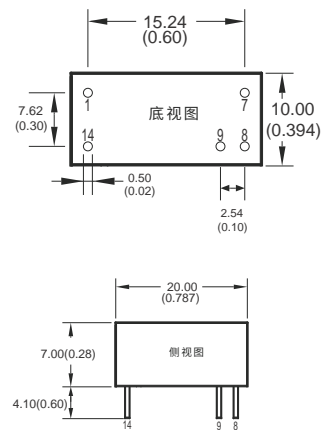
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Note 2: The fluctuation range of full load efficiency (%TYP) is ±2%, full load output efficiency = total output power/module's input power.

管脚号码 Pin-out	1	7	8	9	14
单路 Single	GND	NC	-Vo	+Vo	+Vin
功能	输入地	无功能	输出负极	输出正极	输入正极
封装代号 Packing Code/Dimension	L*W*H				
F	20.00*10.00*7.00mm				
	0.787*0.394*0.276inch				

### 封装尺寸 / Packing Dimension



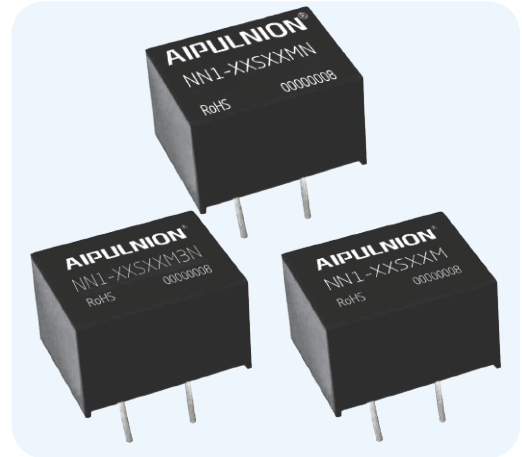
单位 (Unit): mm  
 印刷板俯视图 (Printed board vertical view)  
 栅格间距 (lattice spacing): 2.54mm (0.1inch)  
 未注尺寸公差 (General tolerance): ±0.25mm



### 产品特性/ Product Features

- 定电压输入, 隔离非稳压输出 Fixed input voltage, isolated & unregulated output
- 空载输入电流低至5mA No load input current as low as 5mA
- 效率高达89% Transfer efficiency up to 86%
- 隔离电压 (Isolation voltage) : M(N) : 1500VDC / M3N : 3000VDC
- 塑料外壳, 符合UL94V-0级 小型 DIP封装 Case: Plastic, meet UL94V-0, compact SIP packing
- 工作环境温度 Operating Temp: -40°C~+85°C
- M(3)N: 保护功能: 有短路保护, 可自恢复 M(3)N: Protection: Short circuit, self-recovery

- 应用领域: 仪器仪表、通信、纯数字电路、一般低频模拟电路、继电器驱动电路、数据交换电路等领域  
Application Field: Instrumentation, communication, pure digital circuit, general low frequency analog circuit, relay drive circuit, data exchange circuit, etc.
- 测试条件: 如无特殊指定, 所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



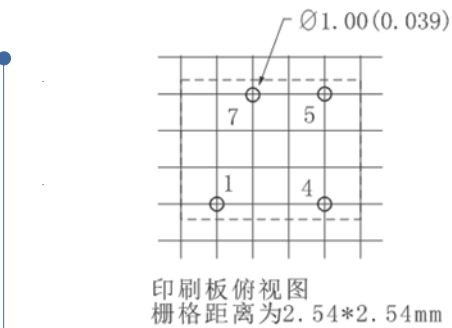
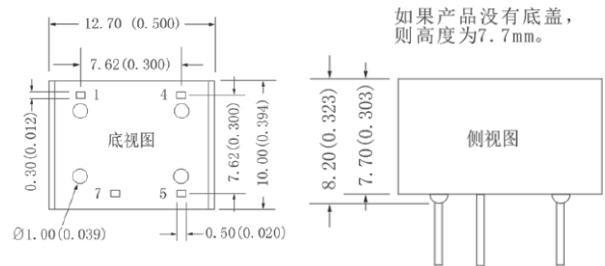
### 产品列表/ Product List



产品型号 Part no.	输入电压 Input voltage		输入电流 Input current		输出电压/电流 Output voltage/current		输出效率 Output efficiency (%TYP)
	范围值 Range (VDC)	输出空载 Output no load (mA)	电压 Voltage (VDC)	电流 Current (mA)			
NN1-05S05M	4.5-5.5	40	5	200	77		
NN1-05S09M			9	110	78		
NN1-05S12M			12	83	78		
NN1-05S15M			15	67	78		
NN1-12S05M	10.8-13.2	18	5	200	79		
NN1-12S09M			9	110	80		
NN1-12S12M			12	83	80		
NN1-12S15M			15	67	80		
NN1-24S05M	21.6-26.4	10	5	200	77		
NN1-24S09M			9	110	78		
NN1-24S12M			12	83	77		
NN1-24S15M			15	67	78		
NN1-05S3V3MN	4.5-5.5	8	3.3	300	78		
NN1-05S05MN		6	5	200	84		
NN1-05S09MN		12	9	110	85		
NN1-05S12MN		15	12	83	85		
NN1-05S15MN		18	15	67	85		
NN1-05S24MN	26	24	42	86			
NN1-12S3V3MN	10.8-13.2	6	3.3	300	82		
NN1-12S05MN			5	200	85		
NN1-12S09MN			9	110	85		
NN1-12S12MN			12	83	86		
NN1-12S15MN			15	67	85		
NN1-12S24MN	15	24	42	84			
NN1-15S05MN	13.5-16.5	6	5	200	84		
NN1-15S12MN			9	110	85		
NN1-15S15MN			8	15	67	86	
NN1-24S3V3MN	21.6-26.4	15	3.3	300	82		
NN1-24S05MN			5	200	86		
NN1-24S09MN			9	110	86		
NN1-24S12MN			12	83	86		
NN1-24S15MN			15	67	81		
NN1-24S24MN	24	42	84				
NN1-05S3V3M3N	4.5-5.5	8	3.3	300	78		
NN1-05S05M3N			5	200	84		
NN1-05S09M3N			9	110	86		
NN1-05S12M3N			12	83	86		
NN1-05S15M3N	18	15	67	86			

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Note 1: Due to space limitations, above is only a part of our product list, please contact our sales team for more items.  
注2: 表格中为满载效率(%TYP), 波动幅度为±2%, 满载输出效率等于输出的总功率除以电源模块的输入功率。  
Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.

### 封装尺寸/ Packing Dimension



单位 (Unit): mm  
印刷板俯视图 (Printed board vertical view)  
栅格间距 (lattice spacing): 2.54mm (0.1inch)  
未注尺寸公差 (General tolerance): ±0.5mm  
未注明引脚直径公差 (Pin section tolerances): ±0.10mm

管脚号码 Pin-out	1	4	5	7
单路 Single	GND	+Vin	+Vo	-Vo
功能	输入地	输入正极	输出正极	输出负极
封装代号 Packing Code/ Dimension	L*W*H			
M	12.70*10.00*8.20mm			
	0.500*0.394*0.323inch			



◆ 产品特性/Product Features

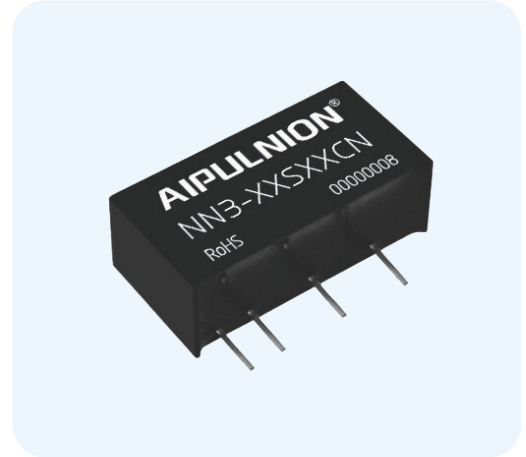
- 定电压输入, 隔离非稳压输出 Fixed input voltage, isolated&unregulated output
- 空载输入电流低至12mA No load input current as low as 8mA
- 效率高达86% Transfer efficiency up to 86%
- 隔离电压 (Isolation voltage) : 1500VDC
- 塑料外壳, 符合UL94V-0级 小型 SIP封装 Case:Plastic,meet UL94V-0,compact SIP packing
- 工作环境温度 Operating Temp: -40°C~+85°C
- 保护功能:有短路保护,可自恢复 Protection:Short circuit,self-recovery

- 应用领域:仪器仪表、通信、纯数字电路、一般低频模拟电路、继电器驱动电路、数据交换电路等领域

Application Field:Instrumentation, communication, pure digital circuit, general low frequency analog circuit, relay drive circuit, data exchange circuit, etc.

- 测试条件:如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得

Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



◆ 产品列表/Product List



产品型号 Part no.	输入电压 Input voltage	输入电流 Input current	输出电压电流 Output voltage/current		输出效率 Output efficiency
	范围值 Range	输出空载 Output no load	电压 Voltage	电流 (mA) Current (mA)	(%TYP)
	(VDC)	(mA)	(VDC)	MAX	
NN3-05S05CN	4.5-5.5	5	5	600	84
NN3-05S09CN		15	9	333	83
NN3-05S12CN		15	12	250	85
NN3-05S24CN		15	24	125	84
NN3-12S05CN	10.8-13.2	12	5	600	82
NN3-12S12CN		12	12	250	86

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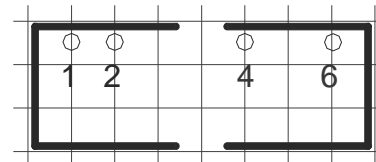
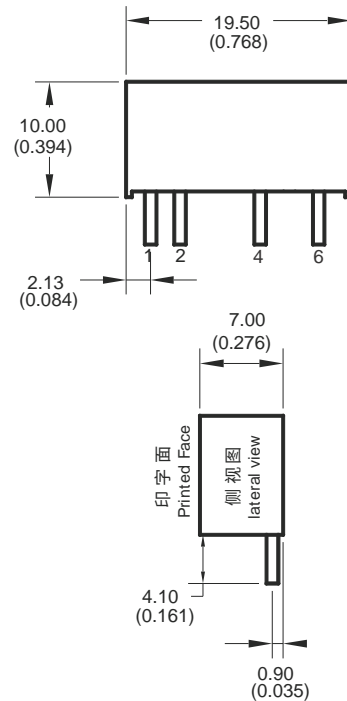
Note 1: Due to space limitations, above is only a part of our product list, please contact our sales team for more items.

注2:表格中为满载效率(%TYP),波动幅度为±2%,满载输出效率等于输出的总功率除以电源模块的输入功率。

Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.

管脚号码 Pin-out	1	2	4	6
单路 Single	+Vin	GND	-Vo	+Vo
功能	输入正极	输入地	输出负极	输出正极
封装代号 Packing Code/Dimension	L*W*H			
C	19.50*7.00*10.00mm			
	0.768*0.276*0.394inch			

封装尺寸/Packing Dimension

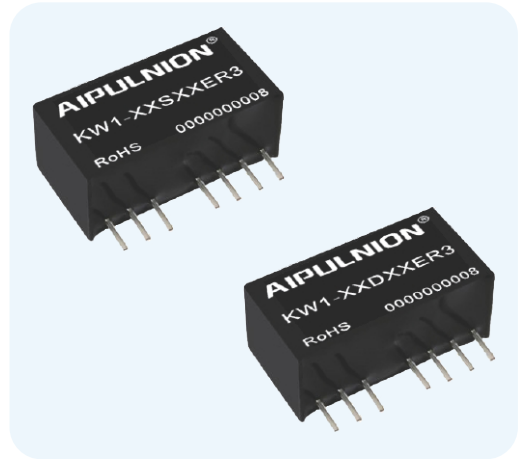


单位 (Unit) : mm  
 印刷板俯视图 (Printed board vertical view)  
 栅格间距 (lattice spacing) : 2.54mm (0.1inch)  
 未注尺寸公差 (General tolerance) : ±0.25mm



◆ 产品特性/Product Features

- 宽电压输入(4:1), 隔离稳压输出 Wide input voltage range (4:1), isolated&regulated output
- 空载输入电流低至5mA No load input current as low as 5mA
- 效率高达82% Transfer efficiency up to 82%
- 隔离电压 (Isolation voltage) : ER3: 1500VDC / E3R3: 3000VDC
- 塑料外壳, 符合UL94V-0级 小型 SIP封装 Case: Plastic, meet UL94V-0, compact SIP packing
- 工作环境温度 Operating Temp: -40°C~+85°C
- 保护功能: 有短路保护, 可自恢复 Protection: Short circuit, self-recovery
- 应用领域: 仪器仪表、通信、纯数字电路、一般低频模拟电路、继电器驱动电路、数据交换电路等领域  
Application Field: Instrumentation, communication, pure digital circuit, general low frequency analog circuit, relay drive circuit, data exchange circuit, etc.
- 测试条件: 如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



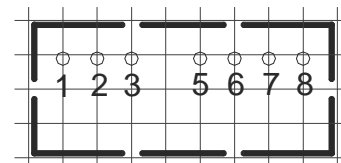
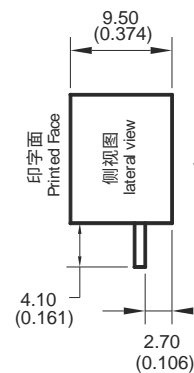
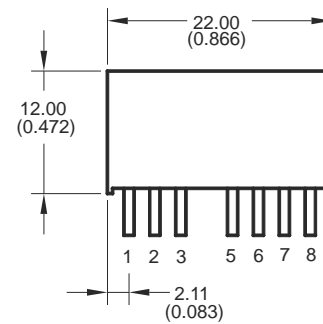
◆ 产品列表/Product List



产品型号 Part no.	输入电压 Input voltage	输入电流 Input current	输出电压电流 Output voltage/current		输出效率 Output efficiency
	范围值 Range (VDC)	输出空载 Output no load (mA)	电压 Voltage (VDC)	电流 (mA) Current (mA) MAX	(%TYP)
KW1-24S3V3ER3/E3R3	9-36	3	3.3	303	75
KW1-24S05ER3/E3R3		3	5	200	79
KW1-24S09ER3/E3R3		4	9	111	80
KW1-24S12ER3/E3R3		4	12	83	82
KW1-24S15ER3/E3R3		5	15	67	80
KW1-24S24ER3/E3R3		5	24	42	82
KW1-24D05ER3/E3R3	9-36	3	±5	±200	77
KW1-24D09ER3/E3R3		3	±9	±56	80
KW1-24D12ER3/E3R3		4	±12	±42	82
KW1-24D15ER3/E3R3		5	±15	±33	80

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Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.

封装尺寸/Packing Demension



单位 (Unit) : mm  
印刷板俯视图 (Printed board vertical view)  
栅格间距 (lattice spacing) : 2.54mm (0.1inch)  
未注尺寸公差 (General tolerance) : ±0.5mm

管脚号码 Pin-out	1	2	3	5	6	7	8
单路 Single	GND	+Vin	Ctrl	NC	+Vo	0V	CS
单路功能	输入地	输入正极	控制脚	无功能	输出正极	输出地	外接电容
双路 Dual	GND	+Vin	Ctrl	NC	+Vo	0V	-Vo
双路功能	输入地	输入正极	控制脚	无功能	输出正极	输出地	输出负极
封装代号 Packing Code/ Dimension	L*W*H						
E	22.00*9.50*12.00mm						
	0.866*0.374*0.472inch						

注意: 电源模块的各管脚定义如与选型手册不符, 应以实物标签上的标注为准。  
Note: If the definition of pin is not in accordance with the model selection manual, please refer to the label on actual item.





◆ 产品特性 / Product Features

- 宽电压输入, 隔离稳压输出 Wide input voltage range isolated&regulated output
- 空载输入电流低至4mA No load input current as low as 4mA
- 效率高达84% Transfer efficiency up to 84%
- 隔离电压 (Isolation voltage) : ER3: 1500VDC / E3R3: 3000VDC
- 塑料外壳, 符合UL94V-0级 小型 SIP封装 Case:Plastic,meet UL94V-0,compact SIP packing
- 工作环境温度 Operating Temp:-40°C~+85°C
- 保护功能:有短路保护,可自恢复 Protection:Short circuit,self-recovery
- 部分型号通过CE、RoHS认证 Some models have passed CE, RoHS certification
- 应用领域:仪器仪表、通信、纯数字电路、一般低频模拟电路、继电器驱动电路、数据交换电路等领域  
Application Field:Instrumentation, communication, pure digital circuit, general low frequency analog circuit, relay drive circuit, data exchange circuit, etc.
- 测试条件:如无特殊指定,所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



◆ 产品列表 / Product List

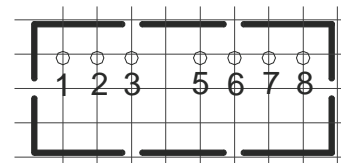
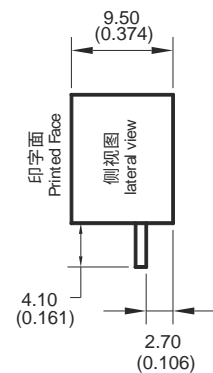
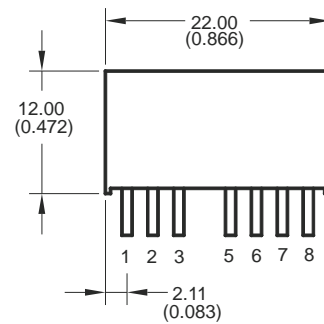


产品型号 Part no.	输入电压 Input voltage	输入电流 Input current	输出电压/电流 Output voltage/current		输出效率 Output efficiency
	范围值 Range (VDC)	输出空载 Output no load (mA)	电压 Voltage (VDC)	电流 (mA) Current (mA) MAX	(%TYP)
KW3-24S3V3ER3/E3R3	9-36	4	3.3	728	75
KW3-24S05ER3/E3R3		4	5	600	80
KW3-24S09ER3/E3R3		4	9	333	80
KW3-24S12ER3/E3R3		4	12	250	83
KW3-24S15ER3/E3R3		5	15	200	84
KW3-24S24ER3/E3R3		5	24	125	83
KW3-24D05ER3/E3R3		4	±5	±300	80
KW3-24D09ER3/E3R3		4	±9	±167	80
KW3-24D12ER3/E3R3		4	±12	±125	83
KW3-24D15ER3/E3R3		5	±15	±100	84
KW3-05S05ER3/E3R3	4.5-9	6	5	600	74
KW3-05S09ER3/E3R3		6	9	333	77
KW3-05S12ER3/E3R3		6	12	250	77
KW3-05S15ER3/E3R3		8	15	200	77
KW3-05S24ER3/E3R3		8	24	125	78
KW3-05D05ER3/E3R3		6	±5	±300	74
KW3-05D09ER3/E3R3		6	±9	±167	77
KW3-05D12ER3/E3R3		6	±12	±125	77
KW3-05D15ER3/E3R3		8	±15	±100	78

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Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.

管脚号码 Pin-out	1	2	3	5	6	7	8
单路 Single	GND	+Vin	Ctrl	NC	+Vo	0V	CS
单路功能	输入地	输入正极	控制脚	无功能	输出正极	输出地	外接电容
双路 Dual	GND	+Vin	Ctrl	NC	+Vo	0V	-Vo
双路功能	输入地	输入正极	控制脚	无功能	输出正极	输出地	输出负极
封装代号 Packing Code/ Dimension	L*W*H						
E	22.00*9.50*12.00mm						
	0.866*0.374*0.472inch						

封装尺寸 / Packing Dimension



单位 (Unit) : mm  
印刷板俯视图 (Printed board vertical view)  
栅格间距 (lattice spacing) : 2.54mm (0.1inch)  
未注尺寸公差 (General tolerance) : ±0.5mm

### ◆ 产品特性/Product Features

- 超宽电压输入 Ultra wide input voltage rang(4:1)
- 效率高达84% Transfer efficiency up to 84%
- 隔离电压 (Isolation voltage) E3:1500VDC E23: 3000VDC
- 工作环境温度 Operating Temp:-40°C~+85°C
- 保护功能: 输入欠压, 输出过压, 短路, 过流保护  
Protection:nput under-voltage, output over-current,short-circuit
- 长期短路保护,可自恢复 Long - term short - circuit protection, self - recovery
- 应用领域: 工业控制、仪器仪表、通信、电力、物联网等领域  
Application Field:Instrumentation, communication, electric power, internet of things etc.
- 测试条件: 如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



### ◆ 产品列表/Product List



产品型号 Part no.	输入电压 Input voltage	输入电流 Input current	输出电压/电流 Output voltage/current		输出效率 Output efficiency	
	范围值 Range (VDC)	输出空载 Output no load (mA)	电压 Voltage (VDC)	电流 Current (mA)	(%TYP)	
UD6-18S3V3E3	9-36	20	3.3	1200	76	
UD6-18S05E3			5	1200	80	
UD6-18S09E3			9	667	82	
UD6-18S12E3			12	500	82	
UD6-18S15E3			25	15	400	82
UD6-18S24E3				24	250	82
UD6-36S3V3E3	18-75	10	3.3	1200	76	
UD6-36S05E3			5	1200	80	
UD6-36S09E3			9	667	82	
UD6-36S12E3			12	500	82	
UD6-36S15E3			13	15	400	84
UD6-36S24E3				24	250	84
UD6-18S3V3E23	9-36	20	3.3	1200	76	
UD6-18S05E23			5	1200	80	
UD6-18S09E23			9	667	82	
UD6-18S12E23			12	500	82	
UD6-18S15E23			25	15	400	82
UD6-18S24E23				24	250	82
UD6-36S3V3E23	18-75	10	3.3	1200	76	
UD6-36S05E23			5	1200	80	
UD6-36S09E23			9	667	82	
UD6-36S12E23			12	500	82	
UD6-36S15E23			13	15	400	84
UD6-36S24E23				24	250	84

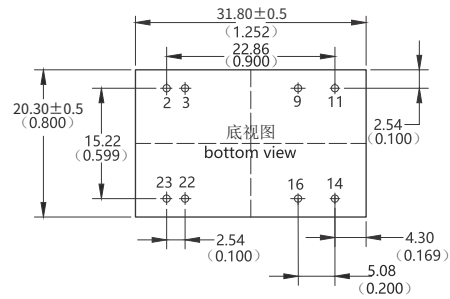
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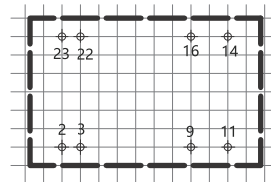
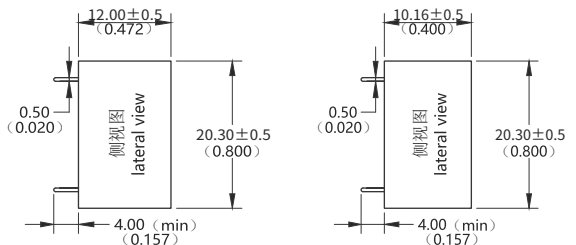
注2: 表格中为满载效率 (% TYP), 波动幅度为±2%, 满载输出效率等于输出的总功率除以电源模块的输入功率。

Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.

### 封装尺寸/Packing Dimension



侧视图: 左为E3, 右为E23



单位 (Unit): mm

栅格间距 (lattice spacing): 2.54mm (0.1inch)

未注尺寸公差 (General tolerance): ±0.5mm

未注明引脚直径公差 (Pin section tolerances): ±0.10mm

管脚号码 Pin-out	2, 3	22, 23	14	16	9	11
单路 Single	-Vin	+Vin	+Vo	GND	NP	NC
单路功能	输入负极	输入正极	输出正极	输出地	无此脚	无功能
封装代号 Packing Code/ Dimension	L*W*H					
E3	31.80*20.30*12.00mm 1.252*0.800*0.472inch					
E23	31.80*20.30*10.16mm 1.252*0.800*0.400inch					

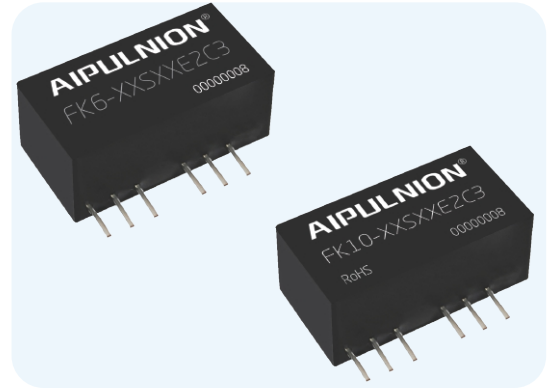
注意: 电源模块的各管脚定义如与选型手册不符, 应以实物标签上的标注为准。

Note: If the definition of pin is not in accordance with the model selection manual, please refer to the label on actual item.



◆ 产品特性/Product Features

- 超宽电压输入 Ultra wide input voltage rang(4:1)
- 低待机功耗低至0.05W Low standby power consumption to 0.05W
- 效率高达88% Transfer efficiency up to 88%
- 隔离电压 (Isolation voltage) : FK6:3000VDC / FK10:2250VDC
- 塑料外壳,符合UL94V-0级 小型 SIP封装 Case:Plastic,meet UL94V-0,compact SIP packing
- 工作环境温度 Operating Temp:-40°C~+85°C
- 保护功能: 输入欠压保护, 输出过流、短路保护 Protection:Input under-voltage, output over-current,short-circuit
- 应用领域: 仪器仪表、通信、纯数字电路、一般低频模拟电路、继电器驱动电路、数据交换电路等领域  
Application Field:Instrumentation, communication, pure digital circuit, general low frequency analog circuit, relay drive circuit, data exchange circuit, etc.
- 测试条件: 如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



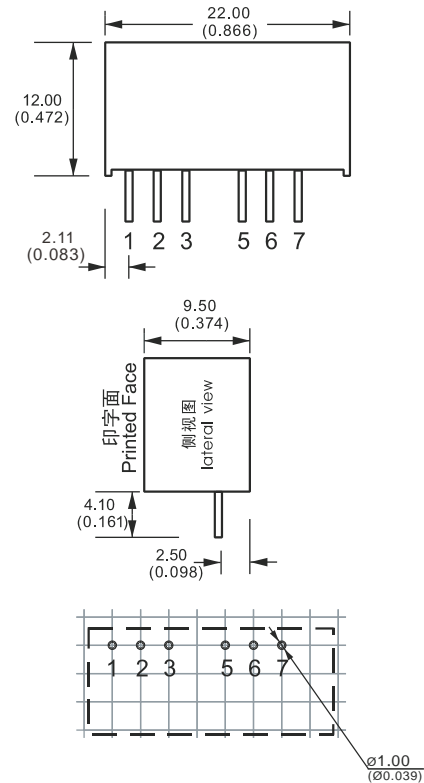
◆ 产品列表/Product List



产品型号 Part no.	输入电压 Input voltage		输入电流 Input current		输出电压/电流 Output voltage/current		输出效率 Output efficiency (%TYP)
	范围值 Range (VDC)	输出空载 Output no load (mA)	电压 Voltage (VDC)	电流 Current (mA)			
FK6-18S3V3E2C3	9-36	5	3.3	1350	78		
FK6-18S05E2C3			5	1200	82		
FK6-18S09E2C3			9	667	84		
FK6-18S12E2C3			12	500	86		
FK6-18S15E2C3			15	400	87		
FK6-18S24E2C3			24	250	85		
FK6-18S48E2C3			48	125	86		
FK10-18S3V3E2C3	9-36	10	33	2400	84		
FK10-18S05E2C3			40	2000	87		
FK10-18S09E2C3			9	1111	87		
FK10-18S12E2C3			12	834	88		
FK10-18S15E2C3			15	667	88		
FK10-18S24E2C3			24	416	88		
FK10-36S3V3E2C3			18-72	10	33	2400	84
FK10-36S05E2C3	40	2000			87		
FK10-36S09E2C3	9	1111			87		
FK10-36S12E2C3	12	834			88		
FK10-36S15E2C3	15	667			88		
FK10-36S24E2C3	24	416			88		

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 注2: 表格中为满载效率 (% TYP), 波动幅度为±2%, 满载输出效率等于输出的总功率除以电源模块的输入功率。  
 Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.

封装尺寸/Packing Dimension



单位 (Unit): mm  
 栅格间距 (lattice spacing): 2.54mm (0.1inch)  
 未注尺寸公差 (General tolerance): ±0.25mm

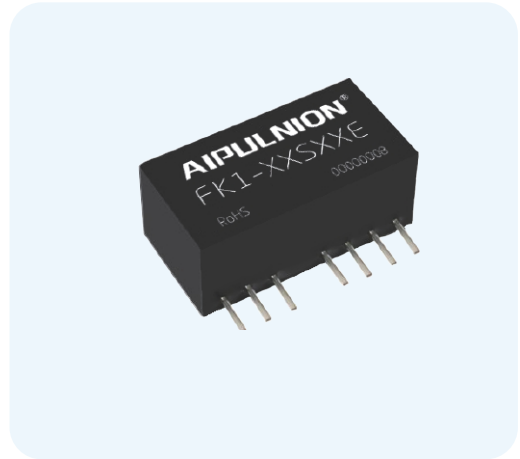
管脚号码 Pin-out	1	2	3	5	6	7
单路 Single	-Vin	+Vin	Ctrl	NC	+Vo	GND
单路功能	输入负极	输入正极	远程控制脚	无功能	输出正极	输出地
封装代号 Packing Code/ Dimension	L*W*H					
E	22.00*9.50*12.00mm					
	0.866*0.374*0.472inch					

注意: 电源模块的各管脚定义如与选型手册不符, 应以实物标签上的标注为准。  
 Note: If the definition of pin is not in accordance with the model selection manual, please refer to the label on actual item.



◆ 产品特性/Product Features

- 宽电压输入(2:1),隔离稳压输出 Wide input voltage range (2:1),isolated&regulated output
- 空载输入电流低至2mA No load input current as low as 2mA
- 效率高达86% Transfer efficiency up to 80%
- 隔离电压(Isolation voltage) : E: 1500VDC / E3: 3000VDC
- 塑料外壳,符合UL94V-0级 小型 SIP封装 Case:Plastic,meet UL94V-0,compact SIP packing
- 工作环境温度 Operating Temp:-40°C~+85°C
- 保护功能:有短路保护,可自恢复 Protection:Short circuit,self-recovery
- 应用领域:仪器仪表、通信、纯数字电路、一般低频模拟电路、继电器驱动电路、数据交换电路等领域  
Application Field:Instrumentation, communication, pure digital circuit, general low frequency analog circuit, relay drive circuit, data exchange circuit, etc.
- 测试条件:如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



◆ 产品列表/Product List

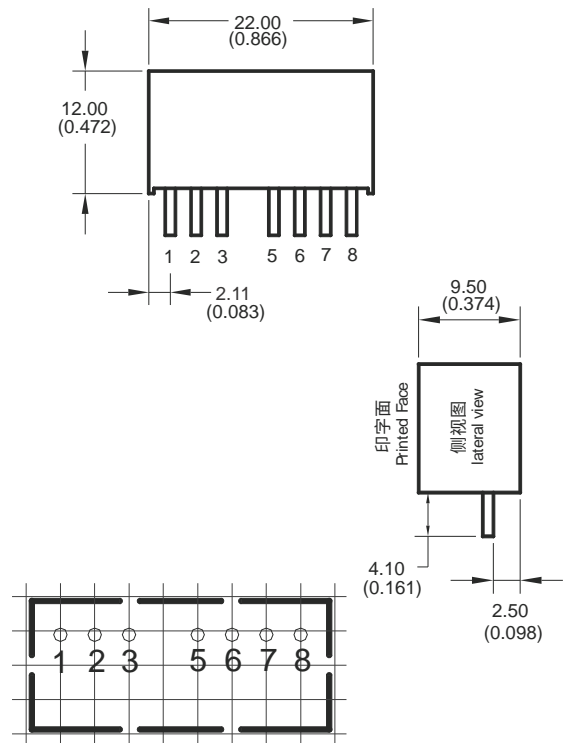


产品型号 Part no.	输入电压 Input voltage		输入电流 Input current		输出电压/电流 Output voltage/current		输出效率 Output efficiency (%TYP)
	范围值 Range	输出空载 Output no load	电压 Voltage	电流 (mA) Current (mA)			
	(VDC)	(mA)	(VDC)	MAX			
FK1-48S05E	36-75	2	5	200			78
FK1-48S12E		4	12	83			80
FK1-48S15E		4	15	67			79
FK1-48S05E3	36-75	5	5	200			78
FK1-48S12E3		5	12	83			82
FK1-48S15E3		5	15	67			82

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Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.

管脚号码 Pin-out	1	2	3	5	6	7	8
单路 Single	GND	+Vin	Ctrl	NC	+Vo	0V	CS
功能	输入地	输入正极	控制脚	无功能	输出正极	输出地	外接电容
封装代号 Packing Code/Dimension	L*W*H						
E	22.00*9.50*12.00mm						
	0.866*0.374*0.472inch						

封装尺寸/Packing Demension



单位(Unit):mm  
 印刷板俯视图(Printed board vertical view)  
 栅格间距(latic spacing):2.54mm(0.1inch)  
 未注尺寸公差(General tolerance):±0.5mm



◆ 产品特性/Product Features

- 宽电压输入(2:1),隔离稳压输出 Wide input voltage range (2:1),isolated&regulated output
- 空载输入电流低至2mA No load input current as low as 2mA
- 效率高达86% Transfer efficiency up to 86%
- 隔离电压(Isolation voltage) : E: 1500VDC / E3: 3000VDC
- 塑料外壳,符合UL94V-0级 小型 SIP封装 Case:Plastic,meet UL94V-0,compact SIP packing
- 工作环境温度 Operating Temp:-40°C~+85°C
- 保护功能:有短路保护,可自恢复 Protection:Short circuit,self-recovery
- 应用领域:仪器仪表、通信、纯数字电路、一般低频模拟电路、继电器驱动电路、数据交换电路等领域  
Application Field:Instrumentation, communication, pure digital circuit, general low frequency analog circuit, relay drive circuit, data exchange circuit, etc.
- 测试条件:如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



◆ 产品列表/Product List

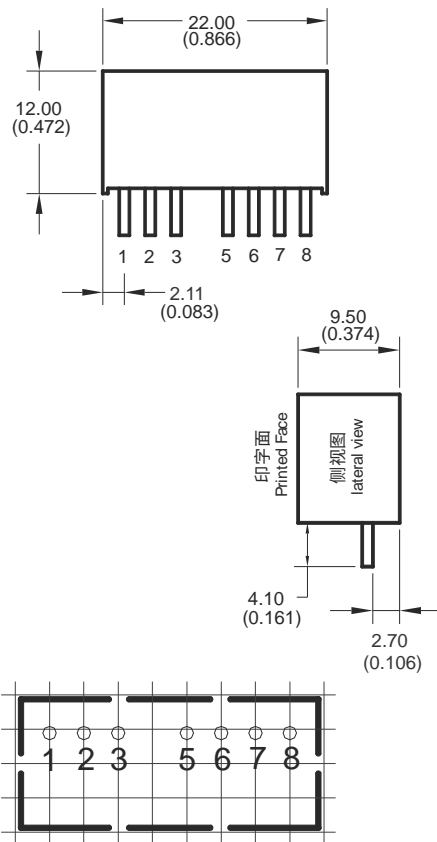


产品型号 Part no.	输入电压 Input voltage	输入电流 Input current	输出电压/电流 Output voltage/current		输出效率 Output efficiency
	范围值 Range (VDC)	输出空载 Output no load (mA)	电压 Voltage (VDC)	电流 (mA) Current (mA) MAX	(%TYP)
FK3-48S05E	36-75	2	5	600	82
FK3-48S12E		1	12	250	86
FK3-48S15E		6	15	200	84
FK3-48S24E		6	24	125	86
FK3-48S05E3		2	5	600	82
FK3-48S12E3		1	12	250	86
FK3-48S15E3		6	15	200	84
FK3-48S24E3		6	24	125	86

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Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.

管脚号码 Pin-out	1	2	3	5	6	7	8
单路 Single	GND	+Vin	Ctrl	NC	+Vo	0V	CS
功能	输入地	输入正极	控制脚	无功能	输出正极	输出地	外接电容
封装代号 Packing Code/Dimension	L*W*H						
E	22.00*9.50*12.00mm						
	0.866*0.374*0.472inch						

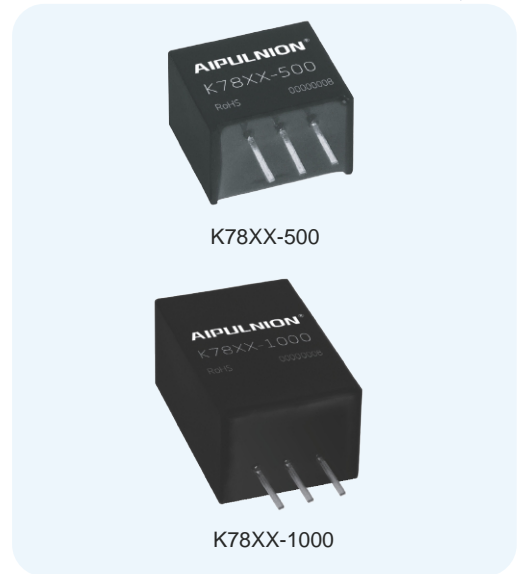
封装尺寸/Packing Dimension



单位(Unit):mm  
印刷板俯视图(Printed board vertical view)  
栅格间距(lattice spacing):2.54mm(0.1inch)  
未注尺寸公差(General tolerance):±0.5mm

### ◆ 产品特性 / Product Features

- 宽电压输入, 非隔离输出 Wide input voltage range, non-isolated output
  - 低纹波、噪声 Low ripple & noise
  - 效率高达97% Transfer efficiency up to 97%
  - 塑料外壳, 符合UL94V-0级 小型 SIP封装 Case: Plastic, meet UL94V-0, compact SIP packing
  - 工作环境温度 Operating Temp: -40°C~+105°C
  - 保护功能: 短路保护、过热保护 Protection: Short circuit, over temperature
- 应用领域: 仪器仪表、通信、纯数字电路、一般低频模拟电路、继电器驱动电路、数据交换电路等领域  
Application Field: Instrumentation, communication, pure digital circuit, general low frequency analog circuit, relay drive circuit, data exchange circuit, etc.
- 测试条件: 如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



### ◆ 产品列表 / Product List

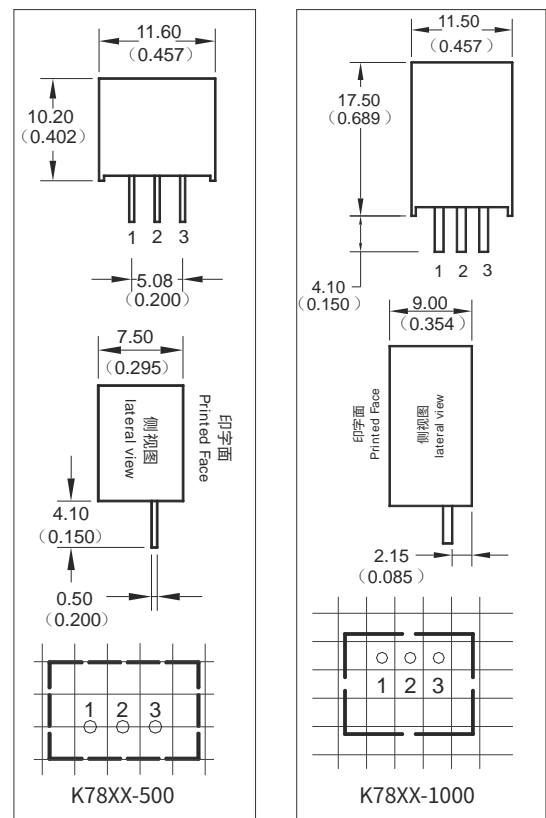


产品型号 Part no.	静态电流 Static current (mA)	输入电压 Input voltage	输出电压/电流 Output voltage/current		输出效率 Output efficiency	
		范围值 Range (VDC)	电压 Voltage (VDC)	电流 Current (mA)	Vin(min)	Vin(max)
K783V3-500	5	4.74-28	3.3	500	90	80
K7805-500		6.5-32	5		93	84
K7812-500		15-32	12		95	92
K7815-500		18-32	15		96	93
K783V3-1000		4.75-28	3.3	1000	90	83
K7805-1000		6.5-32	5		93	84
K7812-1000		15-32	12		96	94
K7815-1000		18-32	15		97	94

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Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.

管脚号码 Pin-out	1	2	3
单路 Single	+Vin	GND	+Vo
功能	输入正极	公共地	输出正极
封装代号 Packing Code/ Dimension	L*W*H		
K78XX-500	11.60*7.50*10.20mm		
	0.457*0.295*0.402inch		
K78XX-1000	11.50*9.00*17.50mm		
	0.453*0.354*0.689inch		

### 封装尺寸 / Packing Dimension



单位 (Unit) : mm

印刷版俯视图 (Printed board vertical view)

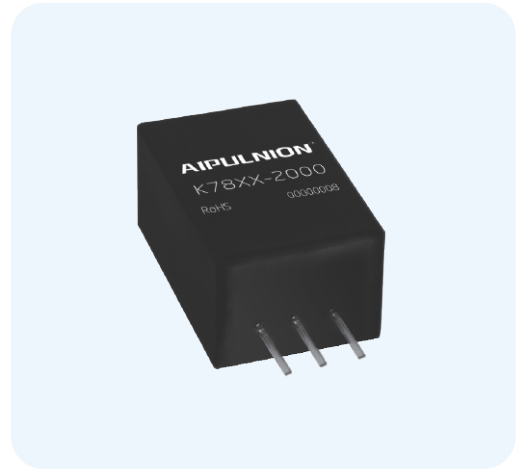
栅格间距 (Lattice spacing) : 2.54mm(0.1inch)

未标注尺寸公差 (General tolerance) : ±0.25mm



◆ 产品特性 / Product Features

- 宽电压输入, 非隔离输出 Wide input voltage range, non-isolated output
  - 低纹波、噪声 Low ripple & noise
  - 效率高达96% Transfer efficiency up to 96%
  - 塑料外壳, 符合UL94V-0级 小型 SIP封装  
Case: Plastic, meet UL94V-0, compact SIP packing
  - 工作环境温度 Operating Temp: -40°C~+85°C
  - 保护功能: 短路保护、过热保护 Protection: Short circuit, over temperature
- 应用领域: 光伏发电和高压变频场合等领域  
Application Field: Photovoltaic Power Generation and high voltage frequency conversion applications.
- 测试条件: 如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



◆ 产品列表 / Product List

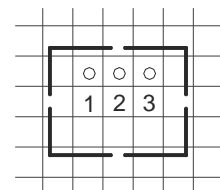
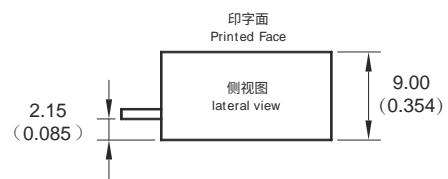
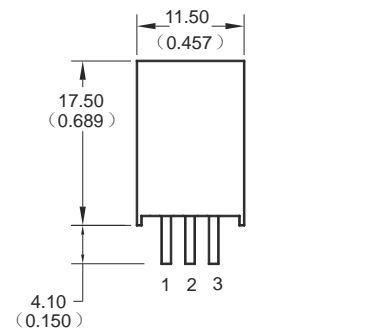


产品型号 Part no.	输入电压 Input voltage		输出电压电流 Output voltage/current		输出效率 Output efficiency	
	范围值 Range	电压 Voltage	电流 Current	Vin(min)	Vin(max)	
	(VDC)	(VDC)	(mA)			
K783V3-2000	4.75-18	3.3	2000	85	87	
K7805-2000	7-18	5		87	91	
K7812-2000	13.5-18	12		92	96	

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Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.

管脚号码 Pin-out	1	2	3
单路 Single	+Vin	GND	+Vo
功能	输入正极	公共地	输出正极
封装代号 Packing Code/ Dimension	L*W*H		
K78XX-2000	11.50*9.00*17.50mm		
	0.453*0.354*0.689inch		

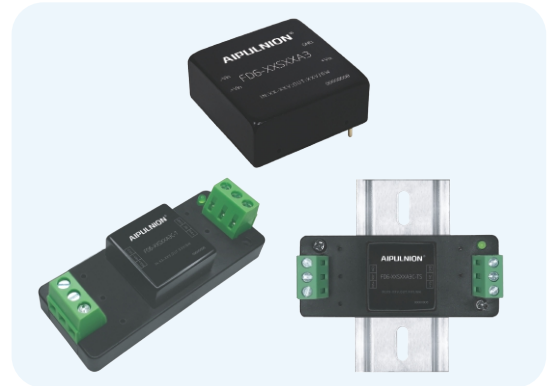
封装尺寸 / Packing Dimension



单位 (Unit) : mm  
印刷版俯视图 (Printed board vertical view)  
栅格间距 (Lattice spacing) : 2.54mm(0.1inch)  
未标注尺寸公差 (General tolerance) : ±0.25mm

◆ 产品特性/Product Features

- 超宽电压输入 Ultra wide input voltage rang(4:1)
- 电磁兼容EMC: 裸机满足(bare board) CISPR22/EN55032/GB9254 CLASS B
- 效率高达86% Transfer efficiency up to 86%
- 隔离电压 (Isolation voltage) : 1500VDC
- 金属外壳, 输出纹波低 Metal case, low output ripple
- 工作环境温度 Operating Temp: -40°C~+85°C
- 保护功能: 输入欠压保护, 输出过流、短路保护 Protection: Input under-voltage, output over-current, short-circuit
- 应用领域: 仪器仪表、通信、纯数字电路、一般低频模拟电路、继电器驱动电路、数据交换电路等领域  
Application Field: Instrumentation, communication, pure digital circuit, general low frequency analog circuit, relay drive circuit, data exchange circuit, etc.
- 测试条件: 如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



◆ 产品列表/Product List

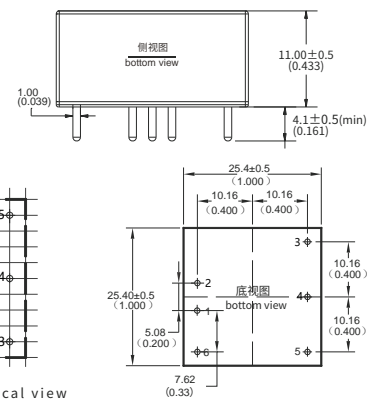


产品型号 Part no.	输入电压 Input voltage		输入电流 Input current		输出电压/电流 Output voltage/current		输出效率 Output efficiency (%TYP)
	范围值 Range (VDC)	输出空载 Output no load (mA)	电压 Voltage (VDC)	电流 Current (mA)			
FD6-18S3V3A3	9-36	25	3.3	1200	75		
FD6-18S05A3			5	1200	76		
FD6-18S09A3			9	667	79		
FD6-18S12A3			12	500	80		
FD6-18S15A3			15	400	80		
FD6-18S24A3			24	250	82		
FD6-36S3V3A3	18-75	10	3.3	1200	76		
FD6-36S05A3			5	1200	81		
FD6-36S09A3			9	667	82		
FD6-36S12A3			12	500	84		
FD6-36S15A3			15	400	84		
FD6-36S24A3			24	250	84		
FD6-18D3V3A3	9-36	15	3	±3.3	±600	78	
FD6-18D05A3			±5	±600	84		
FD6-18D09A3			±9	±333	86		
FD6-18D12A3			±12	±250	86		
FD6-18D15A3			±15	±200	84		
FD6-18D24A3			±24	±125	86		
FD6-36D3V3A3	18-75	10	±3.3	±600	82		
FD6-36D05A3			±5	±600	84		
FD6-36D09A3			±9	±333	86		
FD6-36D12A3			±12	±250	86		
FD6-36D15A3			±15	±200	86		
FD6-36D24A3			±24	±125	86		

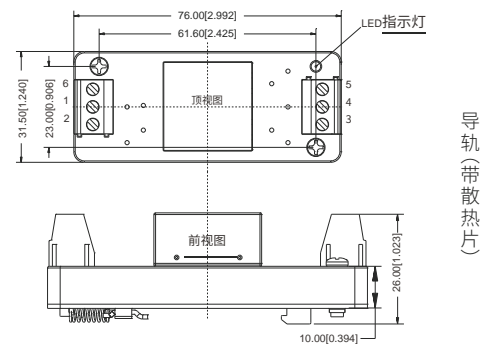
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 Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.  
 注3: "-H"为带散热片, "-T(H)"为接线式(带散热片)封装, "-TS(H)"为导轨式(带散热片)封装, 导轨宽度35mm。  
 Note 3: Suffix with "-H" suffix is with heat sink, "-T(H)" suffix for chassis mounting(with heat sink), "-TS(H)" suffix for DIN-Rail mounting(with heat sink), DIN-Rail width is: 35mm.

封装尺寸/Packing Dimension

FD6-A3(C)封装尺寸: 25.40\*25.40\*11.00mm



FD6-A3-TS封装尺寸: 76.00\*31.50\*30.80mm



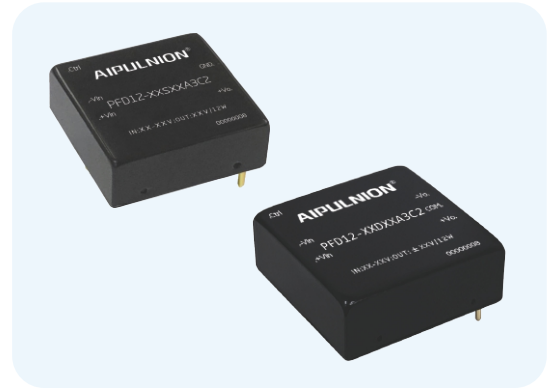
单位 (Unit): mm  
 栅格间距 (lattice spacing): 2.54mm(0.1inch)  
 未注尺寸公差 (General tolerance): ±0.5mm  
 未注明引脚直径公差 (Pin section tolerances): ±0.10mm

管脚号码 Pin-out	1	2	3	4	5
单路 Single	-Vin	+Vin	+Vo	NP	GND
单路功能	输入负极	输入正极	输出正极	空脚	输出地
双路 Dual	-Vin	+Vin	+Vo	COM	-Vo
双路功能	输入负极	输入正极	输出正极	公共端	输出负极

注意: 电源模块的各管脚定义如与选型手册不符, 应以实物标签上的标注为准。  
 Note: If the definition of pin is not in accordance with the model selection manual, please refer to the label on actual item.

## 产品特性 / Product Features

- 超宽电压输入(4:1) Ultra wide input voltage rang(4:1)
- 低待机功耗低至0.15W Low standby power consumption to 0.15W
- 效率高达89% Transfer efficiency up to 89%
- 隔离电压 (Isolation voltage) : 1500VDC
- 工作环境温度 Operating Temp:-40°C~+85°C
- 保护功能:有短路保护,可自恢复 Protection:Short circuit,self-recovery
- 通过CE、RoHS认证 Has passed CE, RoHS certification
- 应用领域:仪器仪表、通信、纯数字电路、一般低频模拟电路、继电器驱动电路、数据交换电路等领域  
Application Field:Instrumentation, communication, pure digital circuit, general low frequency analog circuit, relay drive circuit, data exchange circuit, etc.
- 测试条件:如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



## 产品列表 / Product List



产品型号 Part no.	输入电压 Input voltage	输入电流 Input current	输出电压电流 Output voltage/current		输出效率 Output efficiency (%TYP)		
	范围值 Range (VDC)	输出空载 Output no load (mA)	电压 Voltage (VDC)	电流 Current (mA)			
PFD12-18S3V3A3(C)2	9-36	2	3.3	2400	81		
PFD12-18S05A3(C)2			5	2000	83		
PFD12-18S06A3(C)2			6	2000	85		
PFD12-18S09A3(C)2			9	1333	86		
PFD12-18S12A3(C)2			12	1000	87		
PFD12-18S15A3(C)2			15	800	88		
PFD12-18S17A3(C)2			17	706	88		
PFD12-18S20A3(C)2			20	600	86		
PFD12-18S24A3(C)2			24	500	88		
PFD12-36S3V3A3(C)2			18-75	2	3.3	2400	78
PFD12-36S05A3(C)2	5	2000			83		
PFD12-36S5V5A3(C)2	5.5	2181			84		
PFD12-36S09A3(C)2	9	1333			86		
PFD12-36S12A3(C)2	12	1000			87		
PFD12-18D05A3(C)2	9-36	10	±5	±1200	84		
PFD12-18D09A3(C)2			±9	±667	85		
PFD12-18D12A3(C)2			±12	±500	87		
PFD12-18D15A3(C)2			±15	±400	88		
PFD12-18D24A3(C)2			±24	±250	87		
PFD12-36D05A3(C)2			18-75	10	±5	±1200	84
PFD12-36D09A3(C)2					±9	±667	85
PFD12-36D12A3(C)2					±12	±500	87
PFD12-36D15A3(C)2					±15	±400	88
PFD12-36D24A3(C)2					±24	±250	87

注1:因篇幅有限,以上只是部分产品列表,若需列表以外产品,请与本公司销售部联系。

Note 1: Due to space limitations, above is only a part of our product list, please contact our sales team for more items.

注2:表格中为满载效率(%TYP),波动幅度为±2%,满载输出效率等于输出的总功率除以电源模块的输入功率。

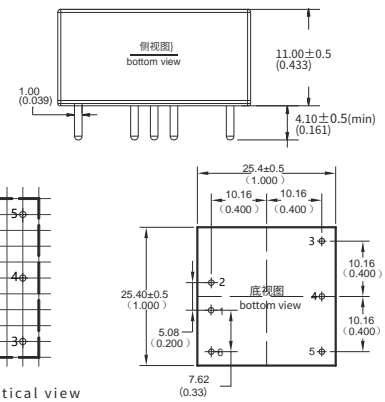
Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.

注3:后缀带"C"为产品带Ctrl控制功能;单路输出产品不带控制脚后缀为"N2","-"为接插式封装,"-TS"为导轨式封装,导轨宽度31.5mm。

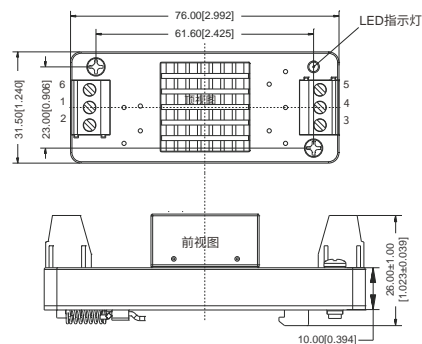
Note 3: Suffix with "C" means it with CTRL control function; Single output product without control pin suffix "N2"; "-" suffix for chassis mounting, "-TS" suffix for DIN-Rail mounting, DIN-Rail width is: 31.5mm.

## 封装尺寸 / Packing Dimension

PFD12-A3(C)封装尺寸:25.40\*25.40\*11.00mm



PFD12-A3-TS封装尺寸:76.00\*31.50\*26.00mm



单位 (Unit): mm

栅格间距 (lattice spacing): 2.54mm(0.1inch)

未注尺寸公差 (General tolerance): ±0.5mm

未注明引脚直径公差 (Pin section tolerances): ±0.10mm

管脚号码 Pin-out	1	2	3	4	5	6
单路 Single	-Vin	+Vin	+Vo	NP	GND	CTRL
单路功能 Single function	输入负极	输入正极	输出正极	空脚	输出地	远程控制脚
双路 Dual	-Vin	+Vin	+Vo	COM	-Vo	CTRL
双路功能 Dual function	输入负极	输入正极	输出正极	公共端	输出负极	远程控制脚

◆ 产品特性 / Product Features

- 超宽电压输入(4:1) Ultra wide input voltage rang(4:1)
- 低待机功耗低至0.02W Low standby power consumption to 0.02W
- 效率高达89% Transfer efficiency up to 89%
- 隔离电压 (Isolation voltage) : 2150VAC
- 工作环境温度 Operating Temp:-40°C~+85°C
- 保护功能:有短路保护,可自恢复 Protection:Short circuit,self-recovery
- 通过CE、RoHS认证 Has passed CE, RoHS certification
- 应用领域:仪器仪表、通信、纯数字电路、一般低频模拟电路、继电器驱动电路、数据交换电路等领域  
Application Field:Instrumentation, communication, pure digital circuit, general low frequency analog circuit, relay drive circuit, data exchange circuit, etc.
- 测试条件:如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



◆ 产品列表 / Product List

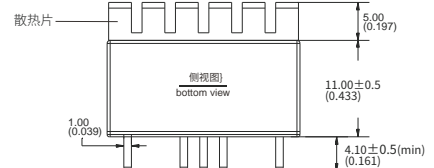


产品型号 Part no.	输入电压 Input voltage	输入电流 Input current	输出电压电流 Output voltage/current		输出效率 Output efficiency (%TYP)
	范围值 Range (VDC)	输出空载 Output no load (mA)	电压 Voltage (VDC)	电流 Current (mA)	
FD12-18S3V3A3(C)4	9-36	2	3.3	2400	81
FD12-18S05A3(C)4			5	2000	83
FD12-18S09A3(C)4			9	1333	85
FD12-18S12A3(C)4			12	1000	87
FD12-18S15A3(C)4			15	800	88
FD12-18S24A3(C)4			24	500	88
FD12-36S3V3A3(C)4	18-75	2	3.3	2400	78
FD12-36S05A3(C)4			5	2000	83
FD12-36S09A3(C)4			9	1333	86
FD12-36S12A3(C)4			12	1000	87
FD12-36S15A3(C)4			15	800	89
FD12-36S24A3(C)4			24	500	88

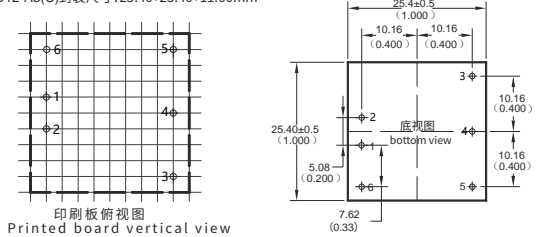
注1:因篇幅有限,以上只是部分产品列表,若需列表以外产品,请与本公司销售部联系。  
 Note 1: Due to space limitations, above is only a part of our product list, please contact our sales team for more items.  
 注2:表格中为满载效率 (% TYP), 波动幅度为±2%, 满载输出效率等于输出的总功率除以电源模块的输入功率。  
 Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.  
 注3:后缀带“C”为产品带Ctrl控制功能;不带控制脚后缀为“N”, -H为带散热片,“-T(H)”为接线式(带散热片)封装,“-TS(H)”为导轨式(带散热)封装,导轨宽度35mm。  
 Note 3: Suffix with “C” means it with CTRL control function; Without control pin suffix “N2”;“-H” suffix is with heat sink,“-T(H)” suffix for chassis mounting(with heat sink);“-TS(H)” suffix for DIN-Rail mounting(with heat sink), DIN-Rail width is: 35mm.

封装尺寸 / Packing Dimension

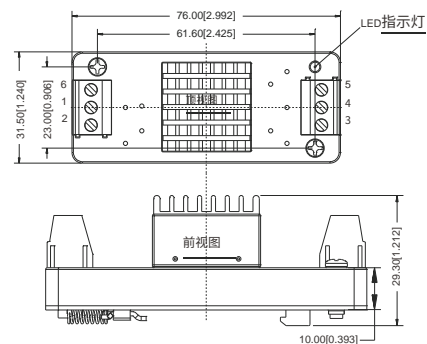
FD12-A3-H封装尺寸:25.40\*25.40\*16.00mm



FD12-A3(C)封装尺寸:25.40\*25.40\*11.00mm



FD12-A3-TS(H)封装尺寸:76.00\*31.50\*30.80mm

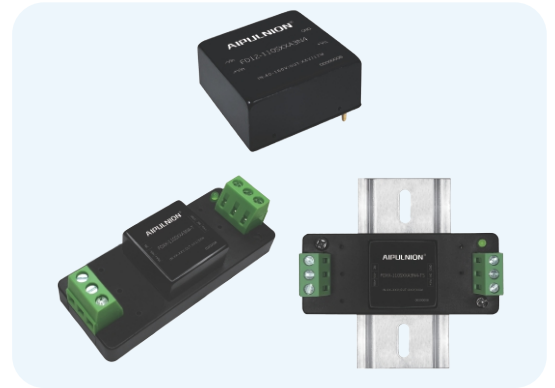


单位 (Unit) :mm  
 栅格间距 (lattice spacing) :2.54mm(0.1inch)  
 未注尺寸公差 (General tolerance) :±0.5mm  
 未注明引脚直径公差 (Pin section tolerances) :±0.10mm

管脚号码 Pin-out	1	2	3	4	5	6
单路 Single	-Vin	+Vin	+Vo	NP	GND	CTRL
单路功能	输入负极	输入正极	输出正极	空脚	输出地	远程控制脚
双路 Dual	-Vin	+Vin	+Vo	COM	-Vo	CTRL
双路功能	输入负极	输入正极	输出正极	公共端	输出负极	远程控制脚

### ◆ 产品特性 / Product Features

- 超宽电压输入(4:1) Ultra wide input voltage rang(4:1)
- 低待机功耗低至0.05W Low standby power consumption to 0.05W
- 效率高达89% Transfer efficiency up to 89%
- 隔离电压 (Isolation voltage) : FD6: 2150VAC FD12: 2100VAC
- 工作环境温度 Operating Temp:-40°C~+85°C
- 保护功能:输入欠压保护,输出过流、短路保护  
Protection:Input under-voltage,output over-current,short-circuit
- 应用领域:铁路、工业控制、仪器仪表、通信、电力、物联网等领域  
Application Field: Railway, industrial control, instrumentation, communication, power, IInternet of Things.
- 测试条件:如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



### ◆ 产品列表 / Product List



产品型号 Part no.	输入电压 Input voltage		输入电流 Input current		输出电压/电流 Output voltage/current		输出效率 Output efficiency (%TYP)
	范围值 Range (VDC)	输出空载 Output no load (mA)	电压 Voltage (VDC)	电流 Current (mA)			
FD6-110S3V3A3N4	40-160	2	3.3	1818	77		
FD6-110S05A3N4			5	1200	81		
FD6-110S09A3N4			9	667	82		
FD6-110S12A3N4			12	500	85		
FD6-110S15A3N4			15	400	85		
FD6-110S24A3N4			24	250	86		
FD12-110S3V3A3N4	40-160	2	3.3	2400	80		
FD12-110S05A3N4			5	2400	82		
FD12-110S09A3N4			9	1333	85		
FD12-110S12A3N4			12	1000	87		
FD12-110S15A3N4			15	800	89		
FD12-110S24A3N4			24	500	89		

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Note 1: Due to space limitations, above is only a part of our product list, please contact our sales team for more items.

注2:表格中为满载效率(%TYP),波动幅度为±2%,满载输出效率等于输出的总功率除以电源模块的输入功率。

Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.

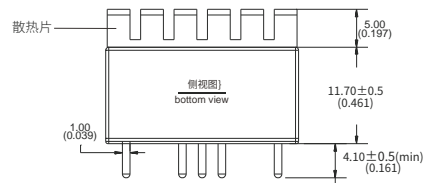
注3:后缀带“C”为产品带Ctrl控制功能;不带控制脚后缀为“N”;-H为带散热片,-T(H)为接线式(带散热片)封装,-TS(H)为导轨式(带散热片)封装,导轨宽度35mm。

Note 3: Suffix with “C” means it with CTRL control function; Without control pin suffix “N2”;“-H” suffix is with heat sink,“-T(H)” suffix for chassis mounting(with heat sink),“-TS(H)” suffix for DIN-Rail mounting(with heat sink), DIN-Rail width is: 35mm.

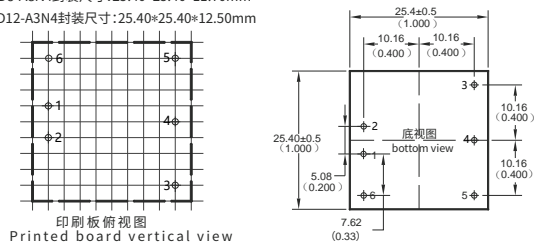
管脚号码 Pin-out	1	2	3	4	5	6
单路 Single	-Vin	+Vin	+Vo	NP	GND	CTRL
功能	输入负极	输入正极	输出正极	空脚	输出地	远程控制脚

### 封装尺寸 / Packing Dimension

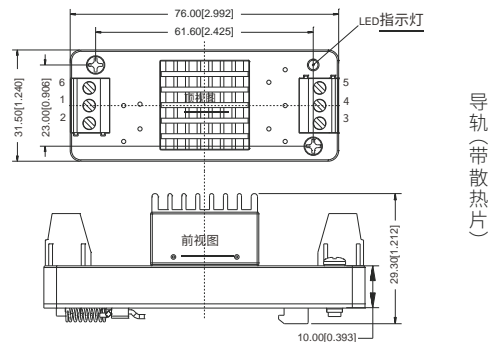
FD6-A3N4-H封装尺寸:25.40\*25.40\*16.70mm  
FD12-A3N4-H封装尺寸:25.40\*25.40\*17.50mm



FD6-A3N4封装尺寸:25.40\*25.40\*11.70mm  
FD12-A3N4封装尺寸:25.40\*25.40\*12.50mm



FD12-A3-TS(H)封装尺寸:76.00\*31.50\*30.80mm



单位 (Unit) : mm

栅格间距 (lattice spacing) : 2.54mm (0.1inch)

未注尺寸公差 (General tolerance) : ±0.5mm

未注明脚直径公差 (Pin section tolerances) : ±0.10mm

### 产品特性/Product Features

- 超宽电压输入(4:1) Ultra wide input voltage rang(4:1)
- 低待机功耗低至0.01W Low standby power consumption to 0.01W
- 效率高达90% Transfer efficiency up to 90%
- 隔离电压(Isolation voltage): 1500VAC
- 金属外壳、输出纹波低 Metal case, low output ripple
- 工作环境温度 Operating Temp.: -40°C~+85°C
- 保护功能:有短路保护,可自恢复 Protection:Short circuit,self-recovery
- 应用领域:铁路、工业控制、仪器仪表、通信、电力、物联网等领域  
Application Field: Railway Industry Industrial control, instrumentation, communication, electric power, internet of things etc.
- 测试条件:如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



### 产品列表/Product List



产品型号 Part no.	输入电压 Input voltage	输入电流 Input current	输出电压电流 Output voltage/current		输出效率 Output efficiency		
	范围值 Range (VDC)	输出空载 Output no load (mA)	电压 Voltage (VDC)	电流 Current (mA)	(%TYP)		
FD12-110S3V3A3(C)3	40-160	1	3.3	2400	77		
FD12-110S05A3(C)3			5	2400	82		
FD12-110S09A3(C)3			9	1333	85		
FD12-110S12A3(C)3			12	1000	87		
FD12-110S15A3(C)3			15	800	87		
FD12-110S24A3(C)3			24	500	89		
FD12-110D3V3A3(C)3			±3.3	±1200	80		
FD12-110D05A3(C)3			±5	±1200	82		
FD12-110D09A3(C)3			±9	±667	83		
FD12-110D12A3(C)3			±12	±500	84		
FD12-110D15A3(C)3			±15	±400	85		
FD12-110D24A3(C)3			±24	±250	86		
FD20-110S3V3A3(C)			20	20	3.3	4000	86
FD20-110S05A3(C)					5	4000	86
FD20-110S09A3(C)	9	2222			88		
FD20-110S12A3(C)	12	1667			89		
FD20-110S15A3(C)	15	1333			89		
FD20-110S24A3(C)	24	833			89		
FD20-110S28A3(C)	2	2	28	714	90		

注1:因篇幅有限,以上只是部分产品列表,若需列表以外产品,请与本公司销售部联系。  
Note 1: Due to space limitations, above is only a part of our product list, please contact our sales team for more items.

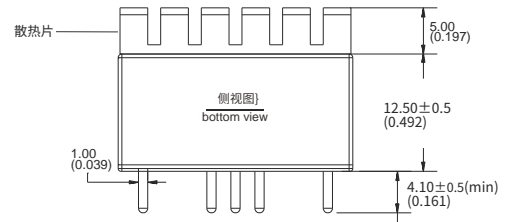
注2:表格中为满载效率(%TYP),波动幅度为±2%,满载输出效率等于输出的总功率除以电源模块的输入功率。  
Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.

注3:后缀带“C”为产品带Ctrl控制功能;“-H”为带散热片;“-T(H)”为接线式(带散热)片封装,“-TS(H)”为导轨式(带散热)封装,导轨宽度35mm。  
Note 3: Suffix with “C” means it with CTRL control function; “-H” suffix is with heat sink, “-T(H)” suffix for chassis mounting(with heat sink), “-TS(H)” suffix for DIN-Rail mounting(with heat sink), DIN-Rail width is: 35mm.

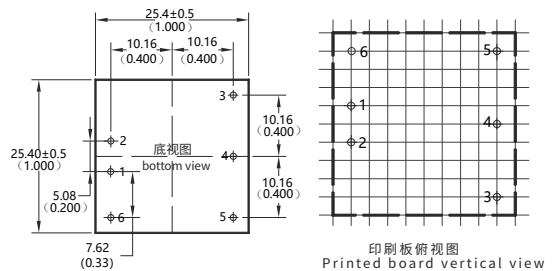
管脚号码 Pin-out	1	2	3	4	5	6
单路 Single	-Vin	+Vin	+Vo	NP	GND	CTRL
功能	输入负极	输入正极	输出正极	空脚	输出地	远程控制脚

### 封装尺寸/Packing Dimension

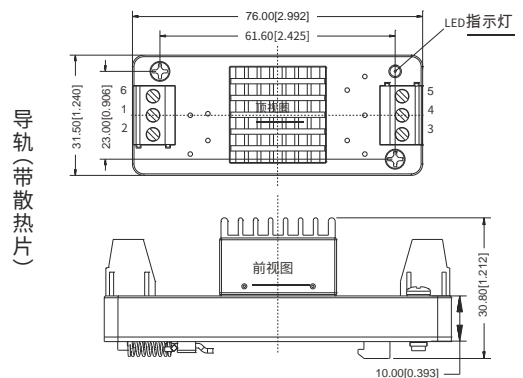
FDXX-110SXXA3-H封装尺寸:25.40\*25.40\*18.00mm



FDXX-110SXXA3(C)封装尺寸:25.40\*25.40\*12.50mm



FDXX-110SXXA3-TS(H)封装尺寸:76.00\*31.50\*30.80mm



单位(Unit):mm  
栅格间距(latic spacing):2.54mm(0.1inch)  
未注尺寸公差(General tolerance):±0.5mm  
未注明引脚直径公差(Pin section tolerances):±0.10mm





◆ 产品特性 / Product Features

- 超宽电压输入(4:1) Urtual wide input voltage rang(4:1)
- 低待机功耗低至0.05W Low standby power consumption to 0.05W
- 效率高达90% Transfer efficiency up to 90%
- 隔离电压 (Isolation voltage) : 5000VDC
- 金属外壳、输出纹波低 Metal case,low output ripple
- 工作环境温度 Operating Temp:-40°C~+85°C
- 保护功能:输入欠压保护,输出过流、短路保护  
Protection:Input under-voltage, output over-current,short-circuit
- 电磁兼容EMC:裸机满足(bare board) CISPR22/EN55032/GB9254 CLASS A
- 应用领域:工业控制、仪器仪表、通信、电力、智能家居、物联网等领域  
Application Field:Industrial control, instrumentation, communication, electric power, smart home, internet of things etc.
- 测试条件:如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



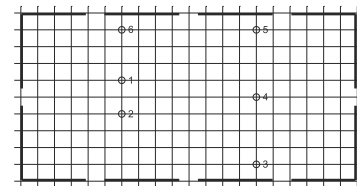
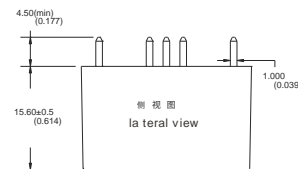
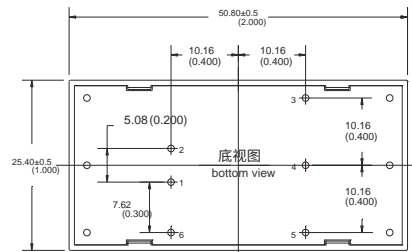
◆ 产品列表 / Product List



产品型号 Part no.	输入电压 Input voltage		输入电流 Input current		输出电压电流 Output voltage/current		输出效率 Output efficiency (%TYP)
	范围值 Range (VDC)	输出空载 Output load (mA)	电压 Voltage (VDC)	电流 Current (mA)			
FD6-18S3V3B2C5	9-36	30	3.3	1818			81
FD6-18S05B2C5			5	1200			82
FD6-18S09B2C5			9	667			85
FD6-18S12B2C5			12	500			87
FD6-18S15B2C5			15	400			88
FD6-18S24B2C5			24	250			87
FD6-36S3V3B2C5	18-75	30	3.3	1818			81
FD6-36S05B2C5			5	1200			82
FD6-36S09B2C5			9	667			85
FD6-36S12B2C5			12	500			87
FD6-36S15B2C5			15	400			88
FD6-36S24B2C5			24	250			87
FD12-18S3V3B2C5	9-36	30	3.3	2400			87
FD12-18S05B2C5			5	2400			89
FD12-18S09B2C5			9	1333			90
FD12-18S12B2C5			12	1000			90
FD12-18S15B2C5			15	800			90
FD12-18S24B2C5			24	500			90
FD12-36S3V3B2C5	18-75	30	3.3	2400			86
FD12-36S05B2C5			5	2400			88
FD12-36S09B2C5			9	1333			90
FD12-36S12B2C5			12	1000			90
FD12-36S15B2C5			15	800			90
FD12-36S24B2C5			24	500			90
FD20-18S3V3B2C5	9-36	50	3.3	4000			86
FD20-18S05B2C5			5	4000			88
FD20-18S09B2C5			9	2222			89
FD20-18S12B2C5			12	1667			89
FD20-18S15B2C5			15	1333			90
FD20-18S24B2C5			24	833			90
FD20-36S3V3B2C5	18-75	30	3.3	4000			86
FD20-36S05B2C5			5	4000			88
FD20-36S09B2C5			9	2222			89
FD20-36S12B2C5			12	1667			89
FD20-36S15B2C5			15	1333			90
FD20-36S24B2C5			24	833			90

注1:因篇幅有限,以上只是部分产品列表,若需列表以外产品,请与本公司销售联系。  
Note 1: Due to space limitations, above is only a part of our product list, please contact our sales team for more items.  
注2:表格中为满载效率(%TYP),波动幅度为±2%,满载输出效率等于输出的总功率除以电源模块的输入功率。  
Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency=total output power/module's input power.

封装尺寸 / Packing Dimension



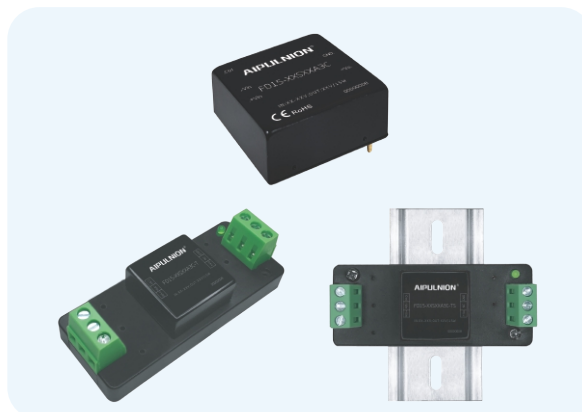
单位 (Unit) : mm  
印刷板俯视图 (Printed board vertical view)  
栅格间距 (lattice spacing) : 2.54mm (0.1inch)  
未注尺寸公差 (General tolerance) : ±0.5mm  
未注明引脚直径公差 (Pin section tolerances) : ±0.10mm

管脚号码 Pin-out	1	2	3	4	5	6
单路 Single	-Vin	+Vin	+Vo	NP	GND	CTRL
功能	输入负极	输入正极	输出正极	空脚	输出地	远程控制脚
封装代号 Packing Code/Dimension	L*W*H					
B	50.80*25.40*15.60mm					
	2.000*1.000*0.614inch					



## ◆ 产品特性 / Product Features

- 超宽电压输入(4:1) Ultra wide input voltage rang(4:1)
- 低待机功耗低至0.02W Low standby power consumption to 0.02W
- 效率高达90% Transfer efficiency up to 90%
- 隔离电压 (Isolation voltage) : 1500VDC
- 工作环境温度 Operating Temp:-40°C~+85°C
- 保护功能:有短路保护,可自恢复 Protection:Short circuit,self-recovery
- 通过CE、RoHS认证 Has passed CE, RoHS certification
- 应用领域:仪器仪表、通信、纯数字电路、一般低频模拟电路、继电器驱动电路、数据交换电路等领域  
Application Field:Instrumentation, communication, pure digital circuit, general low frequency analog circuit, relay drive circuit, data exchange circuit, etc.
- 测试条件:如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



## ◆ 产品列表 / Product List



产品型号 Part no.	输入电压 Input voltage	输入电流 Input current	输出电压电流 Output voltage/current		输出效率 Output efficiency
	范围值 Range (VDC)	输出空载 Output no load (mA)	电压 Voltage (VDC)	电流 Current (mA)	(%TYP)
FD15-18S3V3A3(C)	9-36	30	3.3	4000	88
FD15-18S05A3(C)			5	3000	90
FD15-18S09A3(C)			9	1667	90
FD15-18S12A3(C)		5	12	1250	90
FD15-18S15A3(C)			15	1000	90
FD15-18S24A3(C)			24	625	90
FD15-36S3V3A3(C)	18-75	30	3.3	4000	88
FD15-36S05A3(C)			5	3000	90
FD15-36S09A3(C)			9	1667	90
FD15-36S12A3(C)		5	12	1250	90
FD15-36S15A3(C)			15	1000	90
FD15-36S24A3(C)			24	625	90
FD15-18D3V3A3(C)	9-36	30	±3.3	±2000	84
FD15-18D05A3(C)			±5	±1500	86
FD15-18D09A3(C)			±9	±833	87
FD15-18D12A3(C)		3	±12	±625	90
FD15-18D15A3(C)			±15	±500	90
FD15-18D24A3(C)			±24	±313	90
FD15-36D3V3A3(C)	18-75	30	±3.3	±2000	84
FD15-36D05A3(C)			±5	±1500	86
FD15-36D09A3(C)			±9	±833	87
FD15-36D12A3(C)		3	±12	±625	90
FD15-36D15A3(C)			±15	±500	90
FD15-36D24A3(C)			±24	±313	90

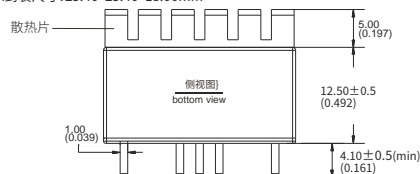
注1:因篇幅有限,以上只是部分产品列表,若需列表以外产品,请与本公司销售部联系。  
Note 1: Due to space limitations, above is only a part of our product list, please contact our sales team for more items.

注2:表格中为满载效率(%TYP),波动幅度为±2%,满载输出效率等于输出的总功率除以电源模块的输入功率。  
Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.

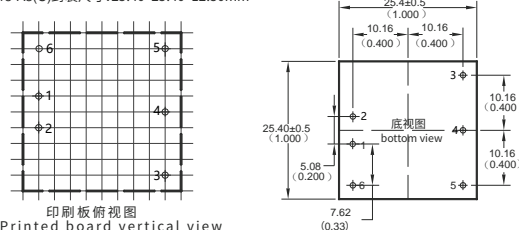
注3:后缀带“C”为产品带Ctrl控制功能;“R”为带控制脚和调节脚,“-H”为带散热片,“-T(H)”为接线式(带散热片)封装,“-TS(H)”为导轨式(带散热)封装,导轨宽度35mm。  
Note 3: Suffix with “C” means it with CTRL control function; Suffix “R” is with Ctrl and Trim function “-H” suffix is with heat sink, “-T(H)” suffix for chassis mounting (with heat sink), “-TS(H)” suffix for DIN-Rail mounting (with heat sink), DIN-Rail width is: 35mm.

## 封装尺寸 / Packing Dimension

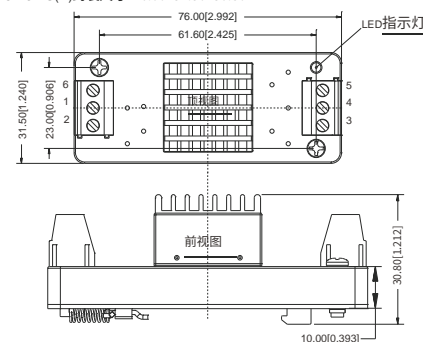
FD15-A3-H封装尺寸:25.40\*25.40\*18.00mm



FD15-A3(C)封装尺寸:25.40\*25.40\*12.50mm



FD15-A3-TS(H)封装尺寸:76.00\*31.50\*30.80mm



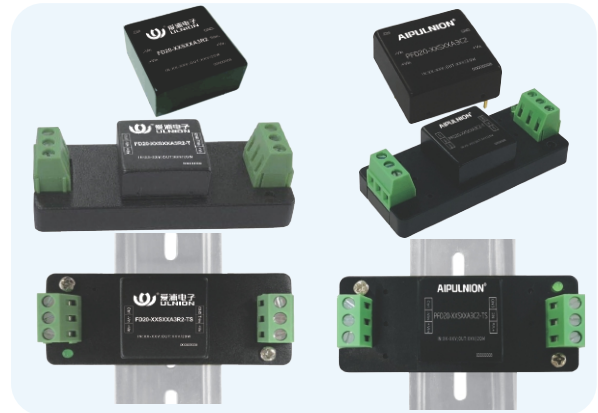
单位 (Unit): mm  
 栅格间距 (lattice spacing): 2.54mm (0.1inch)  
 未注尺寸公差 (General tolerance): ±0.5mm  
 未注明引脚直径公差 (Pin section tolerances): ±0.10mm

管脚号码 Pin-out	1	2	3	4	5	6
单路(A3C) Single	-Vin	+Vin	+Vo	NP	GND	CTRL
单路功能	输入负极	输入正极	输出正极	空脚	输出地	远程控制脚
单路(A3R) Single	-Vin	+Vin	+Vo	Trim	GND	CTRL
单路功能	输入负极	输入正极	输出正极	电压调节端	输出地	远程控制脚
双路 Dual	-Vin	+Vin	+Vo	COM	-Vo	CTRL
双路功能	输入负极	输入正极	输出正极	公共端	输出负极	远程控制脚

注意:电源模块的各管脚定义如与选型手册不符,应以实物标签上的标注为准。  
Note: If the definition of pin is not in accordance with the model selection manual, please refer to the label on actual item.

◆ 产品特性 / Product Features

- 超宽电压输入(4:1) Ultra wide input voltage rang(4:1)
- 低待机功耗低至0.050W Low standby power consumption to 0.050W
- 效率高达90% Transfer efficiency up to 90%
- 隔离电压 (Isolation voltage) : 1500VDC
- 金属外壳, 输出纹波低 Metal case, low output ripple
- 工作环境温度 Operating Temp: -40°C~+85°C
- 保护功能: 有短路保护, 可自恢复 Protection: Short circuit, self-recovery
- 应用领域: 仪器仪表、通信、纯数字电路、一般低频模拟电路、继电器驱动电路、数据交换电路等领域  
Application Field: Instrumentation, communication, pure digital circuit, general low frequency analog circuit, relay drive circuit, data exchange circuit, etc.
- 测试条件: 如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



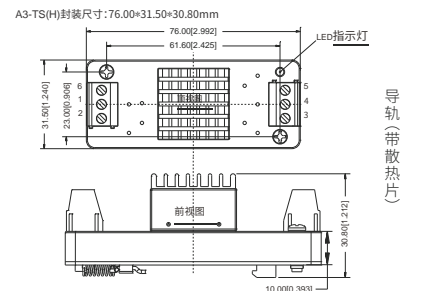
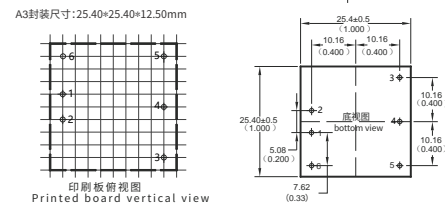
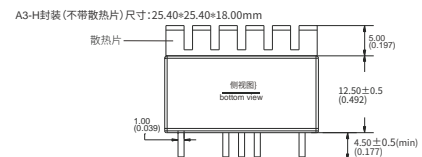
◆ 产品列表 / Product List



产品型号 Part no.	输入电压 Input voltage	输入电流 Input current	输出电压/电流 Output voltage/current		输出效率 Output efficiency (%TYP)
	范围值 Range (VDC)	输出空载 Output no load (mA)	电压 Voltage (VDC)	电流 Current (mA)	
FD20-18S3V3A3(C)	9-36	30	3.3	4000	88
FD20-18S05A3(C)			5	4000	90
FD20-18S09A3(C)			9	2222	90
FD20-18S12A3(C)		5	12	1667	90
FD20-18S15A3(C)			15	1333	90
FD20-18S24A3(C)			24	833	90
FD20-36S3V3A3(C)	18-75	30	3.3	4000	88
FD20-36S05A3(C)			5	4000	90
FD20-36S09A3(C)			9	2222	90
FD20-36S12A3(C)		5	12	1667	90
FD20-36S15A3(C)			15	1333	90
FD20-36S24A3(C)			24	833	90
PFD20-18S3V3A3(C)2	9-36	33	3.3	5000	88
PFD20-18S05A3(C)2			5	4000	90
PFD20-18S09A3(C)2			9	2222	90
PFD20-18S12A3(C)2		5	12	1667	90
PFD20-18S15A3(C)2			15	1333	90
PFD20-18S24A3(C)2			24	833	91
PFD20-36S3V3A3(C)2	18-75	17	3.3	5000	88
PFD20-36S05A3(C)2			5	4000	90
PFD20-36S09A3(C)2			9	2222	90
PFD20-36S12A3(C)2		5	12	1667	91
PFD20-36S15A3(C)2			15	1333	91
PFD20-36S24A3(C)2			24	833	91

注1: 因篇幅有限, 以上只是部分产品列表, 若需列表以外产品, 请与本公司销售部联系。  
Note 1: Due to space limitations, above is only a part of our product list, please contact our sales team for more items.  
注2: 表格中为满载效率 (% TYP), 波动幅度为±2%, 满载输出效率等于输出的总功率除以电源模块的输入功率。  
Note 2: The fluctuation range of full load efficiency(% TYP) is ±2%, full load output efficiency= total output power/module's input power.  
注3: 后缀带“C”为产品带Ctrl控制功能; “R”为带控制脚和调节脚, “-H”为带散热片, “-T(H)”为接线式(带散热片)封装, “-TS(H)”为导轨式(带散热片)封装, 导轨宽度31.5mm。  
Note 3: Suffix with “C” means it with CTRL control function; Suffix “R” is with Ctrl and Trim function  
“-H” suffix is with heat sink, “-T(H)” suffix for chassis mounting(with heat sink),  
“-TS(H)” suffix for DIN-Rail mounting(with heat sink), DIN-Rail width is: 31.5mm.

封装尺寸 / Packing Dimension



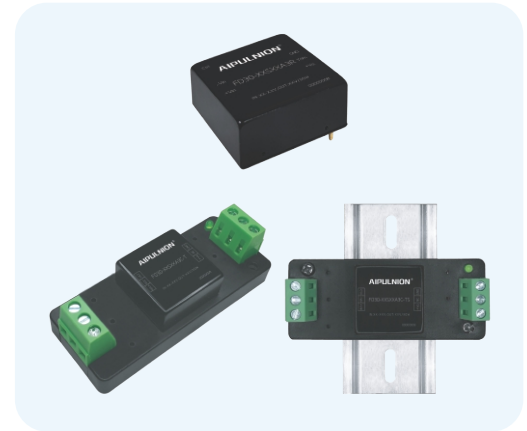
单位 (Unit) : mm  
栅格间距 (lattice spacing) : 2.54mm(0.1inch)  
未注尺寸公差 (General tolerance) : ±0.50mm  
未注明引脚直径公差 (Pin section tolerances) : ±0.10mm

管脚号码 Pin-out	1	2	3	4	5	6
A3C2	-Vin	+Vin	+Vo	NP	GND	CTRL
功能	输入负极	输入正极	输出正极	空脚	输出地	远程控制脚
A3R2	-Vin	+Vin	+Vo	Trim	GND	CTRL
功能	输入负极	输入正极	输出正极	电压调节端	输出地	远程控制脚
A3N2	-Vin	+Vin	+Vo	NP	GND	NP
功能	输入负极	输入正极	输出正极	空脚	输出地	空脚
A3T2	-Vin	+Vin	+Vo	Trim	GND	NP
功能	输入负极	输入正极	输出正极	电压调节端	输出地	空脚

注意: 电源模块的各管脚定义如与选型手册不符, 应以实物标签上的标注为准。  
Note: If the definition of pin is not in accordance with the model selection manual, please refer to the label on actual item.

◆ 产品特性/Product Features

- 宽电压输入(4:1) Wide input voltage rang(4:1)
- 低待机功耗低至0.08W Low standby power consumption to 0.08W
- 效率高达90% Transfer efficiency up to 90%
- 隔离电压(Isolation voltage) : 1500VDC
- 金属外壳、输出纹波低 Metal case,low output ripple
- 工作环境温度 Operating Temp:-40°C~+85°C
- 保护功能:有短路保护,可自恢复 Protection:Short circuit,self-recovery
- 应用领域:仪器仪表、通信、纯数字电路、一般低频模拟电路、继电器驱动电路、数据交换电路等领域  
Application Field:Instrumentation, communication, pure digital circuit, general low frequency analog circuit, relay drive circuit, data exchange circuit, etc.
- 测试条件:如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



◆ 产品列表/Product List



产品型号 Part no.	输入电压 Input voltage	输入电流 Input current	输出电压电流 Output voltage/current		输出效率 Output efficiency
	范围值 Range (VDC)	输出空载 Output no load (mA)	电压 Voltage (VDC)	电流 Current (mA)	(%TYP)
FD30-18S3V3A3(R)	9-36	50	3.3	6000	84
FD30-18S05A3(R)		50	5	6000	88
FD30-18S09A3(R)		50	9	3333	88
FD30-18S12A3(R)		10	12	2500	89
FD30-18S15A3(R)		10	15	2000	89
FD30-18S24A3(R)		10	24	1250	90
FD30-36S3V3A3(R)	18-75	34	3.3	6000	83
FD30-36S05A3(R)		43	5	6000	87
FD30-36S09A3(R)		53	9	3333	87
FD30-36S12A3(R)		2	12	2500	88
FD30-36S15A3(R)		3	15	2000	88
FD30-36S24A3(R)		4	24	1250	89

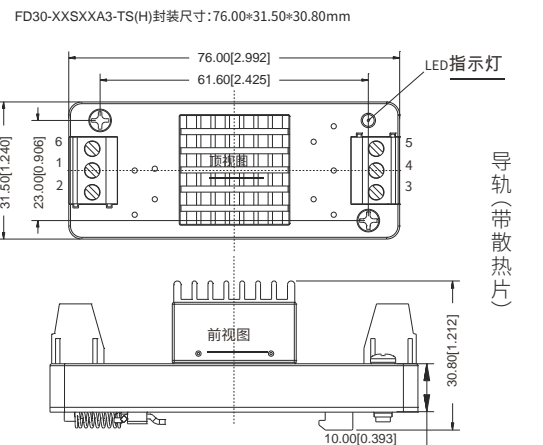
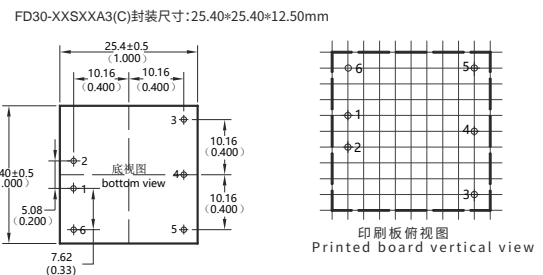
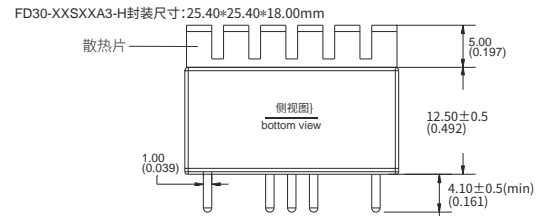
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Note 1: Due to space limitations, above is only a part of our product list, please contact our sales team for more items.

注2:表格中为满载效率(%TYP),波动幅度为±2%,满载输出效率等于输出的总功率除以电源模块的输入功率。  
Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.

注3:后缀带“C”为产品带Ctrl控制功能;“R”为带控制脚和调节脚,“-H”为带散热片,“-T(H)”为接线式(带散热片)封装,“-TS(H)”为导轨式(带散热)封装,导轨宽度35mm。  
Note 3: Suffix with “C” means it with CTRL control function; Suffix “R” is with Ctrl and Trim function. “-H” suffix is with heat sink, “-T(H)” suffix for chassis mounting(with heat sink), “-TS(H)” suffix for DIN-Rail mounting(with heat sink), DIN-Rail width is: 35mm.

管脚号码 Pin-out	1	2	3	4	5	6
单路 Single	-Vin	+Vin	+Vo	Trim	GND	CTRL
功能	输入负极	输入正极	输出正极	电压调节端	输出地	远程控制脚

封装尺寸/Packing Dimension

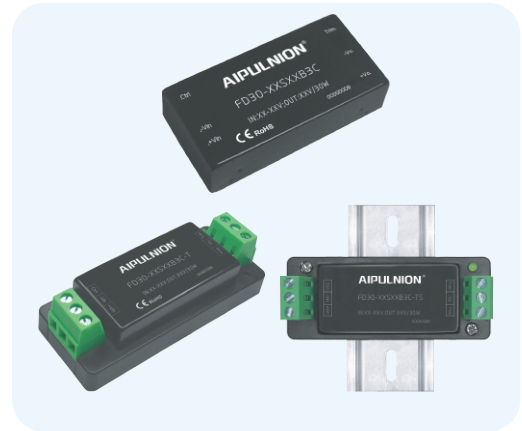


单位(Unit):mm  
 栅格间距(latic spacing):2.54mm(0.1inch)  
 未注尺寸公差(General tolerance):±0.5mm  
 未注明引脚直径公差(Pin section tolerances):±0.10mm



### 产品特性 / Product Features

- 超宽电压输入  $U_{rtual}$  wide input voltage rang30W:(4:1) 50W:(2:1)
- 低待机功耗低至0.20W Low standby power consumption to 0.20W
- 效率高达90% Transfer efficiency up to 90%
- 隔离电压 (Isolation voltage) : 1500VDC
- 工作环境温度 Operating Temp:-40°C~+85°C
- 保护功能:输入欠压保护, 输出过流、短路保护 Protection:Input under-voltage,output over-current,short-circuit
- 电磁兼容EMC:裸机满足(bare board) CISPR22/EN55032/GB9254 CLASS A
- 30W已通过CE、RoHS认证 Has passed CE, RoHS certification
- 应用领域:工业控制、仪器仪表、通信、电力、智能家居、物联网等领域  
Application Field:Industrial control, instrumentation, communication, electric power, smart home, internet of things etc.
- 测试条件:如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



### 产品列表 / Product List

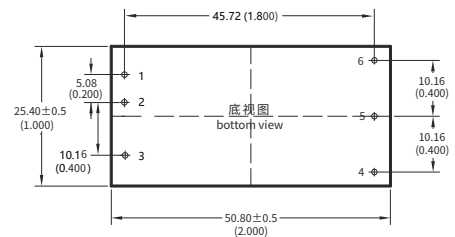


产品型号 Part no.	输入电压 Input voltage	输入电流 Input current	输出电压电流 Output voltage/current		输出效率 Output efficiency
	范围值 Range (VDC)	输出空载 Output no load (mA)	电压 Voltage (VDC)	电流 Current (mA)	(%TYP)
FD30-18S3V3B3(C)	9-36	30	3.3	6000	87
FD30-18S05B3(C)			5	6000	90
FD30-18S09B3(C)			9	3333	89
FD30-18S12B3(C)			12	2500	90
FD30-18S15B3(C)			15	2000	90
FD30-18S24B3(C)			24	1250	90
FD30-36S3V3B3(C)	18-75	30	3.3	6000	87
FD30-36S05B3(C)			5	6000	90
FD30-36S09B3(C)			9	3333	89
FD30-36S12B3(C)			12	2500	90
FD30-36S15B3(C)			15	2000	90
FD30-36S24B3(C)			24	1250	90
FD50-24S3V3B3(C)	18-36	50	3.3	10000	87
FD50-24S05B3(C)			5	10000	90
FD50-24S12B3(C)			12	4160	89
FD50-24S15B3(C)			15	3330	90
FD50-24S24B3(C)			24	2080	90
FD50-48S3V3B3(C)			36-75	50	3.3
FD50-48S05B3(C)	5	10000			89
FD50-48S12B3(C)	12	4160			89
FD50-48S15B3(C)	15	3330			90
FD50-48S24B3(C)	24	2080			90

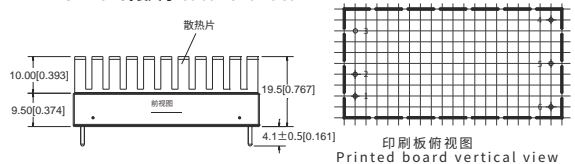
注1:因篇幅有限,以上只是部分产品列表,若需列表以外产品,请与本公司销售部联系。  
 Note 1: Due to space limitations, above is only a part of our product list, please contact our sales team for more items.  
 注2:表格中为满载效率(%TYP),波动幅度为±2%,满载输出效率等于输出的总功率除以电源模块的输入功率。  
 Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.  
 注3:后缀带“C”为产品带Ctrl控制功能;“-H”为带散热片;“-T(H)”为接线式(带散热片)封装;“-TS(H)”为导轨式(带散热片)封装,导轨宽度35mm。  
 Note 3: Suffix with “C” means it with CTRL control function;“-H” suffix is with heat sink. “-T(H)” suffix for chassis mounting(with heat sink), “-TS(H)” suffix for DIN-Rail mounting(with heat sink). DIN-Rail width is: 35mm.

### 封装尺寸 / Packing Dimension

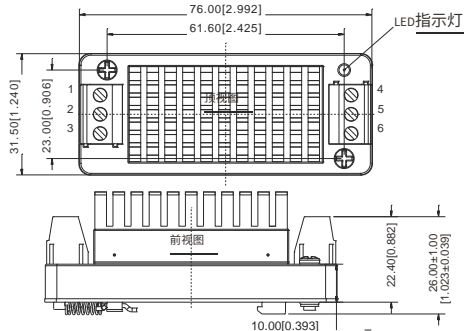
FDXX-XXSXXB3(C)封装尺寸:50.80\*25.40\*9.50mm



FDXX-XXSXXB3-H封装尺寸:50.80\*25.40\*19.50mm



FDXX-XXSXXB3-TS(H)封装尺寸:76.00\*31.50\*33.20mm



导轨(带散热片)

单位(Unit):mm  
 栅格间距(lattice spacing):2.54mm(0.1inch)  
 未注尺寸公差(General tolerance):±0.5mm  
 未注明针脚直径公差(Pin section tolerances):±0.10mm

管脚号码 Pin-out	1	2	3	4	5	6
单路 Single	+Vin	-Vin	CTRL	Trim	-Vo	+Vo
功能	输入正极	输入负极	远程控制脚	电压调节端	输出负极	输出正极

注意:电源模块的各管脚定义如与选型手册不符,应以实物标签上的标注为准。  
 Note:If the definition of pin is not in accordance with the model selection manual, please refer to the label on actual item.





### 产品特性 / Product Features

- 超宽电压输入  $U_{rtual}$  wide input voltage rang 4:1
- 低待机功耗低至0.20W Low standby power consumption to 0.20W
- 效率高达90% Transfer efficiency up to 90%
- 隔离电压 (Isolation voltage) : 2250VDC/1500VAC
- 工作环境温度 Operating Temp:  $-40^{\circ}\text{C}\sim+85^{\circ}\text{C}$
- 保护功能: 输入欠压保护, 输出过流、短路保护 Protection: Input under-voltage, output over-current, short-circuit
- 电磁兼容 EMI 特性好 EMI features good
- 国际标准引脚 International standard pin
- 应用领域: 工业控制、电力设备、通信、机车、工业机器人、铁路车载电子设备等领域  
Application Field: Industrial control, power equipment, communications, locomotives, industrial robots, railway electronic equipment.
- 测试条件: 如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及 $25^{\circ}\text{C}$ 室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and  $T_a=25^{\circ}\text{C}$ .



### 产品列表 / Product List

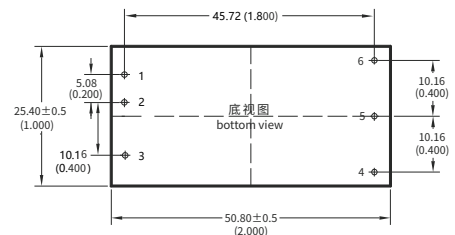


产品型号 Part no.	输入电压 Input voltage	输入电流 Input current	输出电压电流 Output voltage/current		输出效率 Output efficiency
	范围值 Range (VDC)	输出空载 Output no load (mA)	电压 Voltage (VDC)	电流 Current (mA)	(%TYP)
FD20-110S3V3B3(C)3	40-160	30	3.3	5000	86
FD20-110S05B3(C)3			5	4000	88
FD20-110S09B3(C)3			9	2222	89
FD20-110S12B3(C)3		2	12	1667	88
FD20-110S15B3(C)3			15	1333	90
FD20-110S24B3(C)3			24	833	89
FD20-110S40B3(C)3			40	500	88

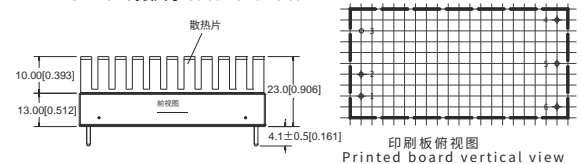
注1: 因篇幅有限, 以上只是部分产品列表, 若需列表以外产品, 请与本公司销售部联系。  
 Note 1: Due to space limitations, above is only a part of our product list, please contact our sales team for more items.  
 注2: 表格中为满载效率 (% TYP), 波动幅度为  $\pm 2\%$ , 满载输出效率等于输出的总功率除以电源模块的输入功率。  
 Note 2: The fluctuation range of full load efficiency(% TYP) is  $\pm 2\%$ , full load output efficiency= total output power/module's input power.  
 注3: 后缀带“C”为产品带Ctrl控制功能;“-H”为带散热片,“-T(H)”为接线式(带散热片)封装,“-TS(H)”为导轨式(带散热片)封装, 导轨宽度35mm。  
 Note 3: Suffix with “C” means it with CTRL control function;“-H” suffix is with heat sink,“-T(H)” suffix for chassis mounting(with heat sink),“-TS(H)” suffix for DIN-Rail mounting(with heat sink), DIN-Rail width is: 35mm.

### 封装尺寸 / Packing Dimension

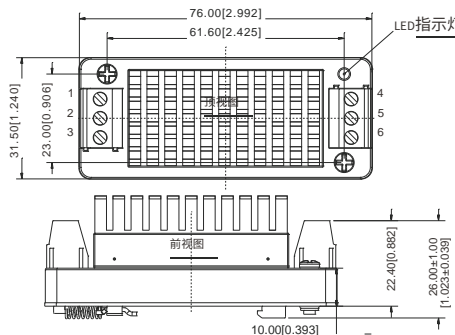
FDXX-XXSXXB3(C)封装尺寸: 50.80\*25.40\*13.00mm



FDXX-XXSXXB3-H封装尺寸: 50.80\*25.40\*23.00mm



FDXX-XXSXXB3-TS(H)封装尺寸: 76.00\*31.50\*37.20mm



导轨(带散热片)

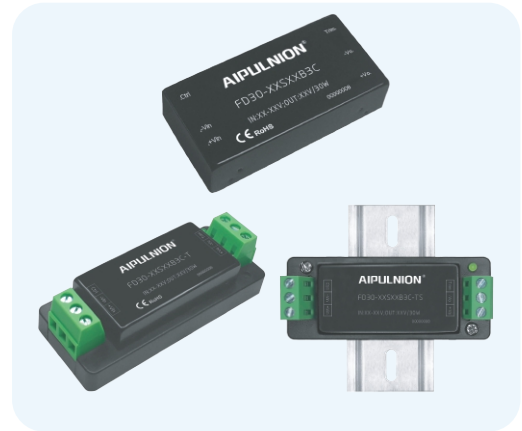
单位 (Unit): mm  
 栅格间距 (lattice spacing): 2.54mm(0.1inch)  
 未注尺寸公差 (General tolerance):  $\pm 0.5\text{mm}$   
 未注明引脚直径公差 (Pin section tolerances):  $\pm 0.10\text{mm}$

管脚号码 Pin-out	1	2	3	4	5	6
单路 Single	+Vin	-Vin	CTRL	Trim	-Vo	+Vo
功能	输入正极	输入负极	远程控制脚	电压调节端	输出负极	输出正极



◆ 产品特性 / Product Features

- 超宽电压输入 Urtual wide input voltage rang 4:1
- 低待机功耗低至0.20W Low standby power consumption to 0.20W
- 效率高达90% Transfer efficiency up to 90%
- 隔离电压 (Isolation voltage) : 3000VDC/1500VAC
- 工作环境温度 Operating Temp:-40°C~+85°C
- 保护功能:输入欠压保护,输出过流、短路保护 Protection:Input under-voltage,output over-current,short-circuit
- 电磁兼容EMC:裸机满足(bare board) CISPR22/EN55032/GB9254 CLASS A
- 30W已通过CE、RoHS认证 Has passed CE, RoHS certification
- 应用领域:工业控制、电力设备、通信、机车、工业机器人、铁路车载电子设备等领域  
Application Field:Industrial control, power equipment, communications, locomotives, industrial robots, railway electronic equipment.
- 测试条件:如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



◆ 产品列表 / Product List

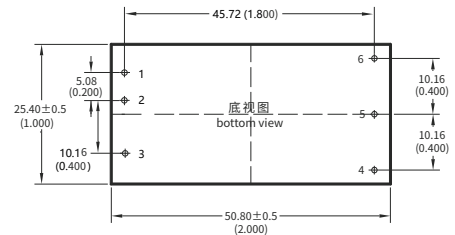


产品型号 Part no.	输入电压 Input voltage	输入电流 Input current	输出电压电流 Output voltage/current		输出效率 Output efficiency	
	范围值 Range (VDC)	输出空载 Output no load (mA)	电压 Voltage (VDC)	电流 Current (mA)	(%TYP)	
FD30-110S3V3B3(C)3	40-160	25	3.3	8000	87	
FD30-110S05B3(C)3			5	6800	90	
FD30-110S12B3(C)3			2	12	3333	89
FD30-110S15B3(C)3				15	2500	90
FD30-110S24B3(C)3				24	2000	90
FD30-110S48B3(C)3				48	1250	90
FD40-110S3V3B3(C)3	40-160	25	3.3	6000	87	
FD40-110S05B3(C)3			5	6000	90	
FD40-110S12B3(C)3			2	12	3333	89
FD40-110S15B3(C)3				15	2500	90
FD40-110S24B3(C)3				24	2000	90
FD40-110S48B3(C)3				48	1250	90
FD50-110S3V3B3(C)3	40-160	25	3.3	10000	87	
FD50-110S05B3(C)3			5	10000	90	
FD50-110S12B3(C)3			2	12	4160	89
FD50-110S15B3(C)3				15	3330	90
FD50-110S24B3(C)3				24	2080	90
FD50-110S48B3(C)3				48	10000	87

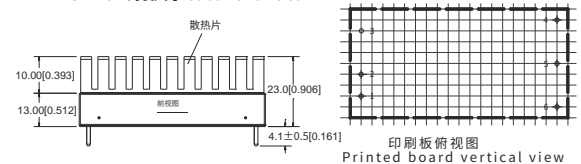
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 Note 1: Due to space limitations, above is only a part of our product list, please contact our sales team for more items.  
 注2:表格中为满载效率(%TYP),波动幅度为±2%,满载输出效率等于输出的总功率除以电源模块的输入功率。  
 Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.  
 注3:后缀带“C”为产品带Ctrl控制功能;“-H”为带散热片,“-T(H)”为接线式(带散热片)封装,“-TS(H)”为导轨式(带散热片)封装,导轨宽度35mm。  
 Note 3: Suffix with “C” means it with CTRL control function;“-H” suffix is with heat sink,“-T(H)” suffix for chassis mounting(with heat sink),“-TS(H)” suffix for DIN-Rail mounting(with heat sink), DIN-Rail width is: 35mm.

封装尺寸 / Packing Dimension

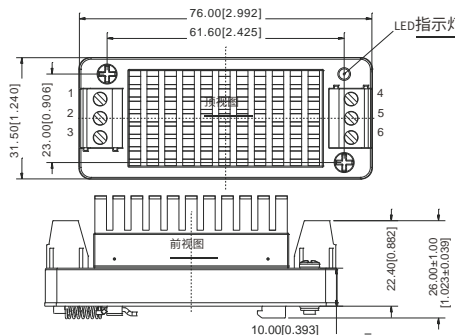
FDXX-XXSXXB3(C)封装尺寸:50.80\*25.40\*13.00mm



FDXX-XXSXXB3-H封装尺寸:50.80\*25.40\*23.00mm



FDXX-XXSXXB3-TS(H)封装尺寸:76.00\*31.50\*37.20mm



导轨(带散热片)

单位(Unit):mm

栅格间距 (latic spacing):2.54mm(0.1inch)

未注尺寸公差 (General tolerance):±0.5mm

未注明引脚直径公差 (Pin section tolerances):±0.10mm

引脚号码 Pin-out	1	2	3	4	5	6
单路 Single	+Vin	-Vin	CTRL	Trim	-Vo	+Vo
功能	输入正极	输入负极	远程控制脚	电压调节端	输出负极	输出正极

注意:电源模块的各管脚定义如与选型手册不符,应以实物标签上的标注为准。  
 Note:If the definition of pin is not in accordance with the model selection manual, please refer to the label on actual item.



### ◆ 产品特性 / Product Features

- 超宽电压输入 Ultra wide input voltage rang
- 低待机功耗低至 0.40W Low standby power consumption to 0.40W
- 效率高达87% Transfer efficiency up to 87%
- 隔离电压 (Isolation voltage) : 4000VAC
- 外壳:全封闭塑料外壳,符合UL94V-0级 Case:6-side shielding plastic,UL94V-0 class
- 满足 Meet IEC/EN62368 test standard 测试标准
- 工作环境温度 Operating Temp:BK15:-30°C~+70°C / BK25:-40~+85°C
- 保护功能:输入防反接、短路、过流、过压保护  
Protection: Input protection against reverse connection, short circuit, overcurrent and overvoltage
- 应用领域:工业控制、仪器仪表、通信、电力、冶炼、熔炉等领域  
Application Field: Industrial control, instrumentation, communication, electric power, smelting Industry,furnace industry of things etc.
- 测试条件:如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



### ◆ 产品列表 / Product List



产品型号 Part no.	输入电压 Input voltage	输出电压电流 Output voltage/current		输出效率 Output efficiency (%TYP)
	范围值 Range (VDC)	电压 Voltage (VDC)	电流 Current (mA)	
BK15-500S12H2N6	100-1000	12	1250	82
BK15-500S24H2N6		24	625	85
BK25-150S12H2N4	64-280	12	2100	87

注1:因篇幅有限,以上是部分产品列表,若需列表以外产品,请与本公司销售部联系。

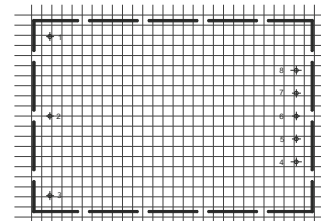
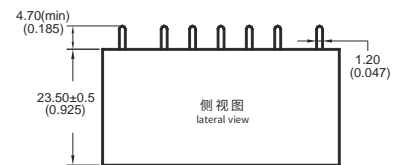
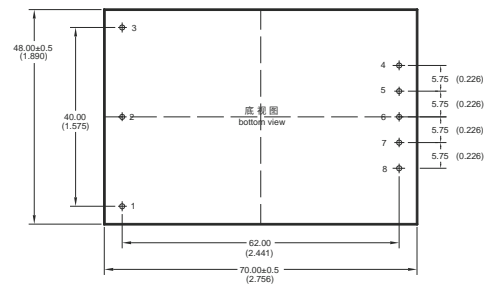
Note 1: Due to space limitations, above is only a part of our product list, please contact our sales team for more items.

注2:表格中为满载效率(%TYP),波动幅度为±2%,满载输出效率等于输出的总功率除以电源模块的输入功率。

Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.

管脚号码 Pin-out	2	3	4	8
单路 Single	-Vin	+Vin	+Vo	GND
单路功能	输入负极	输入正极	输出正极	输出地
封装代号 Packing Code/Dimension	L*W*H			
H	70.00*48.00*23.50mm			
	2.756*1.890*0.925inch			

### 封装尺寸 / Packing Dimension



单位 (Unit) : mm

印刷板俯视图 (Printed board vertical view)

栅格间距 (lattice spacing) : 2.54mm (0.1inch)

未注尺寸公差 (General tolerance) : ±0.5mm

未注明引脚直径公差 (Pin section tolerances) : ±0.10mm

注意:电源模块的各管脚定义如与选型手册不符,应以实物标签上的标注为准。

Note: If the definition of pin is not in accordance with the model selection manual, please refer to the label on actual item.

◆ 产品特性 / Product Features

- 超宽电压输入 Ultra wide input voltage rang
- 低待机功耗低至 0.60W Low standby power consumption to 0.60W
- 效率高达85% Transfer efficiency up to 85%
- 隔离电压 (Isolation voltage) : 4000VDC
- 金属外壳, 输出纹波低 Metal case, low output ripple
- 符合UL94V-0级 6-side shielding plastic, UL94V-0 class
- 工作环境温度 Operating Temp: -30°C~+70°C
- 保护功能: 有短路保护, 可自恢复 Protection: Short circuit, self-recovery
- 应用领域: 工业控制、仪器仪表、通信、电力、冶炼、熔炉等领域  
Application Field: Industrial control, instrumentation, communication, electric power, smelting Industry, furnace industry of things etc.
- 测试条件: 如无特殊指定, 所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



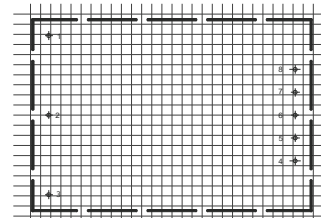
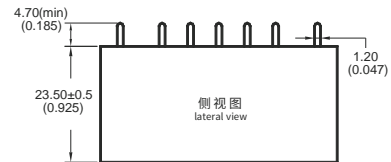
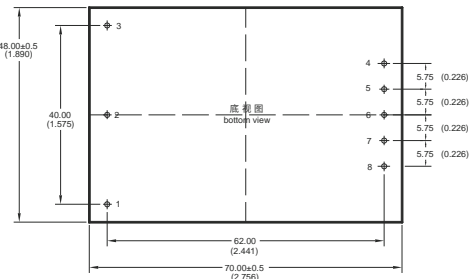
◆ 产品列表 / Product List



产品型号 Part no.	输入电压 Input voltage	输入电流 Input current	输出电压/电流 Output voltage/current		输出效率 Output efficiency	
	范围值 Range (VDC)	输出空载 Output no load (mA)	电压 Voltage (VDC)	电流 Current (mA)	(%TYP)	
BK15-600S12H1N4	200-1200	0.50	12	1250	77	
BK15-600S15H1N4		0.53	15	1000	78	
BK15-600S24H1N4		0.56	24	625	80	
BK20-600D12H1N4		1.5	±12	±833	82	
BK20-600D15H1N4		2.5	±15	±667	83	
BK20-600D24H1N4		2.5	±24	±417	84	
BK20-600S12H1N4		0.50	12	1667	82	
BK20-600S15H1N4		0.53	15	1334	84	
BK20-600S24H1N4		0.56	24	834	85	
BK25-600D12H1N4		1.5	±12	±1042	83	
BK25-600D15H1N4		2.5	±15	±833	84	
BK25-600D24H1N4		2.5	±24	±521	85	
BK25-600S12H1N4		0.50	12	2084	82	
BK25-600S15H1N4		0.53	15	1667	83	
BK25-600S24H1N4		0.56	24	1042	84	
BK25-500S12H1N4		100-1000	0.5	12	2084	82
BK25-500S15H1N4			0.53	15	1667	83
BK25-500S24H1N4			0.56	24	1042	85

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Note 1: Due to space limitations, above is only a part of our product list, please contact our sales team for more items.  
注2: 表格中为满载效率 (%TYP), 波动幅度为 ±2%, 满载输出效率等于输出的总功率除以电源模块的输入功率。  
Note 2: The fluctuation range of full load efficiency (%TYP) is ±2%, full load output efficiency = total output power/module's input power.

封装尺寸 / Packing Dimension



单位 (Unit): mm  
印刷板俯视图 (Printed board vertical view)  
栅格间距 (lattice spacing): 2.54mm (0.1inch)  
未注尺寸公差 (General tolerance): ±0.5mm  
未注明引脚直径公差 (Pin section tolerances): ±0.10mm

引脚号码 Pin No. 单路 Single	1	2	3	4	5	6	7	8
单路功能 Single	无此脚	输入负极	输入正极	输出正极	无此脚	无此脚	无此脚	输出负极
双路 Dual	NP	-Vin	+Vin	+Vo	NP	COM	NP	-Vo
双路功能 Dual	无此脚	输入负极	输入正极	输出正极	无此脚	公共端	无此脚	输出负极
封装代号 Packing Code/Dimension	L*W*H							
H	70.00*48.00*23.50mm							
	2.756*1.890*0.925inch							

◆ 产品特性 / Product Features

- 超宽电压输入 Ultra wide input voltage rang
- 高效率、高可靠性、低纹波噪声 High efficiency, high reliability, low ripple noise
- 效率高达85% Transfer efficiency up to 85%
- 隔离电压 (Isolation voltage) : 4000VDC
- 输入具有防反接保护、欠压保护  
The input has anti-reverse connection protection and undervoltage protection
- 输出具有过流、过压、短路保护 Output with over current, over voltage, short circuit protection
- 工作环境温度 Operating Temp:-30°C~+70°C
- 工业级产品技术设计, 国际标准体 Industrial product technical design, international standard body

● 应用领域: 应用于光伏发电及高压变频  
Application Field: Used in photovoltaic power generation and high voltage frequency conversion.

● 测试条件: 如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



◆ 产品列表 / Product List



产品型号 Part no.	输入电压 Input voltage	输出电压电流 Output voltage/current		输出效率 Output efficiency (%TYP)
	范围值 Range (VDC)	电压 Voltage (VDC)	电流 Current (mA)	
BK40-600S12W2N4	200-1200	12	3333	83
BK40-600S15W2N4		15	2667	84
BK40-600S24W2N4		24	1667	85

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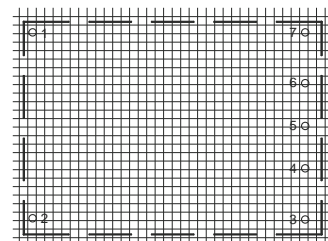
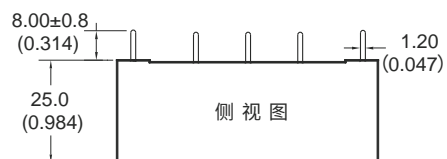
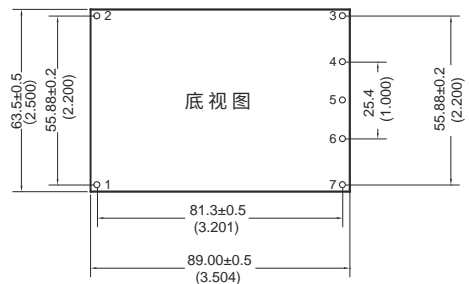
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注2: 表格中为满载效率(%TYP), 波动幅度为±2%, 满载输出效率等于输出的总功率除以电源模块的输入功率。

Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.

管脚号码 Pin-out	1	2	5	7
单路 Single	-Vin	+Vin	-Vo	+Vo
功能	输入负极	输入正极	输出负极	输出正极
封装代号 Packing Code/ Dimension	L*W*H			
W2N4	89.00*63.50*25.00mm			
	3.504*2.500*0.984inch			

封装尺寸 / Packing Dimension



单位 (Unit): mm  
 印刷板俯视图 (Printed board vertical view)  
 栅格间距 (lattice spacing): 2.54mm (0.1inch)  
 未注尺寸公差 (General tolerance): ±0.5mm  
 未注明引脚直径公差 (Pin section tolerances): ±0.10mm

注意: 电源模块的各管脚定义如与选型手册不符, 应以实物标签上的标注为准。

Note: If the definition of pin is not in accordance with the model selection manual, please refer to the label on actual item.



### ◆ 产品特性 / Product Features

- 超宽电压输入 Ultra wide input voltage rang
  - 低待机功耗低至 0.15W Low standby power consumption to 0.15W
  - 效率高达82% Transfer efficiency up to 82%
  - 隔离电压 (Isolation voltage) : 4000VAC
  - 塑料外壳, 输出纹波低 Plastic case, low output ripple
  - 短路、过流、过电压保护 Short circuit, over current, over voltage protection
  - 工作环境温度 Operating Temp: -40°C~+70°C
  - 符合 CE、RoHS 认证标准 Comply with CE and RoHS certification standards
- 应用领域: 工业控制、仪器仪表、通信、电力、冶炼、熔炉等领域  
Application Field: Industrial control, instrumentation, communication, electric power, smelting Industry, furnace industry of things etc.
  - 测试条件: 如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



### ◆ 产品列表 / Product List



产品型号 Part no.	输入电压 Input voltage		输出电压电流 Output voltage/current		输出效率 Output efficiency (%TYP)
	范围值 Range	电压 Voltage	电流 Current		
	(VDC)	(VDC)	(mA)		
BK40-850S24G2N6	200-1500	24	1667	81	
BK40-850S28G2N6		28	1428	82	

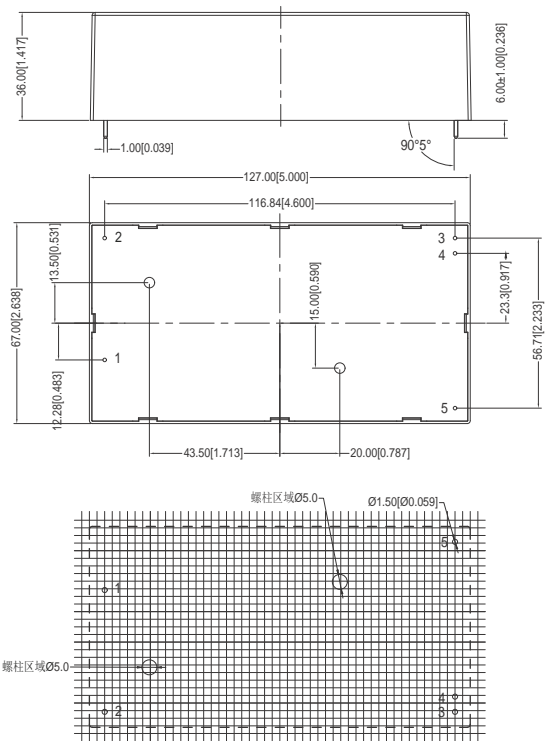
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注2: 表格中为满载效率 (%TYP), 波动幅度为±2%, 满载输出效率等于输出的总功率除以电源模块的输入功率。  
Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.

管脚号码 Pin-out	1	2	3	4	8
单路 Single	Vin-	Vin+	-Vo	+Vo	NC
功能	直流输入负极	直流输入正极	输出负极	输出正极	无功能
封装代号 Packing Code/ Dimension	L*W*H				
	127.00*67.00*36.00mm				
	5.000*2.638*1.417inch				

### 封装尺寸 / Packing Dimension

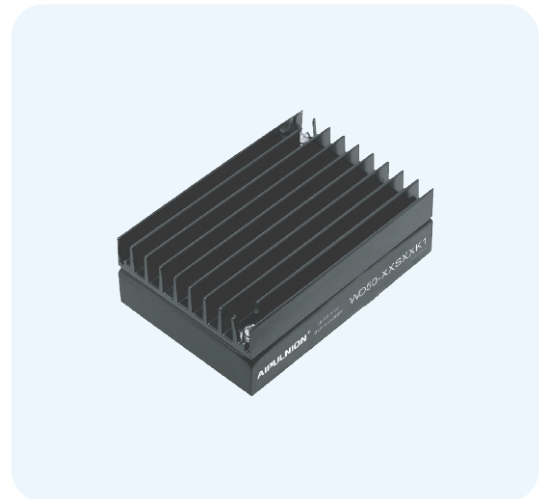
第三角投影



单位 (Unit) : mm  
 印刷板俯视图 (Printed board vertical view)  
 栅格间距 (lattice spacing) : 2.54mm (0.1inch)  
 未注尺寸公差 (General tolerance) : ±0.5mm  
 未注明针脚直径公差 (Pin section tolerances) : ±0.10mm

◆ 产品特性/Product Features

- 宽电压输入(2:1) Wide input voltage rang(2:1)
- 低待机功耗低至0.60W Low standby power consumption to 0.60W
- 效率高达87% Transfer efficiency up to 87%
- 隔离电压 (Isolation voltage) : 1500VDC
- 金属外壳、输出纹波低 Metal case,low output ripple
- 工作环境温度 Operating Temp:-25°C~+85°C
- 保护功能:输入欠压保护, 输出过流、短路保护 Protection:Input under-voltage, output over-current,short-circuit
- 电磁兼容EMC:裸机满足(bare board) CISPR22/EN55032/GB9254 CLASS A
- 应用领域:工业控制、仪器仪表、通信、电力、智能家居、物联网等领域  
Application Field:Industrial control, instrumentation, communication, electric power, smart home, internet of things etc.
- 测试条件:如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



◆ 产品列表/Product List



产品型号 Part no.	输入电压 Input voltage	输入电流 Input current	输出电压电流 Output voltage/current		输出效率 Output efficiency
	范围值 Range (VDC)	输出空载 Output no load (mA)	电压 Voltage (VDC)	电流 Current (mA)	(%TYP)
WD50-12S05K1	9-18	50	5	10000	80
WD50-12S12K1		70	12	4166	85
WD50-12S24K1		75	24	2083	85
WD50-24S05K1	18-36	39	5	10000	82
WD50-24S12K1		40	12	4166	85
WD50-24S24K1		42	24	2083	86
WD50-48S05K1	36-72	18	5	10000	84
WD50-48S12K1		20	12	4166	85
WD50-48S24K1		21	24	2083	87
WD50-110S05K1	72-144	9	5	10000	84
WD50-110S12K1		10	12	4166	85
WD50-110S24K1		11	24	2083	87

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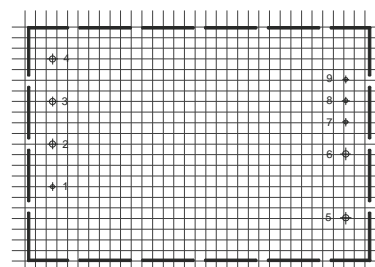
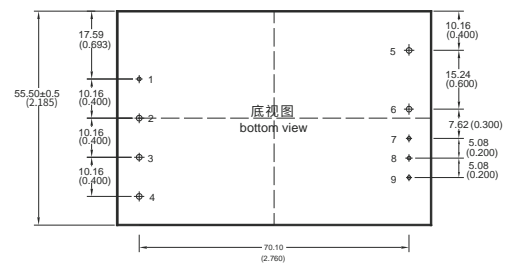
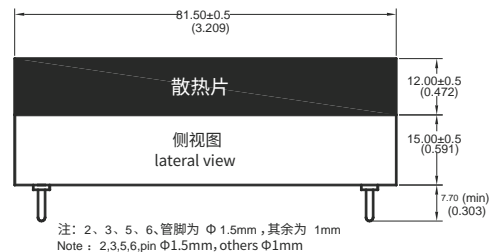
Note 1: Due to space limitations, above is only a part of our product list, please contact our sales team for more items.

注2:表格中为满载效率(%TYP),波动幅度为±2%,满载输出效率等于输出的总功率除以电源模块的输入功率。

Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.

管脚号码 Pin-out	1	2	3	4	5	6
单路 Single	CASE	+Vin	-Vin	REM	+Vo	-Vo
功能	电源外壳	输入正极	输入负极	控制脚	输出正极	输出负极
管脚号码 Pin-out	7	8	9	封装代号 Packing Code/Dimension		L*W*H
单路 Single	+S	TRIM	-S	K		81.50*55.50*15.00mm
功能	正反馈端	电压调节脚	负反馈端			3.209*2.185*0.591inch

封装尺寸/Packing Dimension



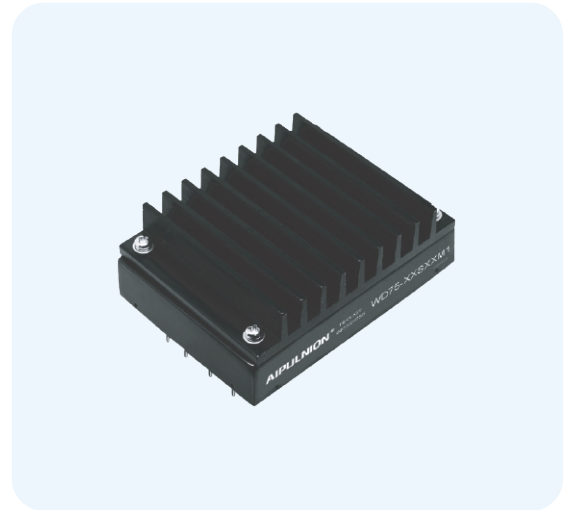
单位 (Unit): mm  
印刷板俯视图 (Printed board vertical view)  
栅格间距 (latic spacing): 2.54mm (0.1inch)  
未注尺寸公差 (General tolerance): ±0.5mm  
未注明针脚直径公差 (Pin section tolerances): ±0.10mm

注意:电源模块的各管脚定义如与选型手册不符,应以实物标签上的标注为准。  
Note:If the definition of pin is not in accordance with the model selection manual, please refer to the label on actual item.



◆ 产品特性 / Product Features

- 宽电压输入(2:1) Wide input voltage rang(2:1)
- 低待机功耗低至2.00W Low standby power consumption to 2.00W
- 效率高达88% Transfer efficiency up to 88%
- 隔离电压(Isolation voltage) : 1500VDC
- 金属外壳、输出纹波低 Metal case,low output ripple
- 工作环境温度 Operating Temp:-25°C~+55°C
- 保护功能:输入欠压保护,输出过流、短路保护  
Protection:Input under-voltage, output over-current,short-circuit
- 电磁兼容EMC:裸机满足(bare board) CISPR22/EN55032/GB9254 CLASS A
- 应用领域:工业控制、仪器仪表、通信、电力、智能家居、物联网等领域  
Application Field:Industrial control, instrumentation, communication, electric power, smart home, internet of things etc.
- 测试条件:如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



◆ 产品列表 / Product List



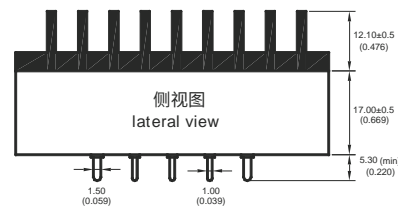
产品型号 Part no.	输入电压 Input voltage	输入电流 Input current	输出电压电流 Output voltage/current		输出效率 Output efficiency (%TYP)
	范围值 Range (VDC)	输出空载 Output no load (mA)	电压 Voltage (VDC)	电流 Current (mA)	
WD75-12S05M1	9-18	106	5	15000	79
WD75-12S12M1		100	12	6250	86
WD75-12S24M1		90	24	3125	86
WD75-24S05M1	18-36	82	5	15000	83
WD75-24S12M1		80	12	6250	86
WD75-24S24M1		80	24	3125	87
WD75-48S05M1	36-72	75	5	15000	83
WD75-48S12M1		75	12	6250	85
WD75-48S24M1		70	24	3125	87
WD75-110S05M1	72-144	80	5	15000	87
WD75-110S12M1		79	12	6250	88
WD75-110S24M1		80	24	3125	88

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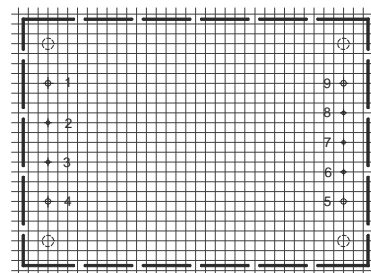
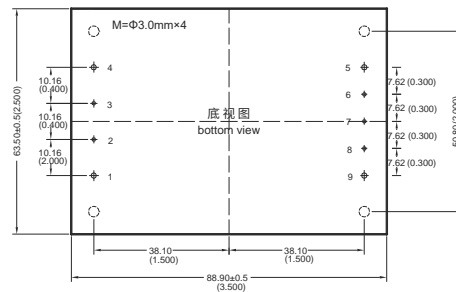
注2:表格中为满载效率(%TYP),波动幅度为±2%,满载输出效率等于输出的总功率除以电源模块的输入功率。  
Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.

管脚号码 Pin-out	1	2	3	4	5	6
单路 Single	-Vin	REM	CASE	+Vin	+Vo	+S
功能	输入负极	控制脚	电源外壳	输入正极	输出正极	正反馈端
管脚号码 Pin-out	7	8	9	封装代号 Packing Code Dimension		L*W*H
单路 Single	TRIM	-S	-Vin	M		88.90*63.50*17.00mm
功能	电压调节端	负反馈端	输出负极			3.500*2.500*0.669inch

封装尺寸 / Packing Dimension



注:1,4,5,9、管脚为1.5mm,其余为1mm  
Note:1,4,5,9,pin Φ1.5mm, others Φ1mm



单位 (Unit): mm  
印刷板俯视图 (Printed board vertical view)  
栅格间距 (lattice spacing): 2.54mm(0.1inch)  
未注尺寸公差 (General tolerance): ±0.5mm  
未注明针脚直径公差 (Pin section tolerances): ±0.10mm



## ◆ 产品特性/Product Features

- 宽电压输入 Ultra wide input voltage rang
- 效率高达84% Transfer efficiency up to 84%
- 隔离电压 (Isolation voltage) :1500VDC
- 工作环境温度 Operating Temp:-40°C~+85°C
- 保护功能: 输入欠压, 输出过压, 短路, 过流保护  
Protection:nput under-voltage, output over-current,short-circuit
- 长期短路保护,可自恢复 Long - term short - circuit protection, self - recovery
- 应用领域: 仪器仪表、通信、纯数字电路、一般低频模拟电路、继电器驱动电路、数据交换电路等领域  
Application Field:Instrumentation, communication, pure digital circuit, general low frequency analog circuit, relay drive circuit, data exchange circuit, etc.
- 测试条件: 如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



## ◆ 产品列表/Product List

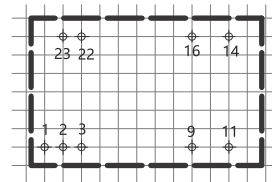
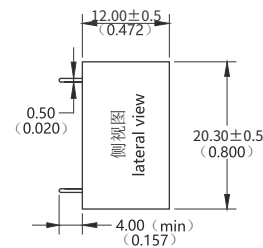
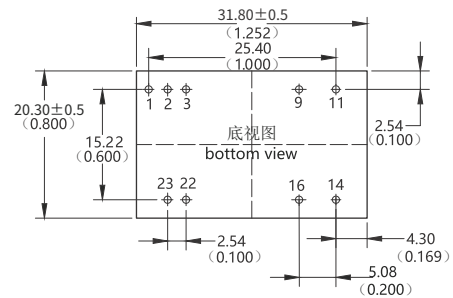


产品型号 Part no.	输入电压 Input voltage	输入电流 Input current	输出电压电流 Output voltage/current		输出效率 Output efficiency
	范围值 Range (VDC)	输出空载 Output no load (mA)	电压 Voltage (VDC)	电流 Current (mA)	(%TYP)
DD6-05S05E3(C)2	4.5-9	10	5	1200	80
DD6-05S12E3(C)2			12	500	84
DD6-05S15E3(C)2			15	400	84
DD6-05S24E3(C)2			24	250	84

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注2:表格中为满载效率 (% TYP), 波动幅度为±2%, 满载输出效率等于输出的总功率除以电源模块的输入功率。  
Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.

管脚号码 Pin-out	2,3	22,23	14	16	1	9	11
E3N2	-Vin	+Vin	+Vo	GND	NP	NP	NC
功能	输入负极	输入正极	输出正极	输出地	无此脚	无此脚	无功能
E3C2	-Vin	+Vin	+Vo	GND	Ctrl	NP	NC
功能	输入负极	输入正极	输出正极	输出地	控制端	无此脚	无功能
封装代号 Packing Code/ Dimension	L*W*H						
E3	31.80*20.30*12.00mm 1.252*0.800*0.472inch						

## 封装尺寸/Packing Dimension



单位(Unit):mm  
 栅格间距 (latic spacing):2.54mm(0.1inch)  
 未注尺寸公差 (General tolerance):±0.5mm  
 未注明针脚直径公差 (Pin section tolerances):±0.10mm



### ◆ 产品特性/Product Features

- 宽电压输入 Ultra wide input voltage rang
- 效率高达88% Transfer efficiency up to 88%
- 隔离电压 (Isolation voltage) :1500VDC
- 工作环境温度 Operating Temp:-40°C~+85°C
- 保护功能: 输入欠压, 输出过压, 短路, 过流保护  
Protection:nput under-voltage, output over-current,short-circuit
- 长期短路保护,可自恢复 Long - term short - circuit protection, self - recovery
- 应用领域:仪器仪表、通信、纯数字电路、一般低频模拟电路、继电器驱动电路、数据交换电路等领域  
Application Field:Instrumentation, communication, pure digital circuit, general low frequency analog circuit, relay drive circuit, data exchange circuit, etc.
- 测试条件: 如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



### ◆ 产品列表/Product List

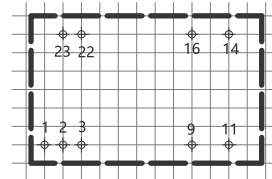
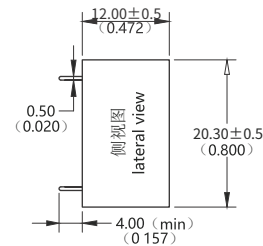
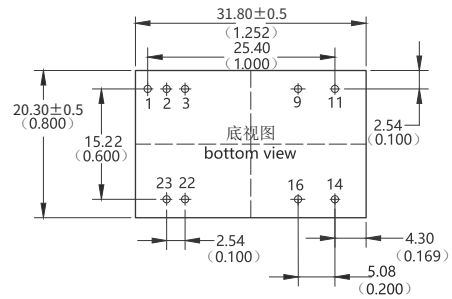


产品型号 Part no.	输入电压 Input voltage	输入电流 Input current	输出电压电流 Output voltage/current		输出效率 Output efficiency
	范围值 Range	输出空载 Output no load	电压 Voltage	电流 Current	(%TYP)
	(VDC)	(mA)	(VDC)	(mA)	
DD10-18S3V3E3(C)2	9-36	33	3.3	2400	86
DD10-18S05E3(C)2			5	2000	87
DD10-18S12E3(C)2		10	12	833	87
DD10-18S15E3(C)2			15	667	87
DD10-18S24E3(C)2			24	416	88
DD10-36S3V3E3(C)2	18-75	33	3.3	2400	86
DD10-36S05E3(C)2			5	2000	87
DD10-36S12E3(C)2		10	12	833	87
DD10-36S15E3(C)2			15	667	87
DD10-36S24E3(C)2			24	416	88
DD10-12D05E3C2	9-18	12	±5	±1000	83
DD10-12D12E3C2			±12	±416	87
DD10-12D15E3C2			±15	±333	87
DD10-24D05E3C2	18-36	12	±5	±1000	83
DD10-24D12E3C2			±12	±416	87
DD10-24D15E3C2			±15	±333	87

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 Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.  
 注3:后缀带“C”为产品带Ctrl控制功能;单路输出产品不带控制脚后缀为“N2”。  
 Note 3: Suffix with "C" means it with CTRL control function; Single output product without control pin suffix "N2".

管脚号码 Pin-out	2,3	22,23	14	16	1	9	11
双路(D)	-Vin	+Vin	+Vo	GND	Ctrl	GND	-Vo
功能	输入负极	输入正极	输出正极	输出地	控制端	输出地	负输出
单路(S)E3N2	-Vin	+Vin	+Vo	GND	NP	NP	NC
功能	输入负极	输入正极	输出正极	输出地	无此脚	无此脚	无功能
单路(S)E3C2	-Vin	+Vin	+Vo	GND	Ctrl	NP	NC
功能	输入负极	输入正极	输出正极	输出地	控制端	无此脚	无功能
封装代号 Packing Code/Dimension	L*W*H						
E3	31.80*20.30*12.00mm 1.252*0.800*0.472inch						

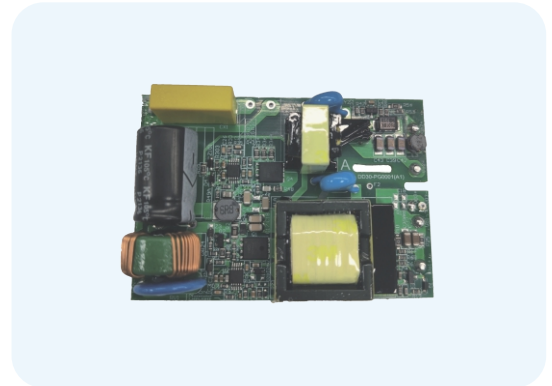
### 封装尺寸/Packing Dimension



单位(Unit):mm  
 栅格间距 (latic spacing): 2.54mm(0.1inch)  
 未注尺寸公差 (General tolerance): ±0.5mm  
 未注明针脚直径公差 (Pin section tolerances): ±0.10mm

### ◆ 产品特性/Product Features

- 超宽电压输入 Ultra wide input voltage rang(4:1)
- 电磁兼容EMC:裸机满足(bare board) CISPR32/EN55032 CLASS B
- 效率高达84% Transfer efficiency up to 84%
- 隔离电压 (Isolation voltage) : 3000VAC
- 工作环境温度 Operating Temp:-40°C~+85°C
- 保护功能: 输入欠压保护, 输出过流、短路保护 Protection:Input under-voltage, output over-current,short-circuit
- 应用领域: 仪器仪表、通信、纯数字电路、一般低频模拟电路、继电器驱动电路、数据交换电路等领域  
Application Field:Instrumentation, communication, pure digital circuit, general low frequency analog circuit, relay drive circuit, data exchange circuit, etc.
- 测试条件: 如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



### ◆ 产品列表/Product List

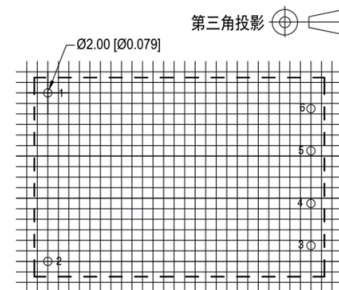
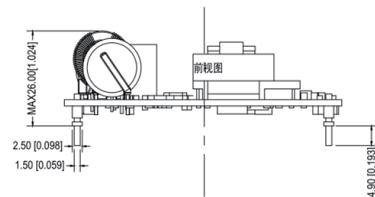
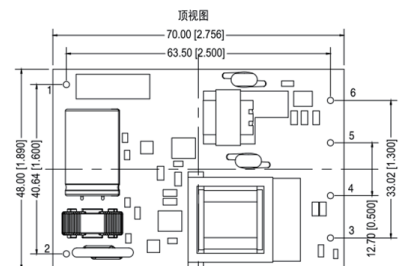


产品型号 Part no.	输入电压 Input voltage		输出电压电流 Output voltage/current				输出效率 Output efficiency
	范围值 Range (VDC)	电压 1 Voltage (VDC)	电流 1 Current (mA)	电压 2 Voltage (VDC)	电流 2 Current (mA)	(%TYP)	
DD30-36E0524G9N5	18-75	5	4000	24	417	84	

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Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.

管脚号码 Pin-out	1	2	3	4	5	6
双路 Dual	Vin+	GND	Vo1+	Vo1-	Vo2-	Vo2+
功能	输入正极	输入负极	输入1正极	输入1负极	输入2负极	输入2正极
封装代号 Packing Code/Dimension	L*W*H					
/	70.00*48.00*26.00mm					
	2.756*1.890*1.024inch					

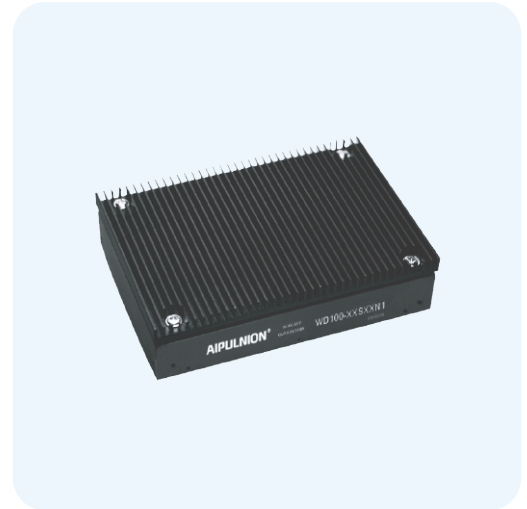
### 封装尺寸/Packing Dimension



单位 (Unit): mm[inch]  
 栅格间距 (lattice spacing): 2.54mm(0.1inch)  
 未注尺寸公差 (General tolerance): ±1.0mm[±0.039inch]

◆ 产品特性 / Product Features

- 宽电压输入(2:1) Wide input voltage rang(2:1)
- 低待机功耗低至0.80W Low standby power consumption to 0.80W
- 效率高达90% Transfer efficiency up to 90%
- 隔离电压 (Isolation voltage) : 1500VDC
- 金属外壳、输出纹波低 Metal case, low output ripple
- 工作环境温度 Operating Temp: -40°C~+85°C
- 保护功能:输入欠压保护,输出过流、短路保护  
Protection: Input under-voltage, output over-current, short-circuit
- 电磁兼容EMC:裸机满足(bare board) CISPR22/EN55032/GB9254 CLASS A
- 应用领域:工业控制、仪器仪表、通信、电力、智能家居、物联网等领域  
Application Field:Industrial control, instrumentation, communication, electric power, smart home, internet of things etc.
- 测试条件:如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



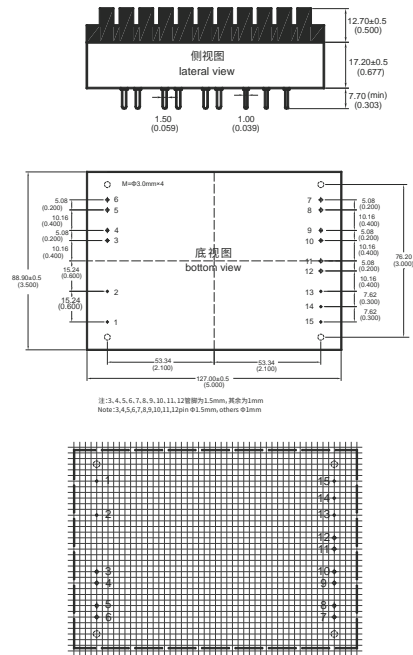
◆ 产品列表 / Product List



产品型号 Part no.	输入电压 Input voltage	输入电流 Input current	输出电压电流 Output voltage/current		输出效率 Output efficiency
	范围值 Range (VDC)	输出空载 Output no load (mA)	电压 Voltage (VDC)	电流 Current (mA)	(%TYP)
WD100-12S05N1	9-18	30	5	20000	82
WD100-12S12N1		35	12	8333	87
WD100-12S24N1		39	24	4166	88
WD100-24S05N1	18-36	39	5	20000	85
WD100-24S12N1		40	12	8333	88
WD100-24S24N1		44	24	4166	88
WD100-48S05N1	36-72	40	5	20000	82
WD100-48S12N1		45	12	8333	87
WD100-48S24N1		50	24	4166	88
WD100-110S05N1	72-144	45	5	20000	85
WD100-110S12N1		46	12	8333	88
WD100-110S24N1		50	24	4166	88
WD150-12S12N1	9-18	14368	12	12500	87
WD150-12S24N1		14205	24	6250	88
WD150-24S12N1	18-36	7102	12	12500	88
WD150-24S24N1		7102	24	6250	88
WD150-48S12N1	36-72	3592	12	12500	87
WD150-48S24N1		3551	24	6250	88
WD150-110S12N1	72-144	1550	12	12500	88
WD150-110S24N1		1550	24	6250	88
VD150-48S24N1	33.6-72	45	24	6250	87
VD150-48S24N1A		45	24	6250	87
VD150-110S12N1	72-144	50	12	12500	90
VD150-110S24N1		50	24	6250	90

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Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.

封装尺寸 / Packing Dimension



管脚号码 Pin-out	1	2	3:4	5:6	7:8	9:10
单路 Single	REM	CASE	-Vin	+Vin	+Vo	-Vo
功能	控制脚	电源外壳	输入负极	输入正极	输出正极	输出负极
管脚号码 Pin-out	11:12	13	14	15	L*W*H	
单路 Single	NP	+S	TRIM	-S		
功能	空脚	正反馈端	电压调节端	负反馈端	127.00*88.90*17.20mm	
封装代号 Packing Code/ Dimension	N				5.000*3.500*0.667inch	

◆ 产品特性 / Product Features

- 宽电压输入(2:1) Wide input voltage rang(2:1)
- 高功率密度 High power density
- 低待机功耗低至0.80W Low standby power consumption to 0.80W
- 效率高达88% Transfer efficiency up to 88%
- 隔离电压 (Isolation voltage) : 1500VDC
- 铝基板, 输出纹波低 Aluminum baseplate, low output ripple
- 工作环境温度 Operating Temp: -40°C~+85°C
- 保护功能: 输入欠压保护, 输出过流、短路保护 Protection: Input under-voltage, output over-current, short-circuit
- 电磁兼容EMC: 裸机满足(bare board) CISPR22/EN55032/GB9254 CLASS A
- 应用领域: 工业控制、仪器仪表、通信、电力、智能家居、物联网等领域  
Application Field: Industrial control, instrumentation, communication, electric power, smart home, internet of things etc.
- 测试条件: 如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



◆ 产品列表 / Product List

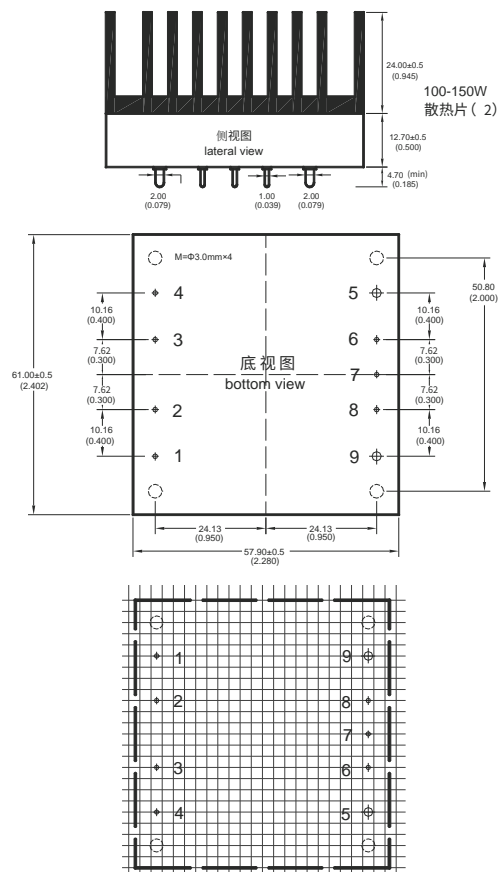


产品型号 Part no.	输入电压 Input voltage	输入电流 Input current	输出电压电流 Output voltage/current		输出效率 Output efficiency
	范围值 Range (VDC)	输出空载 Output no load (mA)	电压 Voltage (VDC)	电流 Current (mA)	(%TYP)
WD100-24S12Q1	18-36	4735	12	8333	88
WD100-24S24Q1		4735	24	4166	88
WD100-48S12Q1	36-72	2367	12	8333	88
WD100-48S24Q1		2367	24	4166	88
WD100-110S12Q1	74-144	1033	12	8333	88
WD100-110S24Q1		1033	24	4166	88
WD150-24S12Q1	18-36	7102	12	12500	88
WD150-24S24Q1		7102	24	6250	88
WD150-48S12Q1	36-72	12500	12	12500	88
WD150-48S24Q1		6250	24	6250	88
WD150-110S12Q1	74-144	12500	12	12500	88
WD150-110S24Q1		6250	24	6250	88

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Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.

管脚号码 Pin-out	1	2	3	4	5	6
单路 Single	+Vin	REM	CASE	-Vin	-Vo	-S
功能	输入正极	控制脚	电源外壳	输入负极	输出负极	负反馈端
管脚号码 Pin-out	7	8	9	封装代号 Packing Code/ Dimension		L*W*H
单路 Single	TRIM	+S	+Vo	Q	61.00*57.90*12.70mm	
功能	电压调节端	正反反馈端	输出正极		2.402*2.280*0.500inch	

封装尺寸 / Packing Dimension

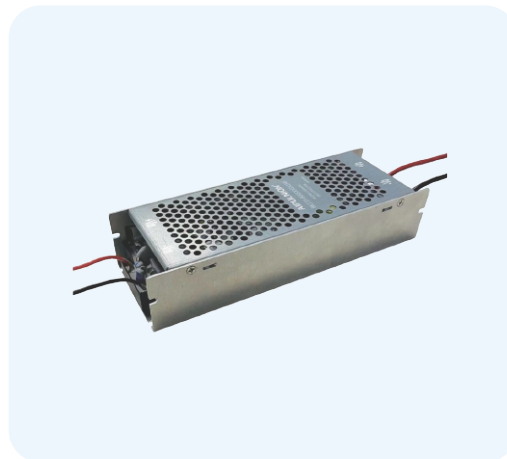






### ◆ 产品特性 / Product Features

- 超宽电压输入 Ultra wide input voltage rang 250-1500
- 高功率密度 High power density
- 低待机功耗低至1.3mA Low standby power consumption to 1.3mA
- 效率高达86% Transfer efficiency up to 86%
- 隔离电压 (Isolation voltage) : 4000VC
- 工作环境温度 Operating Temp:-40°C~+70°C
- 保护功能:输入防反接保护、欠压保护,输出过流、过压、短路保护  
Protection:Input anti-reverse connection , under voltage , output over current, over voltage, short circuit
- 应用于光伏发电及高压变频  
Applications: Photovolt power generation and high voltage frequency conversion
- 应用领域:光伏逆变器、储能系统、充电桩和工控等领域  
Application Field: Photovoltaic inverters, energy storage systems, charging piles and industrial control and other industries
- 测试条件:如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



### ◆ 产品列表 / Product List

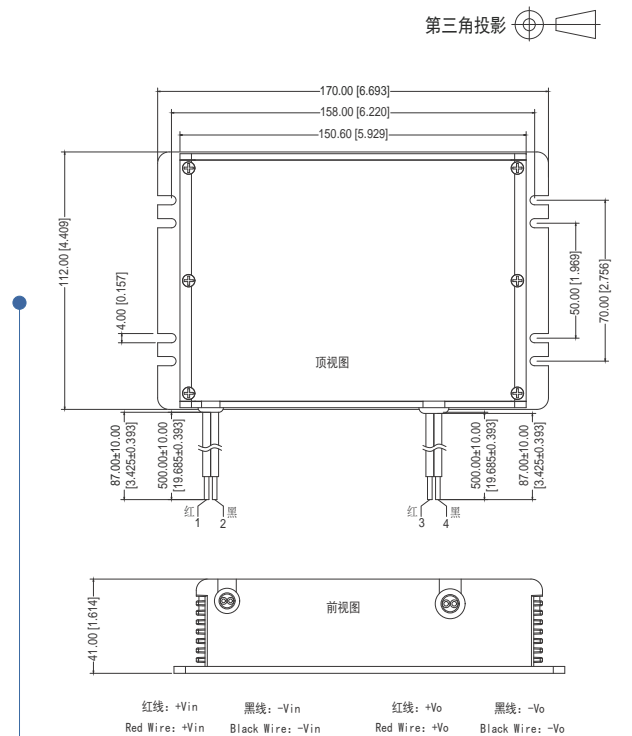


产品型号 Part no.	输入电压 Input voltage	输出电压电流 Output voltage/current		输出效率 Output efficiency (%TYP)
	范围值 Range (VDC)	电压 Voltage (VDC)	电流 Current (mA)	
BK150-800S28GA1N6	250-1500	28	5360	86

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Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.

管脚号码 Pin-out	1	2	3	4	5
单路 Single	+VIN	-VIN	+Vo	-Vo	PE
功能	输入正极	输入负极	输出正极	输出负极	输入大地
封装代号 Packing Code/Dimension	L*W*H				
	111.20*168.00*42.50mm				
	4.378*6.614*1.674inch				

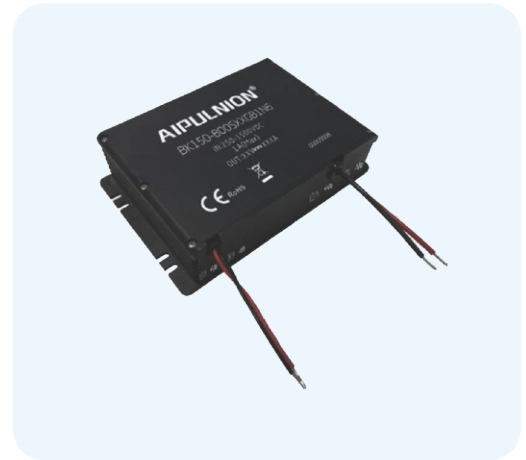
### 封装尺寸 / Packing Dimension



注:  
1-2导线规格: UL3239 18AWG  
3-4导线规格: UL1015 14AWG  
尺寸单位: mm[inch]  
未标注之公差: ±1.00mm[±0.039inch]  
警告: 为减少起火的危险, 请仅连接到符合国家电气法规ANSI / NFPA 70 的具有过流保护的分支电路。

◆ 产品特性 / Product Features

- 超宽电压输入(6:1) Ultra wide input voltage rang(6:1)
- 高功率密度 High power density
- 低待机功耗低至1W Low standby power consumption to 1W
- 效率高达88% Transfer efficiency up to 88%
- 隔离电压(Isolation voltage) : 4000VC
- 工作环境温度 Operating Temp:-40°C~+70°C
- 保护功能:输入防反接保护、欠压保护,输出过流、过压、短路保护  
Protection:Input anti-reverse connection , under voltage , output over current, over voltage, short circuit
- 应用于光伏发电及高压变频  
Applications: Photovolt power generation and high voltage frequency conversion
- 应用领域:光伏逆变器、储能系统、充电桩和工控等领域  
Application Field: Photovoltaic inverters, energy storage systems, charging piles and industrial control and other industries
- 测试条件:如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



◆ 产品列表 / Product List

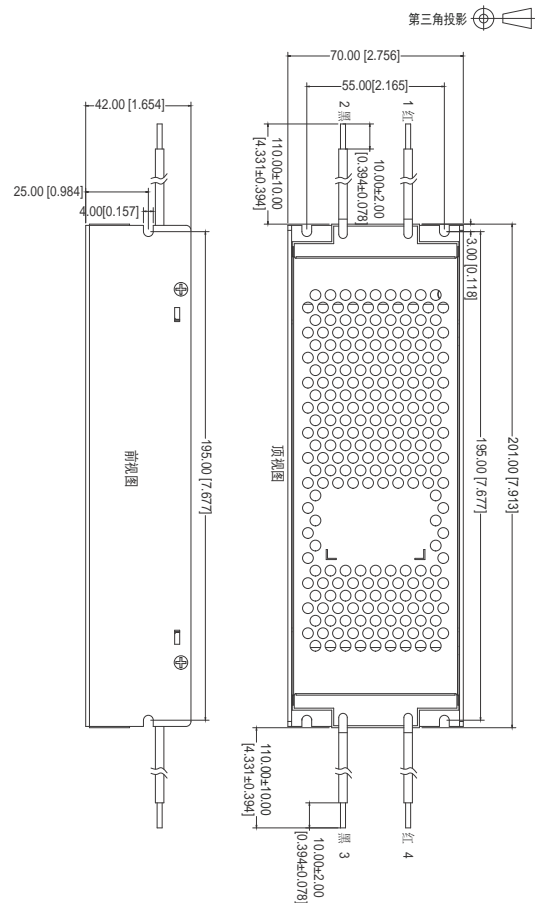


产品型号 Part no.	输入电压 Input voltage		输出电压电流 Output voltage/current		输出效率 Output efficiency (%TYP)
	范围值 Range (VDC)	电压 Voltage (VDC)	电压 Voltage (VDC)	电流 Current (mA)	
BK150-800S28GB1N6	250-1500	28	5360	88	

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Note 1: Due to space limitations, above is only a part of our product list, please contact our sales team for more items.  
注2:表格中为满载效率(%TYP),波动幅度为±2%,满载输出效率等于输出的总功率除以电源模块的输入功率。  
Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.

管脚号码 Pin-out	1	2	3	4	5
单路 Single	+VIN	-VIN	-Vo	+Vo	PE
功能	输入正极	输入负极	输出负极	输出正极	输入大地
封装代号 Packing Code/ Dimension	L*W*H				
-	201.00*70.00*42.00mm				
-	7.913*2.756*1.654inch				

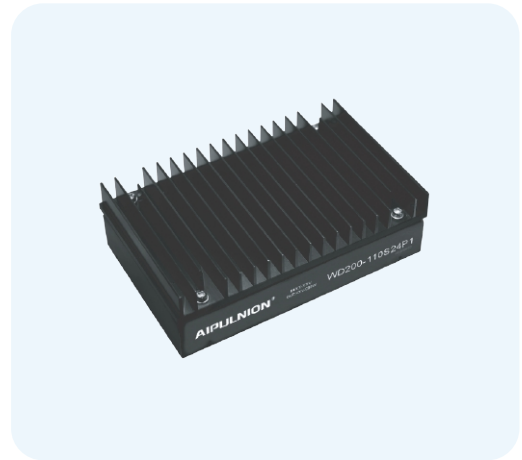
封装尺寸 / Packing Demension



单位 (Unit) : mm  
印刷板俯视图 (Printed board vertical view)  
栅格间距 (latic spacing) : 2.54mm(0.1inch)  
未注尺寸公差 (General tolerance) : ±0.5mm  
未注明针脚直径公差 (Pin section tolerances) : ±0.10mm

◆ 产品特性 / Product Features

- 超宽电压输入(2:1) Ultra wide input voltage rang(2:1)
- 低待机功耗低至0.80W Low standby power consumption to 0.80W
- 效率高达89% Transfer efficiency up to 89%
- 隔离电压 (Isolation voltage) : 1500VDC
- 金属外壳、输出纹波低 Metal case, low output ripple
- 工作环境温度 Operating Temp: -25°C~+85°C
- 保护功能: 有短路保护, 可自恢复 Protection: Short circuit, self-recovery
- 电磁兼容EMC: 裸机满足 (bare board) CISPR22/EN55032/GB9254 CLASS A
- 应用领域: 工业控制、仪器仪表、通信、电力、智能家居、物联网等领域  
Application Field: Industrial control, instrumentation, communication, electric power, smart home, internet of things etc.
- 测试条件: 如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



◆ 产品列表 / Product List



产品型号 Part no.	输入电压 Input voltage	输入电流 Input current	输出电压电流 Output voltage/current		输出效率 Output efficiency
	范围值 Range (VDC)	输出空载 Output no load (mA)	电压 (VDC)	电流 (mA)	(%TYP)
WD200-12S12P1	9-18	88	12	16666	88
WD200-24S12P1	18-36	88	12	16666	88
WD200-24S24P1		88	24	8333	88
WD200-48S12P1	36-72	87	12	16666	87
WD200-48S24P1		88	24	8333	88
WD200-110S12P1	72-144	90	12	16666	88
WD200-110S24P1		89	24	8333	88
WD300-24S12P1	18-36	87	12	25000	88
WD300-24S24P1		89	24	12500	89
WD300-48S12P1	36-72	88	12	25000	88
WD300-48S24P1		90	24	12500	89
WD300-110S12P1	72-144	90	12	25000	88
WD300-110S24P1		88	24	12500	89
WD400-24S12P1	18-36	88	12	33333	88
WD400-24S24P1		89	24	16666	89
WD400-48S12P1	36-72	91	12	33333	88
WD400-48S24P1		90	24	16666	89
WD400-110S12P1	72-144	89	12	33333	88
WD400-110S24P1		89	24	16666	89

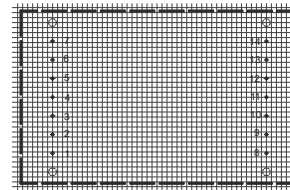
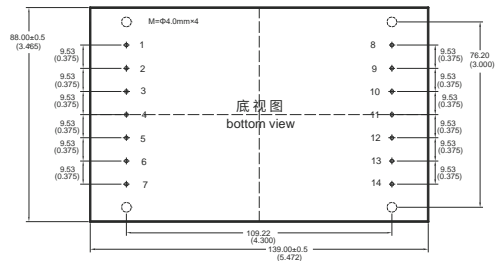
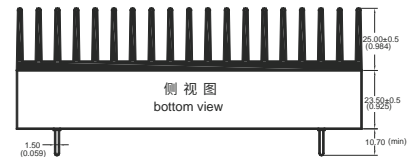
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Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.

封装尺寸 / Packing Dimension



单位 (Unit): mm

印刷板俯视图 (Printed board vertical view)

栅格间距 (lattice spacing): 2.54mm (0.1inch)

未注尺寸公差 (General tolerance): ±0.5mm

未注明引脚直径公差 (Pin section tolerances): ±0.10mm

管脚号码 Pin-out	1	2:3	4:5	6	7	8:9
单路 Single	NP	-Vin	+Vin	REM	CASE	-Vo
功能	空脚	输入负极	输入正极	控制脚	电源外壳	输出负极
管脚号码 Pin-out	10:11	12	13	14	L*W*H	
单路 Single	+Vo	-S	TRIM	+S	139.00*88.00*23.50mm	
功能	输出正极	负反馈端	电压调节端	正反馈端	139.00*88.00*23.50mm	
封装代号 Packing Code Dimension	P				5.472*3.465*0.925inch	

注意: 电源模块的各管脚定义如与选型手册不符, 应以实物标签上的标注为准。

Note: If the definition of pin is not in accordance with the model selection manual, please refer to the label on actual item.

◆ 产品特性 / Product Features

- 超宽电压输入(2:1) Ultra wide input voltage rang(2:1)
- 效率高达90% Transfer efficiency up to 90%
- 开关频率 Switching frequency: 300KHz
- 隔离电压 (Isolation voltage) : 1500VDC
- PCB 板上直插式安装 Board in-line type installs
- 工作环境温度 Operating Temp: -40°C~+100°C
- 保护功能: 有短路保护, 可自恢复 Protection: Short circuit, self-recovery
- 铝基板 Aluminum baseplate, 输出波纹低 Low Output Ripple
- 应用领域: 工业控制、仪器仪表、通信、电力、智能家居、物联网等领域  
Application Field: Industrial control, instrumentation, communication, electric power, smart home, internet of things etc.
- 测试条件: 如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



◆ 产品列表 / Product List



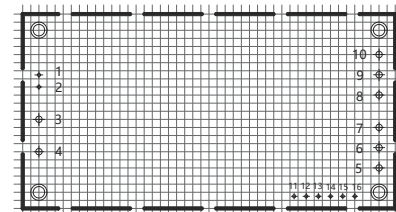
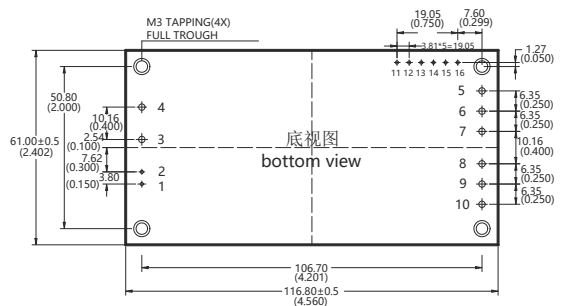
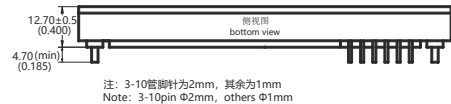
产品型号 Part no.	输入电压 Input voltage		输出电压电流 Output voltage/current		输出效率 Output efficiency (%TYP)
	范围值 Range (VDC)	电压 Voltage (VDC)	电流 Current (mA)		
WD350-48S28R1	36-72	28	12500	90	
WD400-48S28R1		28	14285	90	
WD500-48S28R1		28	17857	90	
WD600-48S28R1		28	21428	90	
WD700-48S28R1		28	25000	90	

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Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.

管脚号码 Pin-out	1	2	3	4	5、6、7	8、9、10
单路 Single	+ON/OFF	-ON/OFF	+VIN	-Vin	-Vo	+Vo
功能	开关控制正极	开关控制负极	输入正极	输出负极	输出负极	输出正极
管脚号码 Pin-out	11	12	13	14	15	16
单路 Single	AUX	I/O	PC	TRIM	+S	-S
功能	音频接口	I/O引脚	通信串口	电压调节端	正反馈端	负反馈端
封装代号 Packing Code/Dimension	L*W*H					
R	116.84*61.00*12.70mm					
	4.600*2.402*0.500inch					

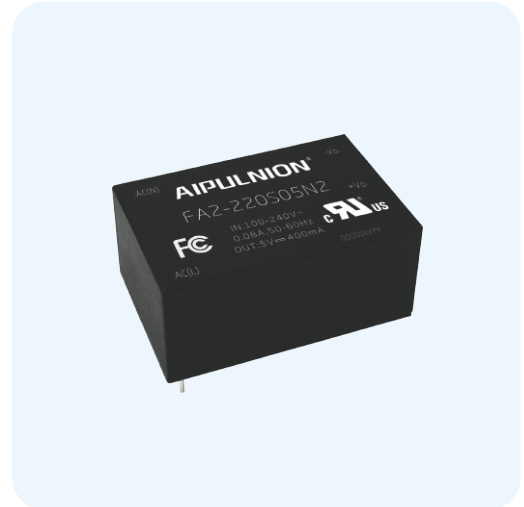
封装尺寸 / Packing Dimension



单位 (Unit): mm  
 印刷板俯视图 (Printed board vertical view)  
 栅格间距 (lattice spacing): 2.54mm(0.1inch)  
 未注尺寸公差 (General tolerance): ±0.5mm  
 未注明针脚直径公差 (Pin section tolerances): ±0.10mm

◆ 产品特性/Product Features

- 国际通用全电压范围输入 Universal wide input voltage range:85-305VAC/120-430VDC
  - 超低待机功耗≤0.30W Ultra low stand-by power consumption ≤ 0.30W
  - 效率高达70% Transfer efficiency up to 70%
  - 隔离电压 (Isolation voltage) : 3000VAC
  - 外壳:全封闭塑料外壳,符合UL94V-0级 Case:6-side shielding plastic,UL94V-0 class
  - 工作环境温度 Operating Temp:-40°C~+75°C
  - 保护功能:输出过流、短路保护 Protection:Output over-current,short-circuit
  - 满足Meet IEC60950/UL60950/EN60950 test standard 测试标准
  - 交直流两用 AC-DC dual use
  - CLASS II电源并通过LPS(限功率电源)测试 CLASS II and pass LPS test
  - PCB板上直插式安装 PCB Mounting
  - 通过UL、FCC、CE、RoHS认证 Has passed UL, FCC, CE, RoHS certification
- 应用领域:工业控制、仪器仪表、通信、电力、智能家居、物联网等领域  
Application Field:Industrial control, instrumentation, communication, electric power, smart home, internet of things etc.
- 测试条件:如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



◆ 产品列表/Product List



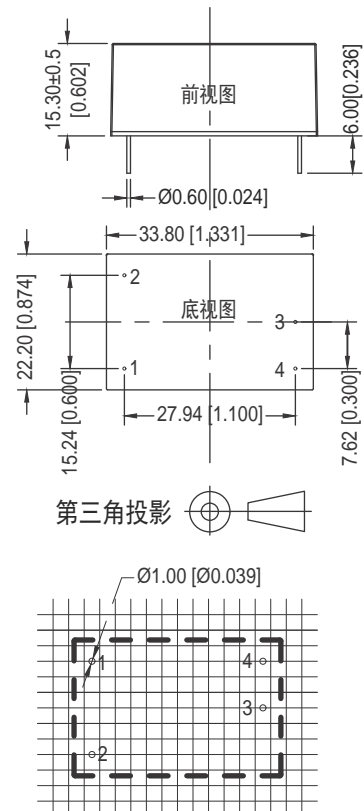
产品型号 Part no.	输入电压 Input voltage	输出电压电流 Output voltage/current		输出效率 Output efficiency
	范围值 Range (VAC/VDC)	电压 Voltage (VDC)	电流 Current (mA)	(%TYP)
FA2-220S3V3N2	85-305/ 120-430	3.3	600	68
FA2-220S05N2		5	400	70

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Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.

管脚号码 Pin-out	1	2	3	4
单路 Single	AC(N)	AC(L)	+Vo	-Vo
功能	输入零线	输入火线	输出正极	输出负极
封装代号 Packing Code/ Dimension	L*W*H			
N	33.80*22.20*15.30mm			
	1.331*0.874*0.602inch			

封装尺寸/Packing Dimension



单位 (Unit): mm  
印刷板俯视图 (Printed board vertical view)  
栅格间距 (lattice spacing): 2.54mm (0.1inch)  
未注尺寸公差 (General tolerance): ±0.5mm  
未注明引脚直径公差 (Pin section tolerances): ±0.10mm

◆ 产品特性/Product Features

- 国际通用全电压范围输入 Universal wide input voltage range:85-265VAC/120-380VDC
  - 超低待机功耗≤0.30W Ultra low stand-by power consumption ≤ 0.30W
  - 效率高达74% Transfer efficiency up to 74%
  - 隔离电压 (Isolation voltage) : 3000VAC
  - 外壳:全封闭塑料外壳,符合UL94V-0级 Case:6-side shielding plastic,UL94V-0 class
  - 工作环境温度 Operating Temp:-40°C~+75°C
  - 保护功能:输出过流、短路保护 Protection:Output over-current,short-circuit
  - 电磁兼容EMC:裸机满足(bare board) CISPR22/EN55032/GB9254 CLASS B
  - 交直流两用 AC-DC dual use
  - CLASS II电源并通过LPS(限功率电源)测试 CLASS II and pass LPS test
  - PCB板上直插式安装 PCB Mounting
  - 通过CE、RoHS认证 Has passed CE, RoHS certification
- 应用领域:工业控制、仪器仪表、通信、电力、智能家居、物联网等领域  
Application Field:Industrial control, instrumentation, communication, electric power, smart home, internet of things etc.
- 测试条件:如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



◆ 产品列表/Product List



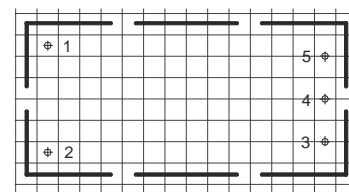
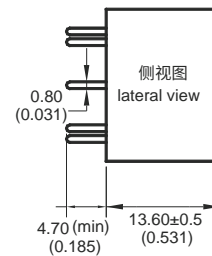
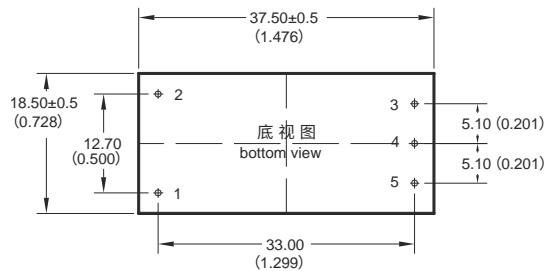
产品型号 Part no.	输入电压 Input voltage	输出电压电流 Output voltage/current		输出效率 Output efficiency (%TYP)
	范围值 Range (VAC/VDC)	电压 Voltage (VDC)	电流 Current (mA)	
FA3-220S3V3A2N3	85-265/ 120-380	3.3	600	66
FA3-220S05A2N3		5	600	72
FA3-220S09A2N3		9	333	73
FA3-220S12A2N3		12	250	73
FA3-220S15A2N3		15	200	74
FA3-220S24A2N3		24	125	74

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Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.

管脚号码 Pin-out	1	2	3	4	5
单路 Single	AC(N)	AC(L)	+Vo	NP	-Vo
功能	输入零线	输入火线	输出正极	空脚	输出负极
封装代号 Packing Code/Dimension	L*W*H				
A	37.50*18.50*13.60mm				
	1.457*0.709*0.535inch				

封装尺寸/Packing Dimension

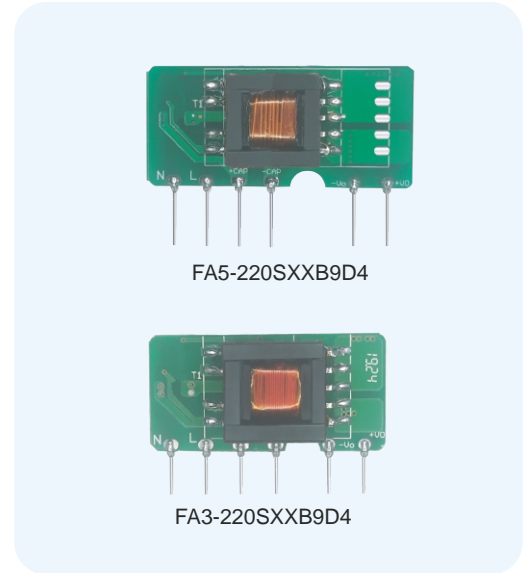


单位 (Unit): mm  
印刷板俯视图 (Printed board vertical view)  
栅格间距 (lattice spacing): 2.54mm (0.1inch)  
未注尺寸公差 (General tolerance): ±0.5mm  
未注明引脚直径公差 (Pin section tolerances): ±0.10mm



◆ 产品特性/Product Features

- 国际通用全电压范围输入 Universal wide input voltage range
- 超低待机功耗≤0.10W Ultra low stand-by power consumption ≤ 0.10W
- 效率高达82% Transfer efficiency up to 82%
- 隔离电压 (Isolation voltage) : 4000VAC
- 超小体积裸板、高功率密度、工业级设计 Ultra small size bare board,high power density, industrial class design
- 工作环境温度 Operating Temp:-40°C~+75°C
- 保护功能:输出过流、短路保护 Protection:Output over-current,short-circuit
- 电磁兼容EMC:裸机满足(bare board) CISPR22/EN55032/GB9254 CLASS A
- 交直流两用 AC-DC dual use
- 通过LPS(限功率电源)测试 Pass LPS test
- PCB板上直插式安装 PCB Mounting
- 符合CE认证标准 Meet CE standard
- 应用领域:工业控制、仪器仪表、通信、电力、智能家居、物联网等领域  
Application Field:Industrial control, instrumentation, communication, electric power, smart home,internet of things etc.
- 测试条件:如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



◆ 产品列表/Product List



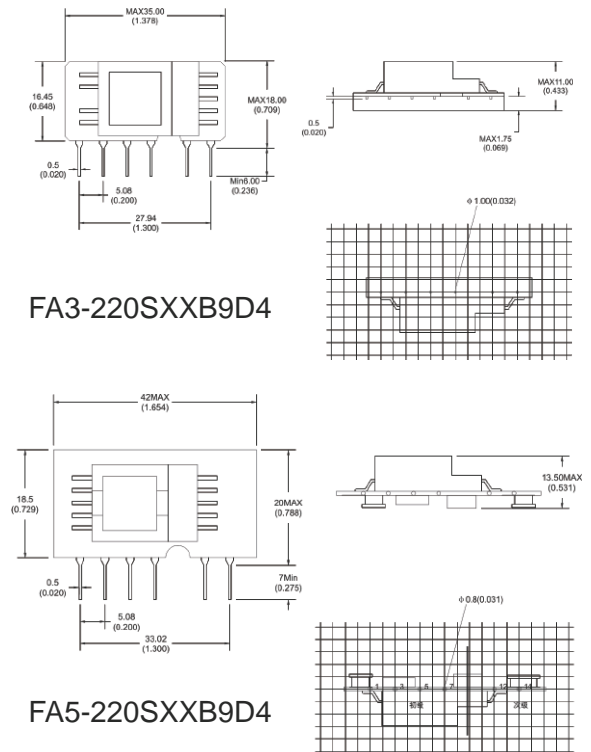
产品型号 Part no.	输入电压 Input voltage	输出电压电流 Output voltage/current		输出效率 Output efficiency (%TYP)
	范围值 Range (VAC/VDC)	电压 Voltage (VDC)	电流 Current (mA)	
FA3-220S3V3B9D4	85-265/ 120-380	3.3	600	69
FA3-220S05B9D4		5	600	72
FA3-220S09B9D4		9	333	73
FA3-220S12B9D4		12	250	73
FA3-220S15B9D4		15	200	76
FA3-220S24B9D4		24	125	77
FA5-220S3V3B9D4	90-265/ 127-380	3.3	1000	67
FA5-220S05B9D4		5	1000	71
FA5-220S09B9D4		9	556	77
FA5-220S12B9D4		12	416	79
FA5-220S15B9D4		15	333	79
FA5-220S24B9D4		24	208	82

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Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.

管脚号码(3W) Pin-out	1	3	5	7	10	12
单路 Single	AC(L)	AC(N)	+V(cap)	-V(cap)	-Vo	+Vo
功能	输入火线	输入零线	输出电容正极	输出电容负极	输出负极	输出正极
管脚号码(5W) Pin-out	1	3	5	7	12	14
单路 Single	AC(L)	AC(N)	+V(cap)	-V(cap)	-Vo	+Vo
功能	输入火线	输入零线	输出电容正极	输出电容负极	输出负极	输出正极
封装代号 Packing Code/Dimension	L*W*H					
FA3-B9D4	35.00*18.00*11.00mm		1.378*0.709*0.433inch			
FA5-B9D4	42.00*20.00*13.00mm		1.654*0.788*0.531inch			

- 1.5/7脚间必须外接电容C1
- 2.输出必须外接π型滤波电路,如产品规格书典型应用图1;
- 3.初级与次级的外围元器件要保持大于或等于6.4mm的安全距离

封装尺寸/Packing Dimension

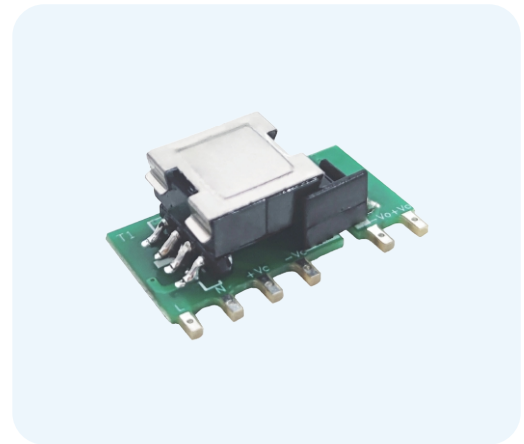


单位 (Unit): mm  
印刷板俯视图(Printed board vertical view)  
栅格间距(latic spacing):2.54mm(0.1inch)  
未注尺寸公差±0.5mm  
未注明针脚直径公差±0.10mm



◆ 产品特性 / Product Features

- 国际通用全电压范围输入 Universal wide input voltage range:85-305VAC/120-430VDC
- 超低待机功耗≤0.10W Ultra low stand-by power consumption ≤ 0.10W
- 效率高达82% Transfer efficiency up to 82%
- 隔离电压 (Isolation voltage) : 3100VAC
- 超小体积裸板、工业级设计 Ultra small size bare board, industrial class design
- 工作环境温度 Operating Temp:-40°C~+75°C
- 保护功能:输出过流、短路保护 Protection:Output over-current,short-circuit
- 满足Meet IEC60950/UL60950/EN60950 test standard 测试标准
- PCB板上直插式安装 PCB Mounting
- 应用领域:工业控制、仪器仪表、通信、电力、智能家居、物联网等领域  
Application Field:Industrial control, instrumentation, communication, electric power, smart home, internet of things etc.
- 测试条件:如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



◆ 产品列表 / Product List

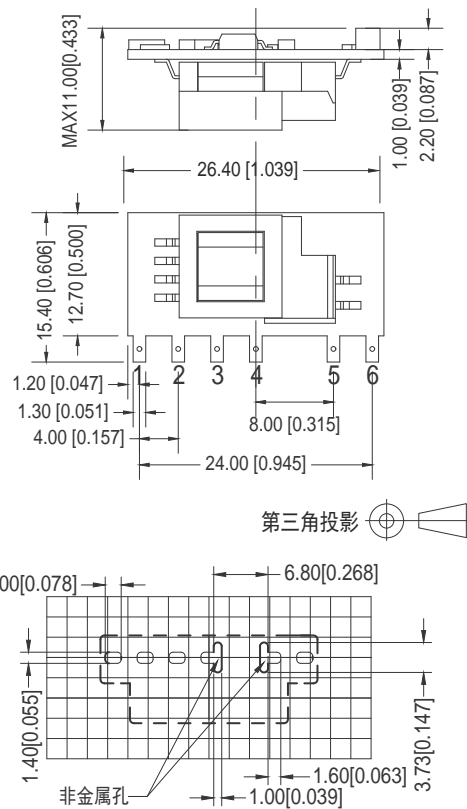


产品型号 Part no.	输入电压 Input voltage	输出电压电流 Output voltage/current		输出效率 Output efficiency
	范围值 Range (VAC/VDC)	电压 Voltage (VDC)	电流 Current (mA)	(%TYP)
DA3-220S3V3G9D4	85-305/ 120-430	3.3	600	69
DA3-220S05G9D4		5	600	72
DA3-220S09G9D4		9	333	77
DA3-220S12G9D4		12	250	79
DA3-220S15G9D4		15	200	79
DA3-220S24G9D4		24	125	82

注1:因篇幅有限,以上是部分产品列表,若需列表以外产品,请与本公司销售部联系。  
Note 1: Due to space limitations, above is only a part of our product list, please contact our sales team for more items.  
注2:表格中为满载效率(%TYP),波动幅度为±2%,满载输出效率等于输出的总功率除以电源模块的输入功率。  
Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.

管脚号码 Pin-out	1	2	3	4	5	6
单路 Single	AC(L)	AC(N)	+Vc	-Vc	-Vo	+Vo
功能	输入火线	输入零线	电容正极	电容负极	输出地	输出正极
封装代号 Packing Code/Dimension	L*W*H					
/	26.40*15.40*11.00mm					
/	1.039*0.606*0.433inch					

封装尺寸 / Packing Dimension



单位 (Unit): mm  
印刷板俯视图 (Printed board vertical view)  
栅格间距 (lattice spacing): 2.54mm (0.1inch)  
未注尺寸公差 (General tolerance): ±0.5mm  
器件布局仅供参考,具体以实物为准  
(Component arrangement is just for reference, it should be subject to actual product.)

◆ 产品特性/Product Features

- 宽电压范围输入 Wide input voltage rang
  - 超低待机功耗 ≤ 0.20W Ultra low stand-by power consumption ≤ 0.20W
  - 效率高达87% Transfer efficiency up to 87%
  - 隔离电压 (Isolation voltage) : 3000VAC
  - 外壳:全封闭塑料外壳,符合UL94V-0级 Case:6-side shielding plastic,UL94V-0 class
  - 工作环境温度 Operating Temp:-40°C~+75°C
  - 保护功能:输出过流、短路、过压保护 Protection : Output over current, short circuit, over voltage
  - 交直流两用 AC-DC dual use
  - CLASS II电源并通过LPS(限功率电源)测试 CLASS II and pass LPS test
  - PCB板上直插式安装 PCB Mounting
- 应用领域:工业控制、办公电力、民用等领域  
Application Field: Industrial control, office, civil applications of things etc.
  - 测试条件:如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



◆ 产品列表/Product List



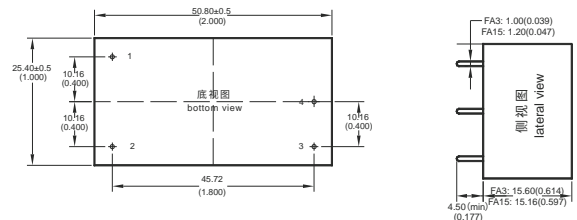
产品型号 Part no.	输入电压 Input voltage		输出电压电流 Output voltage/current		输出效率 Output efficiency (%TYP)
	范围值 Range (VAC/VDC)	电压 Voltage (VDC)	电流 Current (mA)		
FA3-300S05Y2N3	90-528/ 100-745	5	600	70	
FA3-300S12Y2N3		12	250	72	
FA3-300S15Y2N3		15	200	73	
FA3-300S24Y2N3		24	125	75	
FA15-220S05Y2N3	85-305/ 120-430	5	3000	82	
FA15-220S12Y2N3		12	1250	86	
FA15-220S12V5Y2N3		12.5	1200	86	
FA15-220S12V8Y2N3		12.8	1172	86	
FA15-220S15Y2N3		15	1000	87	
FA15-220S24Y2N3		24	625	86	

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注2: 表格中为满载效率(%TYP), 波动幅度为±2%, 满载输出效率等于输出的总功率除以电源模块的输入功率。  
Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.

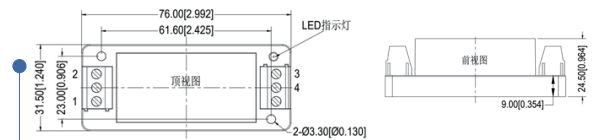
管脚号码 Pin-out	1	2	3	4
单路 Single	AC(N)	AC(L)	+Vo	-Vo
功能	输入零线	输入火线	输出正极	输出负极
封装代号 Packing Code/Dimension	L*W*H			
Y2	FA3: 50.80*25.40*15.60mm; FA15: 50.80*25.40*15.16mm			
	FA3: 2.000*1.000*0.614inch; FA15: 2.000*1.000*0.597inch			
Y2-T	76.00*31.50*24.50mm			
	2.992*1.240*0.964inch			
Y2-TS	76.00*31.50*29.00mm			
	2.992*1.240*1.141inch			

封装尺寸/Packing Dimension

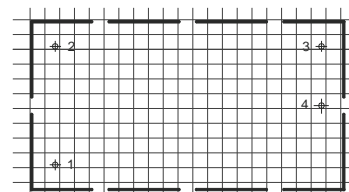
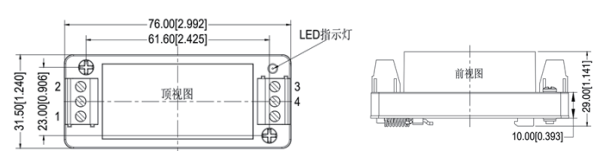
Y2封装尺寸: FA3: 50.80\*25.40\*15.60mm; FA15: 50.80\*25.40\*15.16mm



Y2-T封装尺寸: 76.00\*31.50\*24.50mm



Y2-TS封装尺寸: 76.00\*31.50\*29.00mm

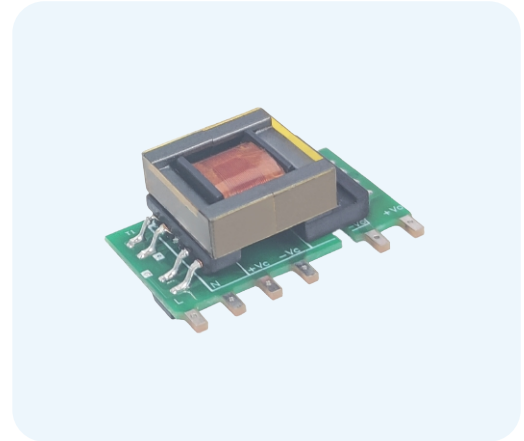


单位 (Unit): mm  
印刷板俯视图 (Printed board vertical view)  
栅格间距 (latic spacing): 2.54mm(0.1inch)  
未注尺寸公差 (General tolerance): ±0.5mm  
未注明针脚直径公差 (Pin section tolerances): ±0.10mm



◆ 产品特性 / Product Features

- 国际通用全电压范围输入 Universal wide input voltage range:85-305VAC/120-430VDC
- 超低待机功耗≤0.10W Ultra low stand-by power consumption ≤ 0.10W
- 效率高达82% Transfer efficiency up to 82%
- 隔离电压 (Isolation voltage) : 3600VAC
- 超小体积裸板、工业级设计 Ultra small size bare board, industrial class design
- 工作环境温度 Operating Temp:-40°C~+75°C
- 保护功能:输出过流、短路保护 Protection:Output over-current,short-circuit
- 满足Meet IEC60950/UL60950/EN60950 test standard 测试标准
- PCB板上直插式安装 PCB Mounting
- 应用领域:工业控制、仪器仪表、通信、电力、智能家居、物联网等领域  
Application Field:Industrial control, instrumentation, communication, electric power, smart home, internet of things etc.
- 测试条件:如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



◆ 产品列表 / Product List

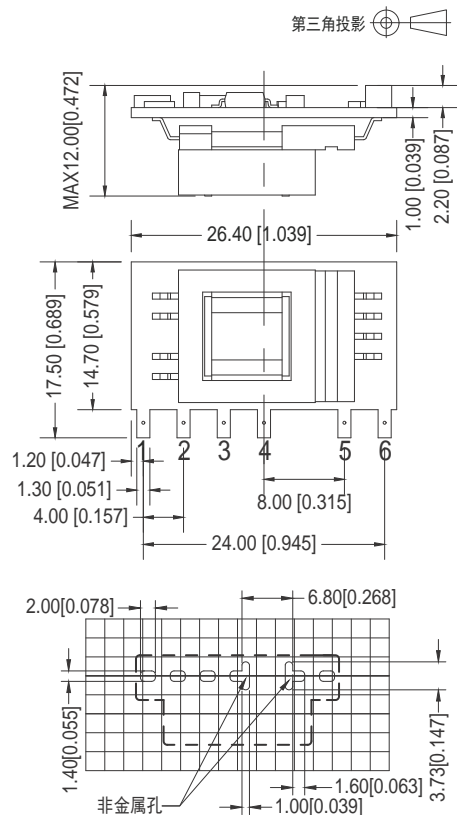


产品型号 Part no.	输入电压 Input voltage	输出电压电流 Output voltage/current		输出效率 Output efficiency
	范围值 Range (VAC/VDC)	电压 Voltage (VDC)	电流 Current (mA)	(%TYP)
DA5-220S3V3G9D4	85-305/ 120-430	3.3	1000	67
DA5-220S05G9D4		5	1000	71
DA5-220S09G9D4		9	556	77
DA5-220S12G9D4		12	416	79
DA5-220S15G9D4		15	333	79
DA5-220S24G9D4		24	208	82

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注2:表格中为满载效率(%TYP),波动幅度为±2%,满载输出效率等于输出的总功率除以电源模块的输入功率。  
Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.

管脚号码 Pin-out	1	2	3	4	5	6
单路 Single	AC(L)	AC(N)	+Vc	-Vc	-Vo	+Vo
功能	输入火线	输入零线	电容正极	电容负极	输出地	输出正极
封装代号 Packing Code/Dimension	L*W*H					
/	26.40*17.50*12.00mm					
/	1.039*0.689*0.472inch					

封装尺寸 / Packing Dimension



单位 (Unit): mm  
印刷板俯视图 (Printed board vertical view)  
栅格间距 (lattice spacing): 2.54mm (0.1inch)  
未注尺寸公差 (General tolerance): ±0.5mm  
器件布局仅供参考,具体以实物为准  
(Component arrangement is just for reference, it should be subject to actual product.)



◆ 产品特性 / Product Features

- 国际通用全电压范围输入 Universal wide input voltage range
- 超低待机功耗 ≤ 0.15W Ultra low stand-by power consumption ≤ 0.15W
- 效率高达78% Transfer efficiency up to 78%
- 隔离电压 (Isolation voltage) : 4000VAC
- 外壳:全封闭塑料外壳,符合UL94V-0级 Case:6-side shielding plastic,UL94V-0 class
- 工作环境温度 Operating Temp:-40°C~+75°C
- 保护功能:输出过流、短路保护 Protection:Output over-current,short-circuit
- 电磁兼容EMC:裸机满足(bare board) CISPR22/EN55032 CLASS B
- 交直流两用 AC-DC dual use
- CLASS II电源并通过LPS(限功率电源)测试 CLASS II and pass LPS test
- PCB板上直插式安装 PCB Mounting
- 部分系列通过CE、RoHS认证 Some series have passed CE and RoHS certification

- 应用领域:工业控制、仪器仪表、通信、电力、智能家居、物联网等领域  
Application Field:Industrial control, instrumentation, communication, electric power, smart home, internet of things etc.
- 测试条件:如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



◆ 产品列表 / Product List



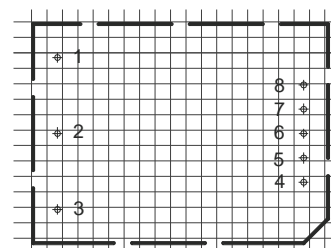
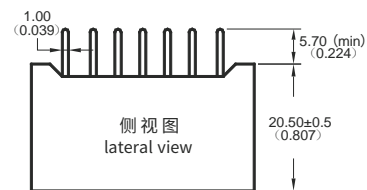
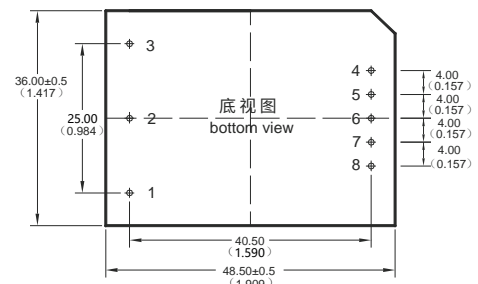
产品型号 Part no.	输入电压 Input voltage	输出电压电流 Output voltage/current				输出效率 Output efficiency
	范围值 Range (VAC/VDC)	电压 1 Voltage (VDC)	电流 1 Current (mA)	电压 2 Voltage (VDC)	电流 2 Current (mA)	(%TYP)
FA5-220E0512C2D3	85-265/	5	750	12	100	77
FA5-220E0524C2D3	120-380	5	600	24	100	78

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注2:表格中为满载效率(%TYP),波动幅度为±2%,满载输出效率等于输出的总功率除以电源模块的输入功率。  
Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.

管脚号码 Pin-out 单路 Single	1	2	3	4	5	6	7	8
单路功能	接地	输入零线	输入火线	输出正极	空脚	空脚	空脚	输出负极
双路 Dual	FG	AC(N)	AC(L)	+Vo2	-Vo2	NP	+Vo1	-Vo1
双路功能	接地	输入零线	输入火线	输出正极2	输出负极2	空脚	输出正极1	输出负极1
封装代号 Packing Code/ Dimension	L*W*H							
C	48.50*36.00*20.50mm							
	1.909*1.417*0.807inch							

封装尺寸 / Packing Dimension



单位 (Unit) : mm  
 印刷板俯视图 (Printed board vertical view)  
 栅格间距 (lattice spacing) : 2.54mm (0.1inch)  
 未注尺寸公差 (General tolerance) : ±0.25mm  
 未注明针脚直径公差 (Pin section tolerances) : ±0.10mm

◆ 产品特性/Product Features

- 国际通用全电压范围输入 Universal wide input voltage range:85-305VAC/120-430VDC
  - 超低待机功耗≤0.25W Ultra low stand-by power consumption ≤ 0.25W
  - 效率高达74% Transfer efficiency up to 76%
  - 隔离电压 (Isolation voltage) : 4000VAC
  - 外壳:全封闭塑料外壳,符合UL94V-0级 Case:6-side shielding plastic,UL94V-0 class
  - 工作环境温度 Operating Temp:-40°C~+85°C
  - 保护功能:输出过流、短路保护 Protection:Output over-current,short-circuit
  - 电磁兼容EMC:裸机满足(bare board) CISPR22/EN55032 CLASS B
  - 交直流两用 AC-DC dual use
  - CLASS II电源并通过LPS(限功率电源)测试 CLASS II and pass LPS test
  - PCB板上直插式安装 PCB Mounting
  - 通过TUVCE认证 Has passed TUVCE certification
- 应用领域:工业控制、仪器仪表、通信、电力、智能家居、物联网等领域  
Application Field:Industrial control, instrumentation, communication, electric power, smart home, internet of things etc.
  - 测试条件:如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



◆ 产品列表/Product List



产品型号 Part no.	输入电压 Input voltage	输出电压电流 Output voltage/current		输出效率 Output efficiency (%TYP)
	范围值 Range (VAC/VDC)	电压 Voltage (VDC)	电流 Current (mA)	
FA5-220S05G2D4	85-305/ 120-430	5	1000	72
FA5-220S12G2D4		12	416	75
FA5-220S12V5G2D4		12.5	400	76
FA5-220S15G2D4		15	333	76
FA5-220S24G2D4		24	208	78

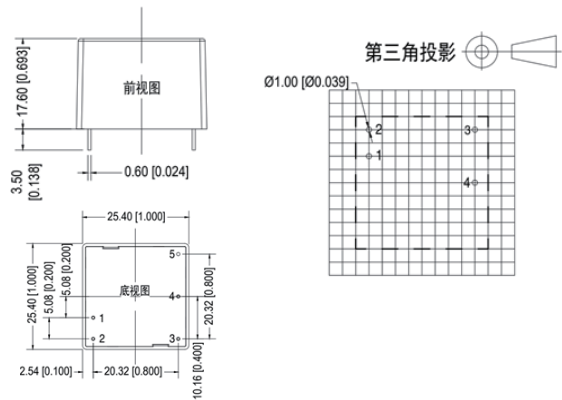
注1:因篇幅有限,以上只是部分产品列表,若需列表以外产品,请与本公司销售部联系。  
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注2:表格中为满载效率(%TYP),波动幅度为±2%,满载输出效率等于输出的总功率除以电源模块的输入功率。  
Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.

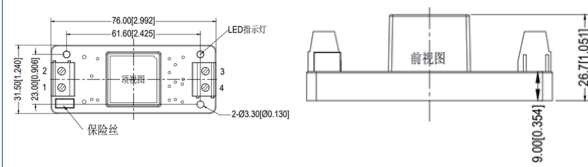
管脚号码 Pin-out	1	2	3	4	5
单路 Single	AC(N)	AC(L)	+Vo	-Vo	NP
功能	输入零线	输入火线	输出正极	输出负极	空脚
封装代号 Packing Code/Dimension	L*W*H				
-	25.40*25.40*17.60mm				
	1.000*1.000*0.693inch				
-T	76.00*31.50*26.70mm				
-TS	2.992X1.240X1.051inch				
	76.00X31.50X31.50mm				
	2.992X1.240X1.240inch				

封装尺寸/Packing Dimension

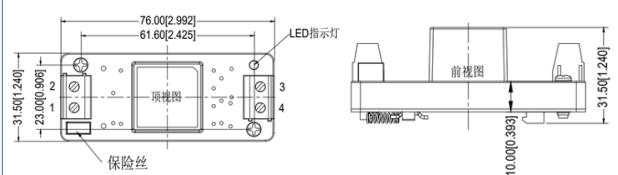
封装尺寸:25.40\*25.40\*17.60mm



-T封装尺寸:76.00\*31.50\*26.70mm



-TS封装尺寸:76.00\*31.50\*31.50mm



单位 (Unit) : mm  
印刷板俯视图 (Printed board vertical view)  
栅格间距 (lattice spacing) : 2.54mm (0.1inch)  
未注尺寸公差 (General tolerance) : ±0.5mm  
未注明引脚直径公差 (Pin section tolerances) : ±0.10mm

注意:电源模块的各管脚定义如与选型手册不符,应以实物标签上的标注为准。  
Note:If the definition of pin is not in accordance with the model selection manual, please refer to the label on actual item.





◆ 产品特性 / Product Features

- 国际通用全电压范围输入 Universal wide input voltage range
- 超低待机功耗 ≤ 0.10W Ultra low stand-by power consumption ≤ 0.10W
- 效率高达86% Transfer efficiency up to 86%
- 隔离电压 (isolation voltage) : 4000VAC
- 外壳:全封闭塑料外壳,符合UL94V-0级 Case:6-side shielding plastic,UL94V-0 class
- 工作环境温度 Operating Temp:-40°C~+75°C
- 保护功能:输出过流、短路保护 Protection:Output over-current,short-circuit
- 电磁兼容EMC:裸机满足(bare board) CISPR22/EN55032/GB9254 CLASS B
- 交直流两用 AC-DC dual use
- CLASS II电源并通过LPS(限功率电源)测试 CLASS II and pass LPS test
- PCB板上直插式安装 PCB Mounting
- 符合CE认证标准 Meet CE standard
- 应用领域:工业控制、仪器仪表、通信、电力、智能家居、物联网等领域  
Application Field:Industrial control, instrumentation, communication, electric power, smart home, internet of things etc.
- 测试条件:如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



◆ 产品列表 / Product List

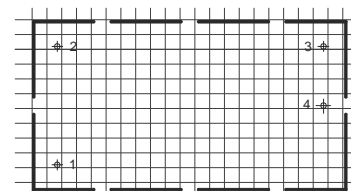
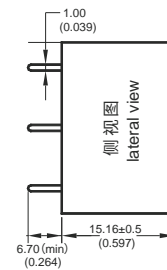
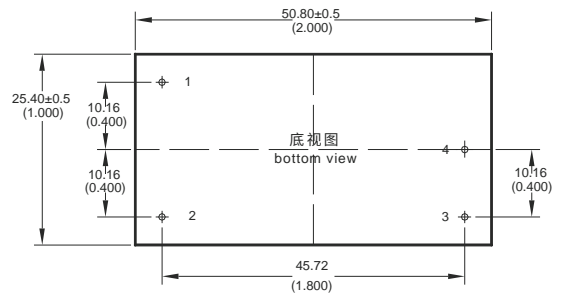


产品型号 Part no.	输入电压 Input voltage	输出电压电流 Output voltage/current		输出效率 Output efficiency (%TYP)
	范围值 Range (VAC/VDC)	电压 Voltage (VDC)	电流 Current (mA)	
FA5-220S3V3Y2D4	90-265/ 120-380	3.3	1250	69
FA5-220S05Y2D4		5	1000	71
FA5-220S09Y2D4		9	556	74
FA5-220S12Y2D4		12	416	78
FA5-220S15Y2D4		15	333	78
FA5-220S24Y2D4		24	208	82
FA10-220S05Y2D4	85-305/ 120-430	5	2000	78
FA10-220S12Y2D4		12	833	83
FA10-220S24Y2D4		24	417	86

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注2: 表格中为满载效率(%TYP), 波动幅度为±2%, 满载输出效率等于输出的总功率除以电源模块的输入功率。  
Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.

管脚号码 Pin-out	1	2	3	4
单路 Single	AC(L)	AC(N)	+Vo	-Vo
功能	输入火线	输入零线	输出正极	输出负极
封装代号 Packing Code/ Dimension	L*W*H			
Y	50.80*25.40*15.16mm			
	2.000*1.000*0.597inch			

封装尺寸 / Packing Dimension



单位 (Unit): mm  
印刷板俯视图 (Printed board vertical view)  
栅格间距 (lattice spacing): 2.54mm (0.1inch)  
未注尺寸公差 (General tolerance): ±0.5mm  
未注明引脚直径公差 (Pin section tolerances): ±0.10mm



◆ 产品特性/Product Features

- 国际通用全电压范围输入 Universal wide input voltage range
  - 超低待机功耗 ≤ 0.20W Ultra low stand-by power consumption ≤ 0.20W
  - 效率高达88% Transfer efficiency up to 88%
  - 隔离电压 (Isolation voltage) : 4000VAC
  - 外壳:全封闭塑料外壳,符合UL94V-0级 Case:6-side shielding plastic,UL94V-0 class
  - 工作环境温度 Operating Temp:-40°C~+75°C
  - 保护功能:输出过流、短路、过压保护 Protection : Output over current, short circuit, over voltage
  - 交直流两用 AC-DC dual use
  - CLASS II电源并通过LPS(限功率电源)测试 CLASS II and pass LPS test
  - PCB板上直插式安装 PCB Mounting
- 应用领域:工业控制、办公电力、民用等领域  
Application Field: Industrial control, office, civil applications of things etc.
- 测试条件:如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



◆ 产品列表/Product List



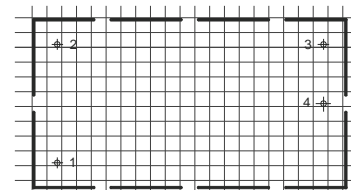
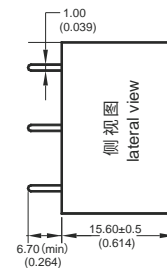
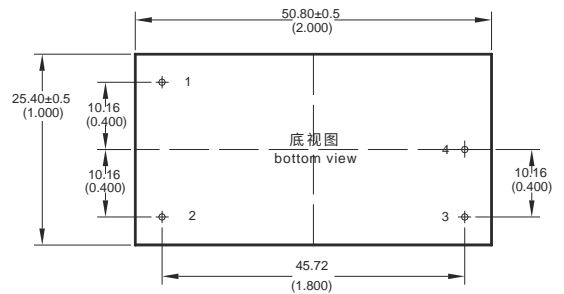
产品型号 Part no.	输入电压 Input voltage	输出电压电流 Output voltage/current		输出效率 Output efficiency (%TYP)
	范围值 Range (VAC/VDC)	电压 Voltage (VDC)	电流 Current (mA)	
FA5-220S3V3Y2N4	85-305/ 120-430	3.3	1000	76
FA5-220S05Y2N4		5	1000	78
FA5-220S09Y2N4		9	555	80
FA5-220S12Y2N4		12	416	82
FA5-220S15Y2N4		15	333	83
FA5-220S24Y2N4		24	208	84
FA10-220S3V3Y2N4	85-305/ 120-430	3.3	2000	78
FA10-220S05Y2N4		5	2000	81
FA10-220S09Y2N4		9	1111	83
FA10-220S12Y2N4		12	833	87
FA10-220S15Y2N4		15	667	88
FA10-220S24Y2N4		24	416	88

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注2: 表格中为满载效率(%TYP), 波动幅度为±2%, 满载输出效率等于输出的总功率除以电源模块的输入功率。  
Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.

管脚号码 Pin-out	1	2	3	4
单路 Single	AC(N)	AC(L)	+Vo	-Vo
功能	输入零线	输入火线	输出正极	输出负极
封装代号 Packing Code/ Dimension	L*W*H			
Y2	50.80*25.40*15.60mm			
	2.000*1.000*0.614inch			

封装尺寸/Packing Dimension



单位 (Unit) : mm  
印刷板俯视图 (Printed board vertical view)  
栅格间距 (lattice spacing) : 2.54mm (0.1inch)  
未注尺寸公差 (General tolerance) : ±0.5mm  
未注明针脚直径公差 (Pin section tolerances) : ±0.10mm



◆ 产品特性 / Product Features

- 国际通用全电压范围输入 Universal wide input voltage range:85-265VAC/120-380VDC
- 超低待机功耗 ≤ 0.20W Ultra low stand-by power consumption ≤ 0.20W
- 效率高达84% Transfer efficiency up to 84%
- 隔离电压 (Isolation voltage) : 3750VAC
- 外壳:全封闭塑料外壳,符合UL94V-0级 Case:6-side shielding plastic,UL94V-0 class
- 工作环境温度 Operating Temp:-40°C~+75°C
- 保护功能:输出过流、短路保护 Protection:Output over-current,short-circuit
- 电磁兼容EMC:裸机满足(bare board) CISPR22/EN55032/GB9254 CLASS B
- 交直流两用 AC-DC dual use
- CLASS II电源并通过LPS(限功率电源)测试 CLASS II and pass LPS test
- PCB板上直插式安装 PCB Mounting
- 通过CE、RoHS认证 Has passed CE, RoHS certification
- 应用领域:工业控制、仪器仪表、通信、电力、智能家居、物联网等领域  
Application Field:Industrial control, instrumentation, communication, electric power, smart home, internet of things etc.
- 测试条件:如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



◆ 产品列表 / Product List

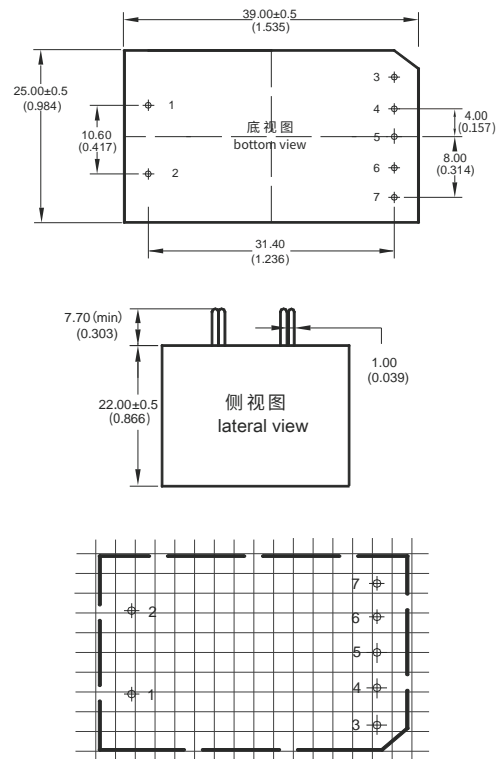


产品型号 Part no.	输入电压 Input voltage		输出电压电流 Output voltage/current		输出效率 Output efficiency (%TYP)
	范围值 Range (VAC/VDC)	电压 Voltage (VDC)	电流 Current (mA)		
FA6-220S3V3D2	85-265/ 120-380	3.3	1818	71	
FA6-220S05D2		5	1200	75	
FA6-220S09D2		9	667	78	
FA6-220S12D2		12	500	80	
FA6-220S15D2		15	400	82	
FA6-220S16V5D2		16.5	360	82	
FA6-220S24D2		24	250	84	

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Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.

管脚号码 Pin-out	1	2	4	6
单路 Single	AC(L)	AC(N)	+Vo	-Vo
功能	输入火线	输入零线	输出正极	输出负极
封装代号 Packing Code/ Dimension	L*W*H			
D	39.00*25.00*22.00mm			
	1.535*0.984*0.866inch			

封装尺寸 / Packing Dimension

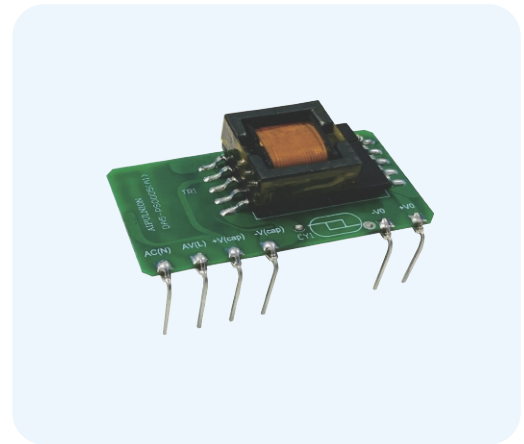


单位 (Unit) : mm  
 印刷板俯视图 (Printed board vertical view)  
 栅格间距 (lattice spacing) : 2.54mm(0.1inch)  
 未注尺寸公差 (General tolerance) : ±0.5mm  
 未注明针脚直径公差 (Pin section tolerances) : ±0.10mm



◆ 产品特性 / Product Features

- 国际通用全电压范围输入 Universal wide input voltage range:90-528VAC/127-746VDC
- 超低待机功耗 ≤ 0.20W Ultra low stand-by power consumption ≤ 0.20W
- 效率高达80% Transfer efficiency up to 80%
- 隔离电压 (Isolation voltage) : 4000VAC
- 裸板、工业级设计 Bare board, industrial class design
- 工作环境温度 Operating Temp:-40°C~+85°C
- 保护功能:输出过流、短路保护 Protection:Output over-current,short-circuit
- 满足Meet IEC62368/UL62368/EN62368 test standard 测试标准
- PCB板上直插式安装 PCB Mounting
- 应用领域:工业控制、仪器仪表、通信、电力、智能家居、物联网等领域  
Application Field:Industrial control, instrumentation, communication, electric power, smart home, internet of things etc.
- 测试条件:如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



◆ 产品列表 / Product List

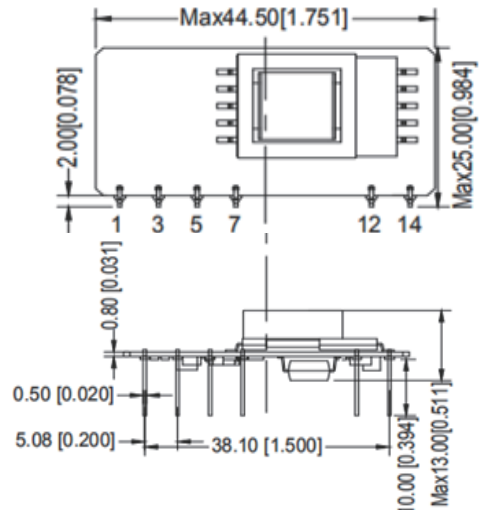


产品型号 Part no.	输入电压 Input voltage		输出电压电流 Output voltage/current		输出效率 Output efficiency (%TYP)
	范围 Range (VAC/VDC)	电压 Voltage (VDC)	电流 Current (mA)		
DA5-300S05G9N4	90-528/ 127-746	5	1000	76	
DA5-300S12G9N4		12	420	78	
DA5-300S24G9N4		24	210	80	

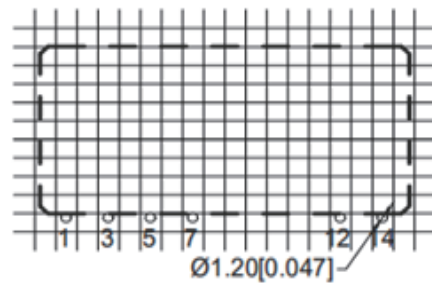
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Note 1: Due to space limitations, above is only a part of our product list, please contact our sales team for more items.  
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Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.

管脚号码 Pin-out	1	3	5	7	12	14
单路 Single	AC(N)	AC(L)	+Vc	-Vc	-Vo	+Vo
功能	输入零线	输入火线	电容正极	电容负极	输出负极	输出正极
封装代号 Packing Code/Dimension	L*W*H					
G9	44.50*25.00*13.00mm					
	1.752*0.984*0.512inch					

封装尺寸 / Packing Dimension



第三角投影



单位 (Unit): mm  
印刷板俯视图 (Printed board vertical view)  
栅格间距 (lattice spacing): 2.54mm (0.1inch)  
未注尺寸公差 (General tolerance): ±1.00mm  
器件布局仅供参考, 具体以实物为准  
(Component arrangement is just for reference, it should be subject to actual product.)

◆ 产品特性 / Product Features

- 国际通用全电压范围输入 Universal wide input voltage range:85-418VAC/100-591VDC
- 超低待机功耗≤0.30W Ultra low stand-by power consumption ≤ 0.30W
- 效率高达79% Transfer efficiency up to 79%
- 隔离电压 (Isolation voltage) : 3600VAC
- 超小体积裸板、工业级设计 Ultra small size bare board, industrial class design
- 工作环境温度 Operating Temp:-40°C~+75°C
- 保护功能:输出过流、短路保护 Protection:Output over-current,short-circuit
- 满足Meet IEC62368/UL62368/EN62368 test standard 测试标准
- PCB板上直插式安装 PCB Mounting
- 应用领域:工业控制、仪器仪表、通信、电力、智能家居、物联网等领域  
Application Field:Industrial control, instrumentation, communication, electric power, smart home, internet of things etc.
- 测试条件:如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



◆ 产品列表 / Product List

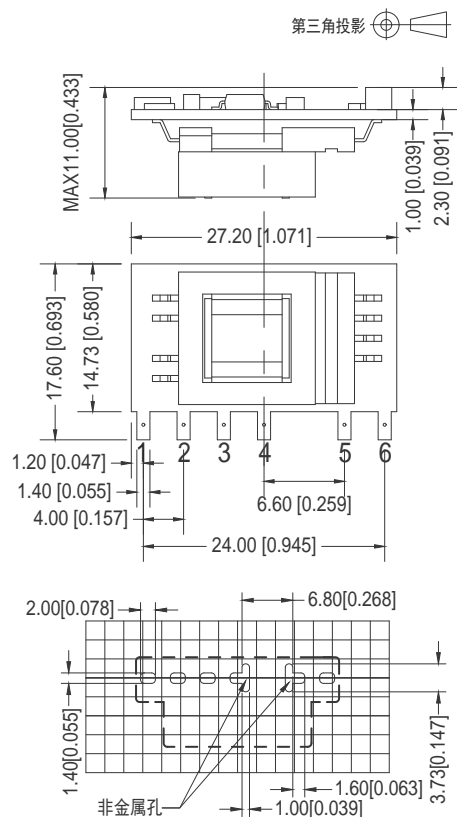


产品型号 Part no.	输入电压 Input voltage		输出电压电流 Output voltage/current		输出效率 Output efficiency (%TYP)
	范围值 Range (VAC/VDC)	电压 Voltage (VDC)	电流 Current (mA)		
DA5-300S12GA9N4	85-418/100-591	12	416	79	

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Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.

管脚号码 Pin-out	1	2	3	4	5	6
单路 Single	AC(L)	AC(N)	+Vc	-Vc	-Vo	+Vo
功能	输入火线	输入零线	电容正极	电容负极	输出地	输出正极
封装代号 Packing Code/Dimension	L*W*H					
/	27.20*17.60*11.00mm					
/	1.071*0.693*0.433inch					

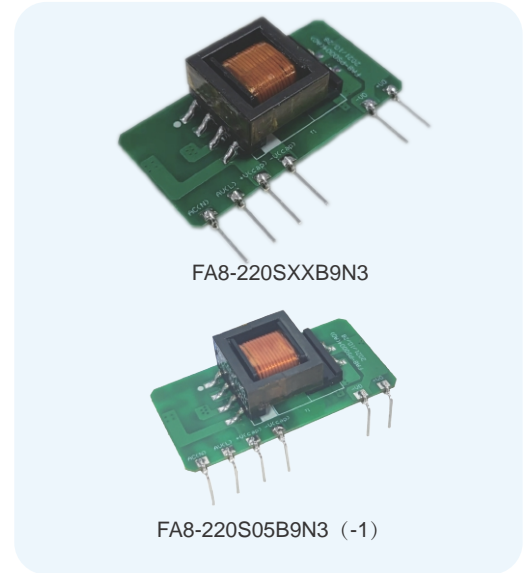
封装尺寸 / Packing Dimension



单位 (Unit): mm  
印刷板俯视图 (Printed board vertical view)  
栅格间距 (lattice spacing): 2.54mm (0.1inch)  
未注尺寸公差 (General tolerance): ±1.00mm  
器件布局仅供参考, 具体以实物为准  
(Component arrangement is just for reference, it should be subject to actual product.)

## ◆ 产品特性/Product Features

- 国际通用全电压范围输入 Universal wide input voltage range
- 超低待机功耗 ≤ 0.15W Ultra low stand-by power consumption ≤ 0.15W
- 效率高达82% Transfer efficiency up to 82%
- 隔离电压 (Isolation voltage) : 3000VAC
- 超小体积裸板、高功率密度、工业级设计 Ultra small size bare board, high power density, industrial class design
- 工作环境温度 Operating Temp: -40°C~+75°C
- 保护功能: 输出过流、短路保护 Protection: Output over-current, short-circuit
- 电磁兼容EMC: 裸机满足 (bare board) CISPR22/EN55032 CLASS B
- 交直流两用 AC-DC dual use
- 通过LPS (限功率电源) 测试 Pass LPS test
- PCB板上直插式安装 PCB Mounting
- 符合CE认证标准 Meet CE standard
- 应用领域: 工业控制、仪器仪表、通信、电力、智能家居、物联网等领域  
Application Field: Industrial control, instrumentation, communication, electric power, smart home, internet of things etc.
- 测试条件: 如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



## ◆ 产品列表/Product List



产品型号 Part no.	输入电压 Input voltage		输出电压电流 Output voltage/current		输出效率 Output efficiency (%TYP)
	范围值 Range (VAC/VDC)	电压 Voltage (VDC)	电流 Current (mA)		
FA8-220S05B9N3 (-1)	85-305/ 120-430	5	1600	76	
FA8-220S12B9N3 (-1)		12	667	80	
FA8-220S24B9N3 (-1)		24	333	82	

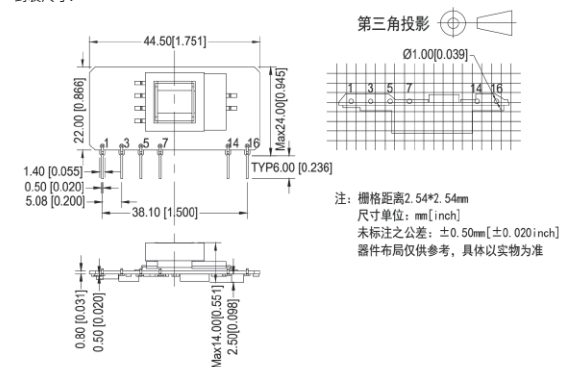
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Note 2: The fluctuation range of full load efficiency (%TYP) is ±2%, full load output efficiency = total output power/module's input power.

管脚号码 Pin-out	1	3	5	7	14	16
单路 Single	AC(N)	AC(L)	+V(cap)	-V(cap)	-Vo	+Vo
功能	输入零线	输入火线	输出电容正极	输出电容负极	输出负极	输出正极
封装代号 Packing Code/Dimension	L*W*H					
-	44.50*22.00*14.00mm 1.751*0.866*0.551inch					

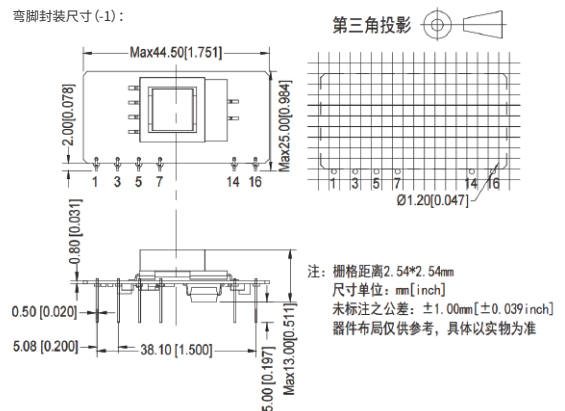
- 1.5/7脚间必须外接电容C1
- 2.输出必须外接π型滤波电路, 如产品规格书典型应用图1;
- 3.初级与次级的外围元器件要保持大于或等于6.4mm的安全距离

## 封装尺寸/Packing Dimension

封装尺寸:



弯脚封装尺寸 (-1):



单位 (Unit) : mm

印刷板俯视图 (Printed board vertical view)  
未注明引脚直径公差 ±0.10mm

注意: 电源模块的各管脚定义如与选型手册不符, 应以实物标签上的标注为准。  
Note: If the definition of pin is not in accordance with the model selection manual, please refer to the label on actual item.



◆ 产品特性 / Product Features

- 国际通用全电压范围输入 Universal wide input voltage range
- 超低待机功耗  $\leq 0.20W$  Ultra low stand-by power consumption  $\leq 0.20W$
- 效率高达82% Transfer efficiency up to 82%
- 隔离电压 (Isolation voltage) : 4000VAC
- 外壳:全封闭塑料外壳,符合UL94V-0级 Case:6-side shielding plastic,UL94V-0 class
- 工作环境温度 Operating Temp:-40°C~+75°C
- 保护功能:输出过流、短路保护 Protection:Output over-current,short-circuit
- 电磁兼容EMC:裸机满足(bare board) CISPR22/EN55032/GB9254 CLASS B
- 交直流两用 AC-DC dual use
- CLASS II电源并通过LPS(限功率电源)测试 CLASS II and pass LPS test
- PCB板上直插式安装 PCB Mounting

● 应用领域:工业控制、仪器仪表、通信、电力、智能家居、物联网等领域  
Application Field:Industrial control, instrumentation, communication, electric power, smart home, internet of things etc.

● 测试条件:如无特殊指定,所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



◆ 产品列表 / Product List



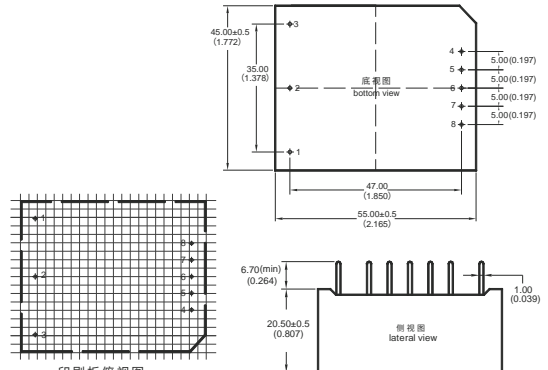
产品型号 Part no.	输入电压 Input voltage	输出电压电流 Output voltage/current				输出效率 Output efficiency (%TYP)
		范围值 Range (VAC/VDC)	电压 1 Voltage (VDC)	电流 1 Current (mA)	电压 2 Voltage (VDC)	
FA10-220S3V3E2D4	85-305/ 100-430	3.3	2000	/	/	73
FA10-220S05E2D4		5	1500	/	/	73
FA10-220S09E2D4		9	1111	/	/	79
FA10-220S12E2D4		12	833	/	/	82
FA10-220S15E2D4		15	667	/	/	82
FA10-220S24E2D4		24	416	/	/	82
FA10-220S28E2D4		28	360	/	/	82
FA10-220E0505E2D4	85-265/ 120-380	5	1800	5	200	75
FA10-220E0512E2D4		5	1500	12	200	78
FA10-220E0524E2D4		5	1000	24	200	83

注1:因篇幅有限,以上只是部分产品列表,若需列表以外产品,请与本公司销售部联系。  
Note 1: Due to space limitations, above is only a part of our product list, please contact our sales team for more items.  
注2:表格中为满载效率(%TYP),波动幅度为±2%,满载输出效率等于输出的总功率除以电源模块的输入功率。  
Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.  
注3:后缀带“C”为产品带Ctrl控制功能;-T为接线式封装,-TS为导轨式封装,导轨宽度35mm。  
Note 3: Suffix with “C” means it with CTRL control function;“-T” suffix for chassis mounting,“-TS” suffix for DIN-Rail mounting, DIN-Rail width is: 35mm.

管脚号码 Pin-out	1	2	3	4	5	6	7	8
单路(S) Single	FG	AC(N)	AC(L)	+Vo	NP	NP	NP	-Vo
单路功能	接地	输入零线	输入火线	输出正极	空脚	空脚	空脚	输出负极
双路(E) Dual	FG	AC(N)	AC(L)	+Vo2	-Vo2	NP	+Vo1	-Vo1
双路功能	接地	输入零线	输入火线	输出正极2	输出负极2	空脚	输出正极1	输出负极1

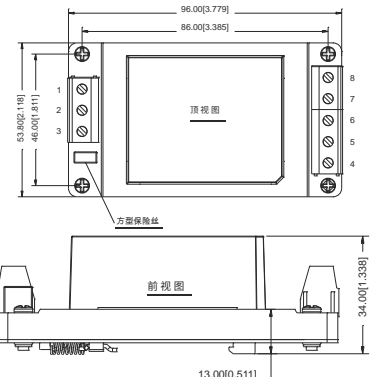
封装尺寸 / Packing Dimension

FA10-E2D4封装尺寸:55.00\*45.00\*20.50mm



印刷板俯视图  
Printed board vertical view

FA10-E2-TS封装尺寸:96.00\*53.80\*34.00mm



带导轨

单位 (Unit): mm  
栅格间距 (lattice spacing): 2.54mm (0.1inch)  
未注尺寸公差 (General tolerance): ±0.5mm  
未注明引脚直径公差 (Pin section tolerances): ±0.10mm



◆ 产品特性 / Product Features

- 国际通用全电压范围输入 Universal wide input voltage range:85-305VAC/120-430VDC
- 超低待机功耗 ≤ 0.35W Ultra low stand-by power consumption ≤ 0.35W
- 效率高达82% Transfer efficiency up to 78%
- 隔离电压 (Isolation voltage) : 3600VAC
- 超小体积裸板、工业级设计 Ultra small size bare board, industrial class design
- 工作环境温度 Operating Temp:-20°C~+85°C
- 保护功能:输出过流、短路保护 Protection:Output over-current,short-circuit
- 满足Meet IEC62368/UL62368/EN62368test standard 测试标准
- PCB板上直插式安装 PCB Mounting
- 应用领域:工业控制、仪器仪表、通信、电力、智能家居、物联网等领域  
Application Field:Industrial control, instrumentation, communication, electric power, smart home, internet of things etc.
- 测试条件:如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



◆ 产品列表 / Product List

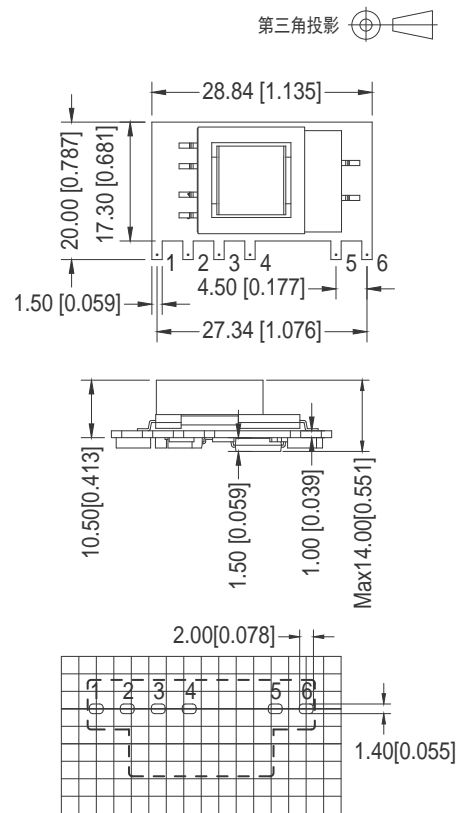


产品型号 Part no.	输入电压 Input voltage	输出电压电流 Output voltage/current		输出效率 Output efficiency
	范围值 Range (VAC/VDC)	电压 Voltage (VDC)	电流 Current (mA)	(%TYP)
DA10-220S3V3G9N4	85-305/ 120-430	3.3	2000	72
DA10-220S05G9N4		5	2000	78
DA10-220S09G9N4		9	1111	80
DA10-220S12G9N4		12	833	82
DA10-220S12V5G9N4		12.5	800	82
DA10-220S15G9N4		15	667	82
DA10-220S24G9N4		24	416	84

注1:因篇幅有限,以上是部分产品列表,若需列表以外产品,请与本公司销售部联系。  
Note 1: Due to space limitations, above is only a part of our product list, please contact our sales team for more items.  
注2:表格中为满载效率(%TYP),波动幅度为±2%,满载输出效率等于输出的总功率除以电源模块的输入功率。  
Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.

管脚号码 Pin-out	1	2	3	4	5	6
单路 Single	AC(L)	AC(N)	+Vc	-Vc	-Vo	+Vo
功能	输入火线	输入零线	电容正极	电容负极	输出地	输出正极
封装代号 Packing Code Dimension	L*W*H					
/	28.84*20.00*14.00mm					
/	1.135*0.787*0.551inch					

封装尺寸 / Packing Dimension



单位 (Unit): mm  
印刷板俯视图 (Printed board vertical view)  
栅格间距 (lattice spacing): 2.54mm (0.1inch)  
未注尺寸公差 (General tolerance): ±1.00mm  
器件布局仅供参考,具体以实物为准  
(Component arrangement is just for reference, it should be subject to actual product.)



◆ 产品特性 / Product Features

- 国际通用全电压范围输入 Universal wide input voltage range
- 超低待机功耗 ≤ 0.50W Ultra low stand-by power consumption ≤ 0.50W
- 效率高达84% Transfer efficiency up to 83%
- 隔离电压 (Isolation voltage) : 3000VAC
- 通过LPS (仅限功率电源) 测试 Passed LPS (limited power supply) test
- 工作环境温度 Operating Temp: -40°C ~ +75°C
- 保护功能: 输出过流、短路保护 Protection: Output over-current, short-circuit
- 满足 Meet IEC60950/UL60950/EN60950 test standard 测试标准
- PCB板上直插式安装 PCB Mounting
- 应用领域: 工业控制、仪器仪表、通信、电力、智能家居、物联网等领域  
Application Field: Industrial control, instrumentation, communication, electric power, smart home, internet of things etc.
- 测试条件: 如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



◆ 产品列表 / Product List

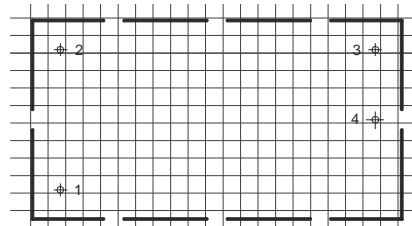
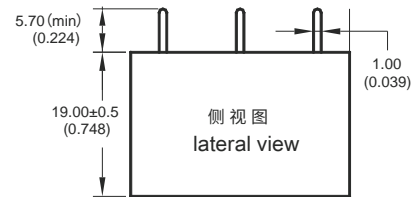
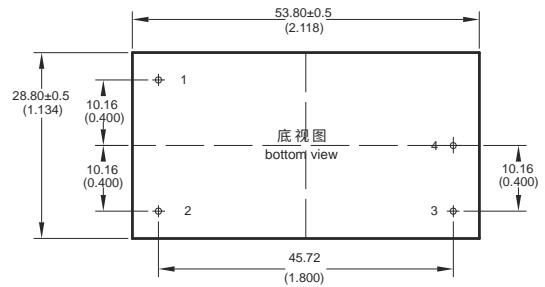


产品型号 Part no.	输入电压 Input voltage	输出电压电流 Output voltage/current		输出效率 Output efficiency (%TYP)
	范围值 Range (VAC/VDC)	电压 Voltage (VDC)	电流 Current (mA)	
DA10-220S05P2D4	90-310/ 127-438	5	1500	74
DA10-220S09P2D4		9	1111	81
DA10-220S12P2D4		12	833	82
DA10-220S15P2D4		15	667	82
DA10-220S24P2D4		24	417	83

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注2: 表格中为满载效率 (%TYP), 波动幅度为 ±2%, 满载输出效率等于输出的总功率除以电源模块的输入功率。  
Note 2: The fluctuation range of full load efficiency (%TYP) is ±2%, full load output efficiency = total output power/module's input power.

管脚号码 Pin-out	1	2	3	4
单路 Single	AC(N)	AC(L)	+Vo	-Vo
功能	输入零线	输入火线	输出正极	输出负极
封装代号 Packing Code/ Dimension	L*W*H			
P2	53.80*28.80*19.00mm			
	2.118*1.134*0.748inch			

封装尺寸 / Packing Dimension

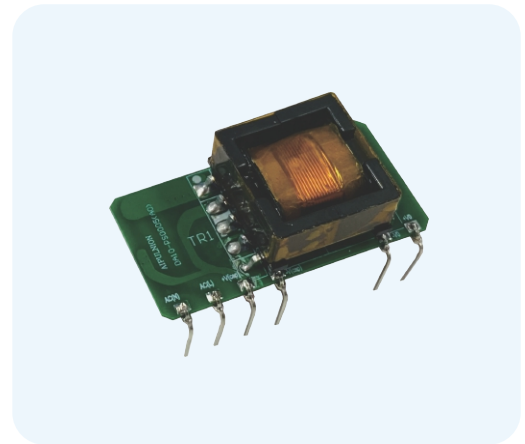


单位 (Unit): mm  
印刷板俯视图 (Printed board vertical view)  
栅格间距 (lattice spacing): 2.54mm (0.1inch)  
未注尺寸公差 (General tolerance): ±0.5mm  
器件布局仅供参考, 具体以实物为准  
(Component arrangement is just for reference, it should be subject to actual product.)

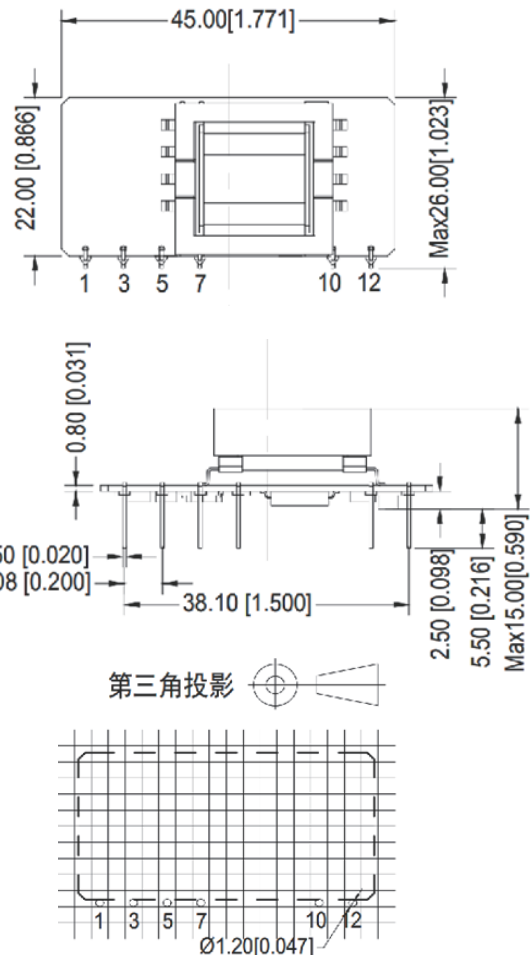


◆ 产品特性 / Product Features

- 国际通用全电压范围输入 Universal wide input voltage range:90-528VAC/127-746VDC
- 超低待机功耗 ≤ 0.30W Ultra low stand-by power consumption ≤ 0.30W
- 效率高达81% Transfer efficiency up to 81%
- 隔离电压 (Isolation voltage) : 4000VAC
- 裸板、工业级设计 Bare board, industrial class design
- 工作环境温度 Operating Temp:-40°C~+85°C
- 保护功能:输出过流、短路保护 Protection:Output over-current,short-circuit
- 满足Meet IEC62368/UL62368/EN62368 test standard 测试标准
- PCB板上直插式安装 PCB Mounting
- 应用领域:工业控制、仪器仪表、通信、电力、智能家居、物联网等领域  
Application Field:Industrial control, instrumentation, communication, electric power, smart home, internet of things etc.
- 测试条件:如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



封装尺寸 / Packing Dimension



◆ 产品列表 / Product List



产品型号 Part no.	输入电压 Input voltage	输出电压电流 Output voltage/current		输出效率 Output efficiency
	范围值 Range (VAC/VDC)	电压 Voltage (VDC)	电流 Current (mA)	(%TYP)
DA10-300S05G9N4	90-528/ 127-746	5	2000	77
DA10-300S12G9N4		12	833	81
DA10-300S24G9N4		24	417	82

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Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.

管脚号码 Pin-out	1	3	5	7	10	12
单路 Single	AC(N)	AC(L)	+Vc	-Vc	-Vo	+Vo
功能	输入零线	输入火线	电容正极	电容负极	输出负极	输出正极
封装代号 Packing Code/Dimension	L*W*H					
G9	45.00*22.00*16.00mm					
	1.771*0.866*0.629inch					

单位 (Unit): mm  
印刷板俯视图 (Printed board vertical view)  
栅格间距 (latic spacing): 2.54mm (0.1inch)  
未注尺寸公差 (General tolerance): ±1.00mm  
器件布局仅供参考, 具体以实物为准  
(Component arrangement is just for reference, it should be subject to actual product.)

注意:电源模块的各管脚定义如与选型手册不符,应以实物标签上的标注为准。  
Note: If the definition of pin is not in accordance with the model selection manual, please refer to the label on actual item.

◆ 产品特性 / Product Features

- 国际通用全电压范围输入 Universal wide input voltage range:85-265VAC/120-380VDC
- 超低待机功耗 ≤ 0.45W Ultra low stand-by power consumption ≤ 0.45W
- 效率高达84% Transfer efficiency up to 84%
- 隔离电压 (Isolation voltage) : 3000VAC
- 外壳:全封闭塑料外壳,符合UL94V-0级 Case:6-side shielding plastic,UL94V-0 class
- 工作环境温度 Operating Temp:-40°C~+75°C
- 保护功能:输出过流、短路保护 Protection:Output over-current,short-circuit
- 满足Meet IEC60950/UL60950/EN60950 test standard 测试标准
- 交直流两用 AC-DC dual use
- 符合CE、RoHS认证标准 Meet CE、RoHS standard
- PCB板上直插式安装 PCB Mounting

● 应用领域:工业控制、仪器仪表、电力、智能家居、物联网等领域  
Application Field:Industrial control, instrumentation, electric power, smart home, internet.

● 测试条件:如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



◆ 产品列表 / Product List

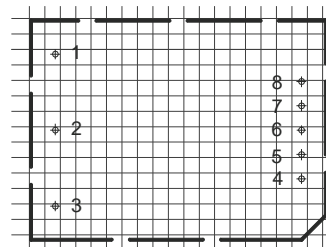
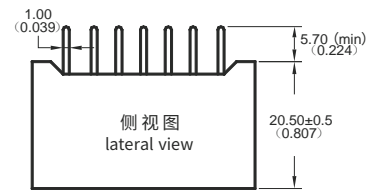
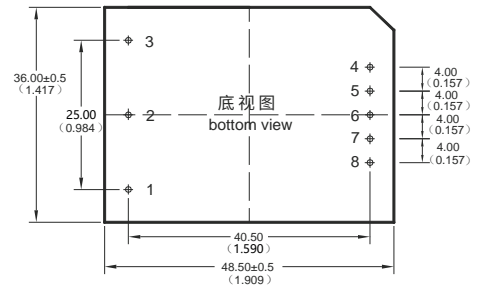


产品型号 Part no.	输入电压 Input voltage	输出电压电流 Output voltage/current		输出效率 Output efficiency (%TYP)
	范围值 Range (VAC/VDC)	电压 Voltage (VDC)	电流 Current (mA)	
FA10-220S3V3C2N3	85-265/ 120-380	3.3	2000	76
FA10-220S05C2N3		5	2000	78
FA10-220S09C2N3		9	1111	80
FA10-220S12C2N3		12	833	82
FA10-220S15C2N3		15	667	83
FA10-220S24C2N3		24	450	84

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Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.

管脚号码 Pin-out	1	2	3	4	8
单路 Single	FG	AC(N)	AV(L)	+Vo	-Vo
功能	无功能脚	输入零线	输入火线	输出正极	输出负极
封装代号 Packing Code/Dimension	L*W*H				
C2	48.50*36.00*20.50mm				
	1.909*1.417*0.807inch				

封装尺寸 / Packing Dimension



单位 (Unit): mm  
印刷板俯视图 (Printed board vertical view)  
栅格间距 (lattice spacing): 2.54mm (0.1inch)  
未注尺寸公差 (General tolerance): ±0.5mm  
未注明引脚直径公差 (Pin section tolerances): ±0.10mm

◆ 产品特性 / Product Features

- 国际通用全电压范围输入 Universal wide input voltage range:90-265VAC/127-380VDC
- 超低待机功耗 ≤0.20W Ultra low stand-by power consumption ≤ 0.20W
- 效率高达83% Transfer efficiency up to 83%
- 隔离电压 (Isolation voltage) : 3000VAC
- 外壳:全封闭塑料外壳,符合UL94V-0级 Case:6-side shielding plastic,UL94V-0 class
- 工作环境温度 Operating Temp:-40°C~+75°C
- 保护功能:输出过流、短路保护 Protection:Output over-current,short-circuit
- 电磁兼容EMC:裸机满足(bare board) CISPR22/EN55032/GB9254 CLASS A
- 交直流两用 AC-DC dual use
- CLASS II电源并通过LPS(限功率电源)测试 CLASS II and pass LPS test
- PCB板上直插式安装 PCB Mounting
- 通过CE、RoHS认证 Has passed CE, RoHS certification
- 应用领域:工业控制、仪器仪表、通信、电力、智能家居、物联网、充电桩等领域  
Application Field:Industrial control, instrumentation, communication, electric power, smart home, internet,charging pile of things etc.
- 测试条件:如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



◆ 产品列表 / Product List



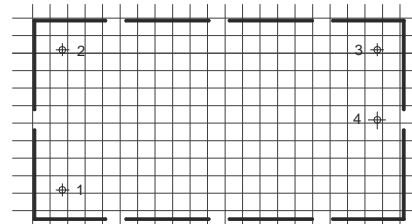
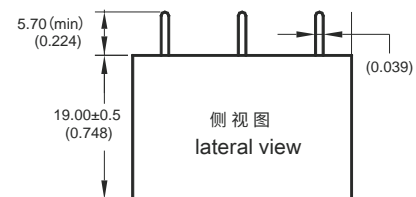
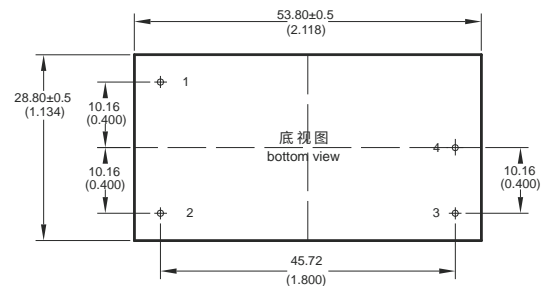
产品型号 Part no.	输入电压 Input voltage	输出电压电流 Output voltage/current		输出效率 Output efficiency (%TYP)
	范围值 Range (VAC/VDC)	电压 Voltage (VDC)	电流 Current (mA)	
UA10-220S3V3P2D	90-265/ 127-380	3.3	2000	74
UA10-220S05P2D		5	1500	74
UA10-220S09P2D		9	1111	81
UA10-220S12P2D		12	833	81
UA10-220S15P2D		15	667	82
UA10-220S24P2D		24	417	83

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Note 1: Due to space limitations, above is only a part of our product list, please contact our sales team for more items.

注2:表格中为满载效率(%TYP),波动幅度为±2%,满载输出效率等于输出的总功率除以电源模块的输入功率。  
Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.

管脚号码 Pin-out	1	2	3	4
单路 Single	AC(N)	AC(L)	+Vo	-Vo
功能	输入零线	输入火线	输出正极	输出负极
封装代号 Packing Code/ Dimension	L*W*H			
P	53.80*28.80*19.00mm			
	2.118*1.134*0.748inch			

封装尺寸 / Packing Dimension



单位 (Unit): mm  
印刷板俯视图 (Printed board vertical view)  
栅格间距 (lattice spacing): 2.54mm (0.1inch)  
未注尺寸公差 (General tolerance): ±0.5mm  
未注明引脚直径公差 (Pin section tolerances): ±0.10mm



◆ 产品特性 / Product Features

- 国际通用全电压范围输入 Universal wide input voltage range:85-265VAC/120-380VDC
  - 超低待机功耗 ≤0.3W Ultra low stand-by power consumption ≤ 0.3W
  - 效率高达83% Transfer efficiency up to 83%
  - 隔离电压 (Isolation voltage) : 4000VAC
  - 外壳:全封闭塑料外壳,符合UL94V-0级 Case:6-side shielding plastic,UL94V-0 class
  - 工作环境温度 Operating Temp:-40°C~+70°C
  - 保护功能:输出过流、短路、过压、过温度保护  
Protection:Output over-current,short-circuit, over-voltage, over-temperature
  - 交直流两用 AC-DC dual use
  - PCB板上直插式安装 PCB Mounting
- 应用领域:工业控制、仪器仪表、通信、电力、智能家居、物联网、充电桩等领域  
Application Field:Industrial control, instrumentation, communication, electric power, smart home, internet,charging pile of things etc.
- 测试条件:如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



◆ 产品列表 / Product List



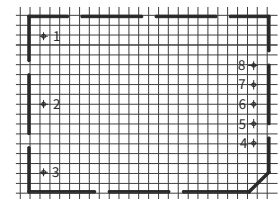
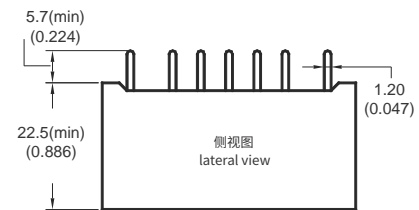
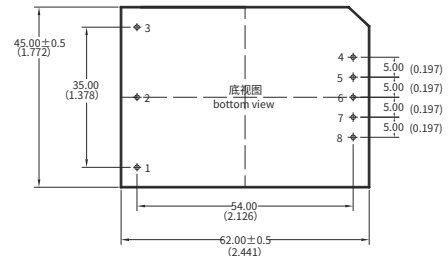
产品型号 Part no.	输入电压 Input voltage	输出电压电流 Output voltage/current						输出效率 Output efficiency (%TYP)
	范围值 Range (VAC/VDC)	电压1 Voltage1 (VDC)	电流1 Current1 (mA)	电压2 Voltage2 (VDC)	电流2 Current2 (mA)	电压3 Voltage3 (VDC)	电流3 Current3 (mA)	
	FA15-220H050505F2D4	85-265/ 120-380	5	2000	5	500	-5	
FA15-220H051212F2D4	5		2000	12	200	-12	200	81
FA15-220H051515F2D4	5		1800	15	200	-15	200	82
FA15-220H052424F2D4	5		1800	24	125	-24	125	83

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注2:表格中为满载效率(%TYP),波动幅度为±2%,满载输出效率等于输出的总功率除以电源模块的输入功率。  
Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.

管脚号码 Pin-out	1	2	3	4	5	6	7	8
三路 Triple	FG	AC(N)	AC(L)	+Vo2	COM	+Vo3	+Vo1	-Vo1
功能	接地	输入零线	输入火线	输出正极2	公共地	输出正极3	输出正极1	输出负极1
封装代号 Packing Code/Dimension	L*W*H							
F2	62.00*45.00*22.50mm							
	2.441*1.772*0.885inch							

封装尺寸 / Packing Dimension



印刷板俯视图  
Printed board vertical view

单位 (Unit): mm  
印刷板俯视图 (Printed board vertical view)  
栅格间距 (lattice spacing): 2.54mm (0.1inch)  
未注尺寸公差 (General tolerance): ±0.5mm  
未注明引脚直径公差 (Pin section tolerances): ±0.10mm

### ◆ 产品特性 / Product Features

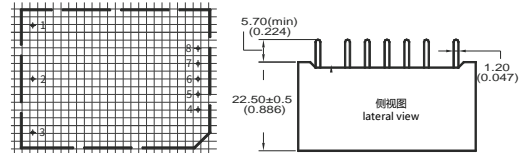
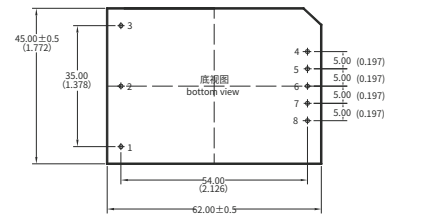
- 国际通用全电压范围输入 Universal wide input voltage range:85-265VAC/120-380VDC
- 超低待机功耗 ≤0.20W Ultra low stand-by power consumption ≤ 0.20W
- 效率高达87% Transfer efficiency up to 86%
- 隔离电压 (Isolation voltage) : 4000VAC / UA15-220H05XXXXF2(A): 3000VAC
- 外壳:全封闭塑料外壳,符合UL94V-0级 Case:6-side shielding plastic,UL94V-0 class
- 工作环境温度 Operating Temp:-40°C~+75°C
- 保护功能:输出过流、短路保护 Protection:Output over-current,short-circuit
- 电磁兼容EMC:裸机满足(bare board) CISPR22/EN55032/GB9254 CLASS B
- 交直流两用 AC-DC dual use
- CLASS II电源并通过LPS(限功率电源)测试 CLASS II and pass LPS test
- PCB板上直插式安装 PCB Mounting
- 符合CE认证标准 Meet CE standard

- 应用领域:工业控制、仪器仪表、通信、电力、智能家居、充电桩、物联网等领域  
Application Field:Industrial control, instrumentation, communication, electric power, smart home, charging pile, internet of things, etc.
- 测试条件:如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



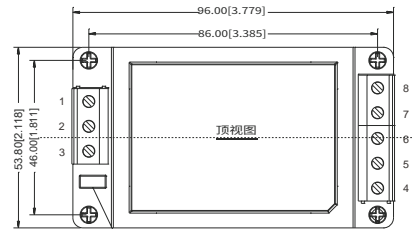
### 封装尺寸 / Packing Dimension

FA20-F2D4封装尺寸:62.00\*45.00\*22.50mm

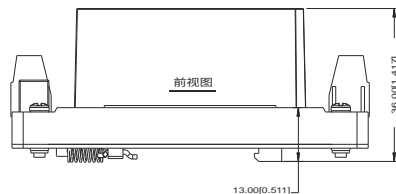


印刷板俯视图  
Printed board vertical view

FA15-220SXXF2D4-TS封装尺寸:96.00\*53.80\*36.00mm



方型保险丝



带导轨

单位 (Unit) : mm  
 栅格间距 (lattice spacing) : 2.54mm(0.1inch)  
 未注尺寸公差 (General tolerance) : ±0.5mm  
 未注明针脚直径公差 (Pin section tolerances) : ±0.10mm

### ◆ 产品列表 / Product List



产品型号 Part no.	输入电压 Input voltage	输出电压电流 Output voltage/current				输出效率 Output efficiency
	范围值 Range (VAC/VDC)	电压 1 Voltage (VDC)	电流 1 Current (mA)	电压 2 Voltage (VDC)	电流 2 Current (mA)	(%TYP)
FA15-220S3V3F2D4	85-265/ 120-380	3.3	3000	/	/	70
FA15-220S05F2D4		5	3000	/	/	74
FA15-220S09F2D4		9	1667	/	/	82
FA15-220S12F2D4		12	1250	/	/	84
FA15-220S15F2D4		15	1000	/	/	85
FA15-220S24F2D4		24	625	/	/	86
FA20-220S05F2D4		5	3500	/	/	77
FA20-220S12F2D4		12	1666	/	/	83
FA20-220S24F2D4		24	833	/	/	85
FA20-220S28F2D4		28	714	/	/	86
FA15-220E0512F2D4		5	2000	12	400	76
FA15-220E0524F2D4		5	2000	24	200	78

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 注2:表格中为满载效率(%TYP),波动幅度为±2%,满载输出效率等于输出的总功率除以电源模块的输入功率。  
 Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.  
 注3:后缀带“C”为产品带Ctrl控制功能;-T为接线式封装,-TS为导轨式封装,导轨宽度35mm。  
 Note 3: Suffix with “C” means it with CTRL control function;“-T” suffix for chassis mounting,“-TS” suffix for DIN-Rail mounting, DIN-Rail width is: 35mm.

管脚号码 Pin-out	1	2	3	4	5	6	7	8
单路(S) Single	FG	AC(N)	AC(L)	+Vo	NP	NP	NP	-Vo
单路功能	接地	输入零线	输入火线	输出正极	空脚	空脚	空脚	输出负极
双路(E) Dual	FG	AC(N)	AC(L)	+Vo2	-Vo2	NP	+Vo1	-Vo1
双路功能	接地	输入零线	输入火线	输出正极2	输出负极2	空脚	输出正极1	输出负极1

注意:电源模块的各管脚定义如与选型手册不符,应以实物标签上的标注为准。  
 Note: If the definition of pin is not in accordance with the model selection manual, please refer to the label on actual item.



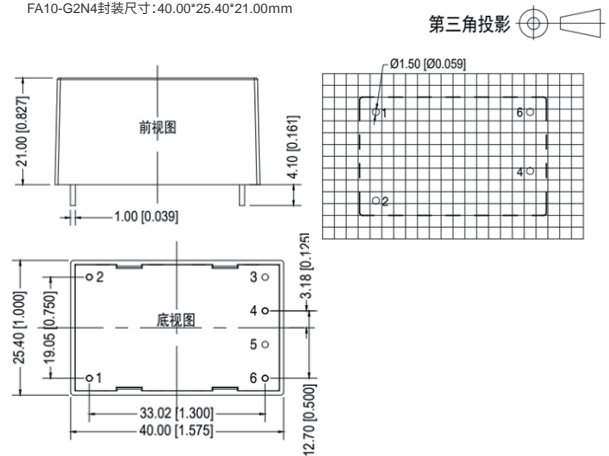
### ◆ 产品特性 / Product Features

- 国际通用全电压范围输入 Universal wide input voltage range:85-305VAC/120-430VDC
  - 超低待机功耗  $\leq 0.20W$  Ultra low stand-by power consumption  $\leq 0.20W$
  - 效率高达84% Transfer efficiency up to 84%
  - 隔离电压 (Isolation voltage) : 4000VAC
  - 工作环境温度 Operating Temp:-40°C~+85°C
  - 保护功能:输出过流、短路保护 Protection:Output over-current,short-circuit
  - 满足Meet IEC62368/UL62368/EN62368 test standard 测试标准
  - PCB板上直插式安装 PCB Mounting
- 应用领域:工业控制、仪器仪表、通信、电力、智能家居、物联网等领域  
Application Field:Industrial control, instrumentation, communication, electric power, smart home, internet of things etc.
  - 测试条件:如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and  $T_a=25^\circ\text{C}$ .

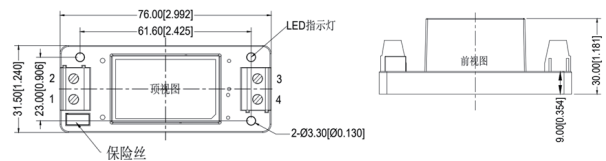


### 封装尺寸 / Packing Dimension

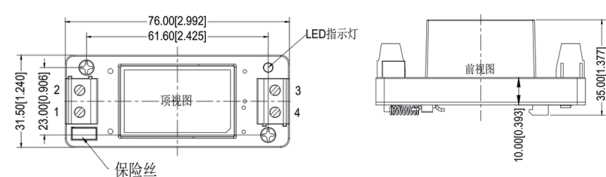
FA10-G2N4封装尺寸:40.00\*25.40\*21.00mm



FA10-G2N4-T封装尺寸:76.00\*31.50\*30.00mm



FA10-G2N4-TS封装尺寸:76.00\*31.50\*35.00mm



单位 (Unit): mm  
 印刷板俯视图 (Printed board vertical view)  
 栅格间距 (lattice spacing): 2.54 mm (0.1 inch)  
 未注尺寸公差 (General tolerance):  $\pm 0.50$  mm  
 器件布局仅供参考, 具体以实物为准  
 (Component arrangement is just for reference, it should be subject to actual product.)

### ◆ 产品列表 / Product List



产品型号 Part no.	输入电压 Input voltage		输出电压电流 Output voltage/current		输出效率 Output efficiency (%TYP)
	范围值 Range (VAC/VDC)	电压 Voltage (VDC)	电流 Current (mA)		
FA10-220S3V3G2N4	85-305/ 120-430	3.3	2600	73	
FA10-220S05G2N4		5	2000	76	
FA10-220S12G2N4		12	833	82	
FA10-220S12V5G2N4		12.5	800	82	
FA10-220S15G2N4		15	667	83	
FA10-220S24G2N4		24	416	85	

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 注2: 表格中为满载效率 (%TYP), 波动幅度为  $\pm 2\%$ , 满载输出效率等于输出的总功率除以电源模块的输入功率。  
 Note 2: The fluctuation range of full load efficiency (%TYP) is  $\pm 2\%$ , full load output efficiency = total output power/module's input power.

管脚号码 Pin-out	1	2	5	4	5	6
单路 Single	AC(L)	AC(N)	NP	+Vo	NP	-Vo
功能	输入火线	输入零线	无引脚	输出正极	无引脚	输出负极
封装代号 Packing Code/Dimension	L*W*H					
-	40.00*25.40*21.00mm					
	1.575*1.000*0.827inch					
-T	76.00*31.50*30.00mm					
	2.992*1.240*1.181inch					
-TS	76.00*31.50*35.00mm					
	2.992*1.240*1.377inch					

注意: 电源模块的各管脚定义如与选型手册不符, 应以实物标签上的标注为准。  
 Note: If the definition of pin is not in accordance with the model selection manual, please refer to the label on actual item.



◆ 产品特性 / Product Features

- 国际通用全电压范围输入 Universal wide input voltage range:85-265VAC/120-380VDC
  - 超低待机功耗 ≤0.50W Ultra low stand-by power consumption ≤ 0.50W
  - 效率高达80% Transfer efficiency up to 80%
  - 隔离电压 (Isolation voltage) : 2500VAC
  - 外壳:全封闭塑料外壳,符合UL94V-0级 Case: 6-side shielding plastic,UL94V-0 class
  - 工作环境温度 Operating Temp: -40°C~+70°C
  - 保护功能:输出过流、过压、短路保护 Protection: Output over-current, over voltage, short-circuit
  - 交直流两用 AC-DC dual use
  - PCB板上直插式安装 PCB Mounting
  - 安全等级 Security level: CLASS II
- 应用领域:工业控制、仪器仪表、通信、电力、智能家居、充电桩、物联网等领域  
Application Field:Industrial control, instrumentation, communication, electric power, smart home, charging pile, internet of things, etc.
- 测试条件:如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



◆ 产品列表 / Product List



产品型号 Part no.	输入电压 Input voltage		输出电压电流 Output voltage/current		输出效率 Output efficiency
	范围值 Range	电压 Voltage	电压 Voltage	电流 Current	(%TYP)
	(VAC/VDC)	(VDC)	(VDC)	(mA)	
DA20-220D12F2D2	85-265/230-370	±12	1500/100	80	

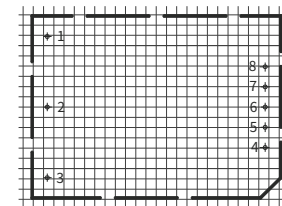
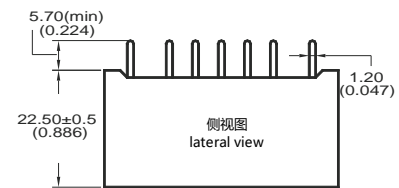
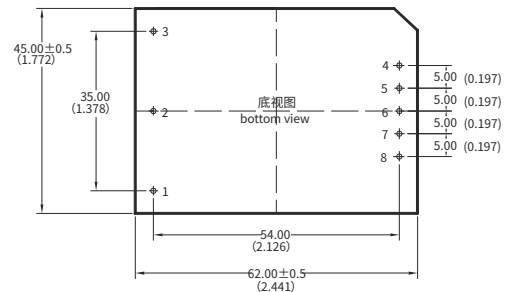
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Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.

注3:后缀带“C”为产品带Ctrl控制功能;-T为接线式封装,-TS为导轨式封装,导轨宽度35mm。  
Note 3: Suffix with "C" means it with CTRL control function; "-T" suffix for chassis mounting, "-TS" suffix for DIN-Rail mounting, DIN-Rail width is: 35mm.

管脚号码 Pin-out	1	2	3	4	5	6	7	8
单路 Single	FG	AC(N)	AC(L)	-Vo2	NP	COM	NP	+Vo1
功能	大地	输入零线	输入火线	输出负极2	无此脚	公共端	无此脚	输出正极1
封装代号 Packing Code	L*W*H							
P	62.00*45.00*22.50mm							
	2.441*1.772*0.886inch							

封装尺寸 / Packing Dimension



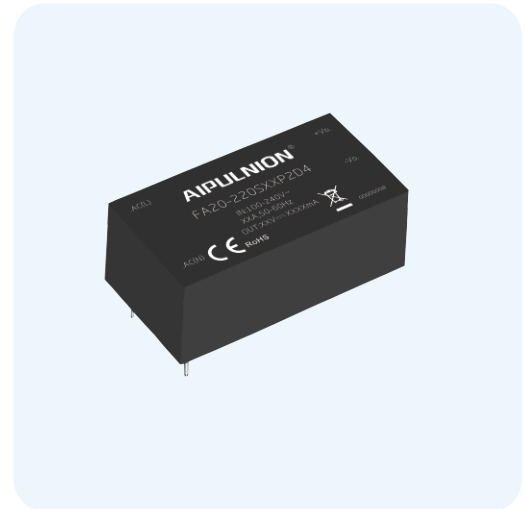
印刷板俯视图  
Printed board vertical view

单位 (Unit): mm  
 栅格间距 (lattice spacing): 2.54mm(0.1inch)  
 未注尺寸公差 (General tolerance): ±0.5mm  
 未注明针脚直径公差 (Pin section tolerances): ±0.10mm

注意:电源模块的各管脚定义如与选型手册不符,应以实物标签上的标注为准。  
Note: If the definition of pin is not in accordance with the model selection manual, please refer to the label on actual item.

◆ 产品特性 / Product Features

- 国际通用全电压范围输入 Universal wide input voltage range:85-265VAC/120-380VDC
- 超低待机功耗 ≤0.15W Ultra low stand-by power consumption ≤ 0.15W
- 效率高达88% Transfer efficiency up to 88%
- 隔离电压 (Isolation voltage) : 4000VAC
- 外壳:全封闭塑料外壳,符合UL94V-0级 Case:6-side shielding plastic,UL94V-0 class
- 工作环境温度 Operating Temp:-40°C~+75°C
- 保护功能:输出过流、短路保护 Protection:Output over-current,short-circuit
- 满足Meet IEC60950/UL60950/EN60950 test standard 测试标准
- 交直流两用 AC-DC dual use
- 通过LPS(限功率电源)测试 Passed LPS (limited power supply) test
- PCB板上直插式安装 PCB Mounting
- 通过CE、RoHS认证 Has passed CE, RoHS certification
- 应用领域:工业控制、仪器仪表、通信、电力、智能家居、物联网、充电桩等领域  
Application Field:Industrial control, instrumentation, communication, electric power, smart home, internet, charging pile of things etc.
- 测试条件:如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



◆ 产品列表 / Product List

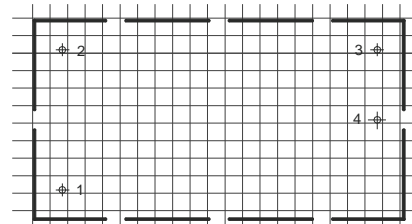
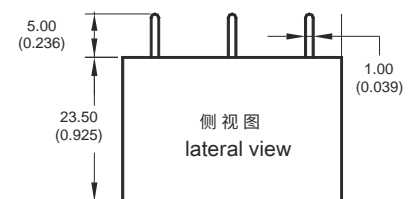
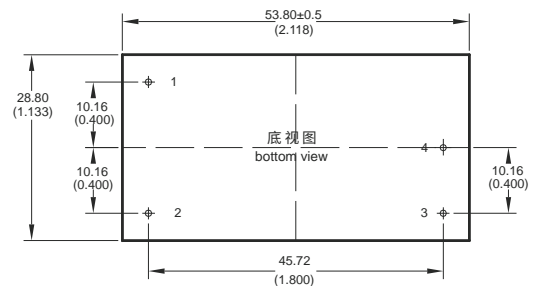


产品型号 Part no.	输入电压 Input voltage	输出电压电流 Output voltage/current		输出效率 Output efficiency (%TYP)
	范围值 Range (VAC/VDC)	电压 Voltage (VDC)	电流 Current (mA)	
FA20-220S05P2D4	85-265/ 120-380	5	4000	82
FA20-220S09P2D4		9	2222	83
FA20-220S12P2D4		12	1666	84
FA20-220S15P2D4		15	1333	85
FA20-220S24P2D4		24	833	88

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Note 1: Due to space limitations, above is only a part of our product list, please contact our sales team for more items.  
注2:表格中为满载效率(%TYP),波动幅度为±2%,满载输出效率等于输出的总功率除以电源模块的输入功率。  
Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.

管脚号码 Pin-out	1	2	3	4
单路 Single	AC(L)	AC(N)	+Vo	-Vo
功能	输入火线	输入零线	输出正极	输出负极
封装代号 Packing Code/ Dimension	L*W*H			
P	53.80*28.80*23.50mm			
	2.118*1.133*0.925inch			

封装尺寸 / Packing Dimension



单位 (Unit): mm  
印刷板俯视图 (Printed board vertical view)  
栅格间距 (lattice spacing): 2.54mm (0.1inch)  
未注尺寸公差 (General tolerance): ±0.5mm  
未注明引脚直径公差 (Pin section tolerances): ±0.10mm

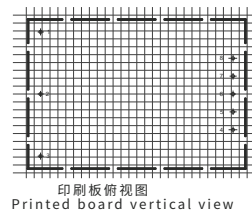
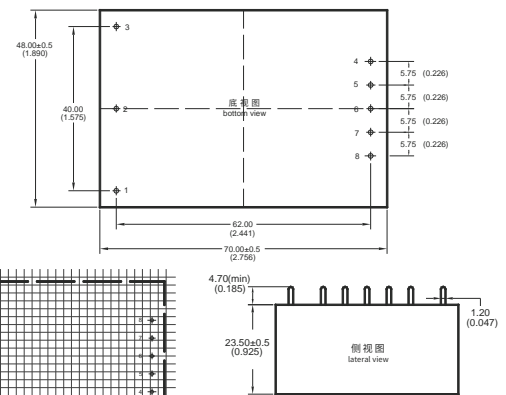
◆ 产品特性 / Product Features

- 国际通用全电压范围输入 Universal wide input voltage range
- 超低待机功耗  $\leq 0.50W$  Ultra low stand-by power consumption  $\leq 0.50W$
- 效率高达84% Transfer efficiency up to 84%
- 隔离电压 (Isolation voltage) : 4000VAC
- 外壳: 全封闭塑料外壳, 符合UL94V-0级 Case: 6-side shielding plastic, UL94V-0 class
- 工作环境温度 Operating Temp:  $-40^{\circ}C$ ~ $+75^{\circ}C$
- 保护功能: 过流、过压、短路保护 Protection: Over-current, over voltage, short-circuit
- 电磁兼容EMC: 裸机满足 (bare board) CISPR32/EN55032 CLASS B
- 交直流两用 AC-DC dual use
- 符合CE认证标准 Meet CE standard
- PCB板上直插式安装 PCB Mounting
- 应用领域: 工业控制、仪器仪表、电力、智能家居等领域  
Application Field: Industrial control, instrumentation, electric power, smart home.
- 测试条件: 如无特殊指定, 所有参数测试均在标称输入电压、纯电阻额定负载及 $25^{\circ}C$ 室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and  $T_a=25^{\circ}C$ .

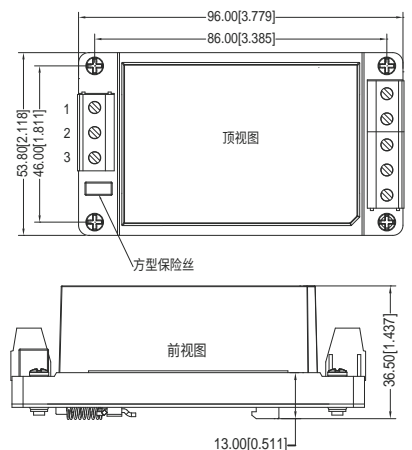


封装尺寸 / Packing Dimension

FA20-H2D4封装尺寸: 70.00\*48.00\*23.50mm



FA20-H2D4-TS封装尺寸: 96.00\*53.80\*36.5mm



带导轨

单位 (Unit) : mm  
 栅格间距 (lattice spacing) : 2.54mm (0.1inch)  
 未注尺寸公差 (General tolerance) :  $\pm 0.5mm$   
 未注明引脚直径公差 (Pin section tolerances) :  $\pm 0.10mm$

◆ 产品列表 / Product List



产品型号 Part no.	输入电压 Input voltage	输出电压电流 Output voltage/current				输出效率 Output efficiency
	范围值 Range (VAC/VDC)	电压 1 Voltage (VDC)	电流 1 Current (mA)	电压 2 Voltage (VDC)	电流 2 Current (mA)	(%TYP)
FA20-300S3V3H2D4	90-528/ 100-745	3.3	4000	/	/	75
FA20-300S05H2D4		5	4000	/	/	78
FA20-300S09H2D4		9	2222	/	/	80
FA20-300S12H2D4		12	1660	/	/	83
FA20-300S15H2D4		15	1330	/	/	84
FA20-300S24H2D4		24	833	/	/	84
FA20-220H051212H2D4	85-265/ 120-370	5	2000	$\pm 12$	400	79
FA20-220H051515H2D4		5	2000	$\pm 15$	300	79

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 注2: 表格中为满载效率 (%TYP), 波动幅度为  $\pm 2\%$ , 满载输出效率等于输出的总功率除以电源模块的输入功率。  
 Note 2: The fluctuation range of full load efficiency (%TYP) is  $\pm 2\%$ , full load output efficiency = total output power/module's input power.  
 注3: 后缀带 "C" 为产品带 CTRL 控制功能; -T 为接线式封装, -TS 为导轨式封装, 导轨宽度 35mm。  
 Note 3: Suffix with "C" means it with CTRL control function; "-T" suffix for chassis mounting, "-TS" suffix for DIN-Rail mounting, DIN-Rail width is: 35mm.

管脚号码 Pin-out	1	2	3	4	5	6	7	8
单路 Single	FG	AC(N)	AC(L)	+Vo	NP	NP	NP	-Vo
单路功能	接地	输入零线	输入火线	输出正极	空脚	空脚	空脚	输出负极
三路 Triple	FG	AC(N)	AC(L)	+Vo2	COM	-Vo2	+Vo1	-Vo1
三路隔离	接地	输入零线	输入火线	输出正极2	公共地	输出负极2	输出正极1	输出负极1

注意: 电源模块的各管脚定义如与选型手册不符, 应以实物标签上的标注为准。  
 Note: If the definition of pin is not in accordance with the model selection manual, please refer to the label on actual item.





### ◆ 产品特性 / Product Features

- 国际通用全电压范围输入 Universal wide input voltage range: 85-305VAC/120-430VDC
  - 超低待机功耗  $\leq 0.3W$  Ultra low stand-by power consumption  $\leq 0.3W$
  - 效率高达83% Transfer efficiency up to 83%
  - 隔离电压 (Isolation voltage) : 3000VAC
  - 外壳: 塑料 Case : Plastic
  - 工作环境温度 Operating Temp:  $-40^{\circ}C \sim +75^{\circ}C$
  - 保护功能: 输出过流、过温、短路保护  
Protection: Output over-current, Over temperature, short-circuit
  - 交直流两用 AC-DC dual use
  - PCB板上直插式安装 PCB Mounting
  - 满足 Meet IEC62368/UL62368/EN62368 test standard 测试标准
- 应用领域: 工业控制、仪器仪表、电力、智能家居等领域  
Application Field: Industrial control, instrumentation, electric power, smart home.
- 测试条件: 如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and  $T_a=25^{\circ}C$ .



### ◆ 产品列表 / Product List



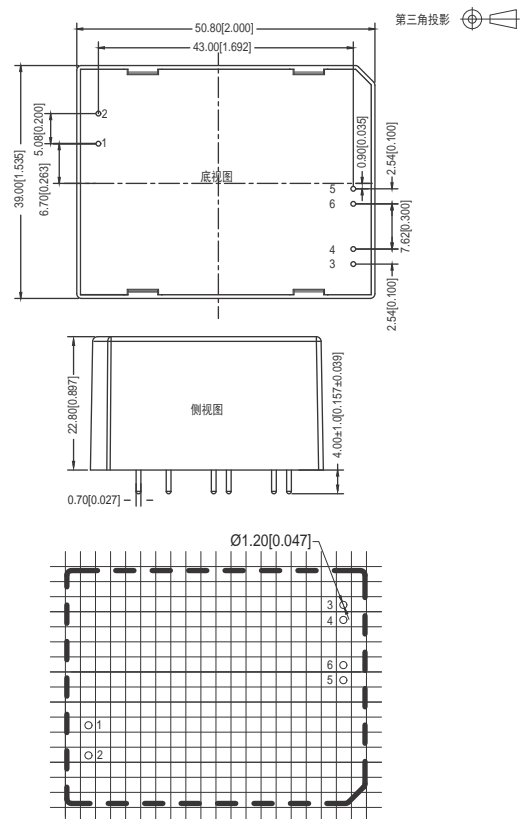
产品型号 Part no.	输入电压 Input voltage	输出电压电流 Output voltage/current		输出效率 Output efficiency (%TYP)
	范围值 Range (VAC/VDC)	电压 Voltage (VDC)	电流 Current (mA)	
DA24-220S3V3G2N3Y	85-305/ 120-430	3.3	4000	75
DA24-220S05G2N3Y		5	4000	77
DA24-220S12G2N3Y		12	2000	83
DA24-220S24G2N3Y		24	1000	85

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注2: 表格中为满载效率 (%TYP), 波动幅度为  $\pm 2\%$ , 满载输出效率等于输出的总功率除以电源模块的输入功率。  
Note 2: The fluctuation range of full load efficiency (%TYP) is  $\pm 2\%$ , full load output efficiency = total output power/module's input power.

管脚号码 Pin-out	1	2	3,4	5,6
单路 Single	AC(N)	AC(L)	+Vo	-Vo
功能	输入零线	输入火线	输出正极	输出负极
封装代号 Packing Code/ Dimension	L*W*H			
	50.80*39.00*22.80mm			
	2.000*1.535*0.897inch			

### 封装尺寸 / Packing Dimension



### 产品特性 / Product Features

- 国际通用全电压范围输入 Universal wide input voltage range
- 超低待机功耗  $\leq 0.20W$  Ultra low stand-by power consumption  $\leq 0.20W$
- 效率高达88% Transfer efficiency up to 88%
- 隔离电压 (Isolation voltage) : UA25-220EXXXH2 : 3750VAC, FA25-220SXXH2D4 : 3800VAC
- 隔离电压 (Isolation voltage) : FA25-220DXXH2D4, FA30-220SXXH2D4 : 4000VAC
- 外壳: 全封闭塑料外壳, 符合UL94V-0级 Case: 6-side shielding plastic, UL94V-0 class
- 工作环境温度 Operating Temp:  $-40^{\circ}C \sim +75^{\circ}C$
- 保护功能: 输出过流、短路保护 Protection: Output over-current, short-circuit
- 电磁兼容EMC: 裸机满足 (bare board) CISPR22/EN55032/GB9254 CLASS B
- 交直流两用 AC-DC dual use
- 通过CE、RoHS认证 Has passed CE, RoHS certification
- 应用领域: 工业控制、仪器仪表、通信、电力、智能家居、物联网、充电桩等领域  
Application Field: Industrial control, instrumentation, communication, electric power, smart home, internet, charging pile of things etc.
- 测试条件: 如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及 $25^{\circ}C$ 室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and  $T_a=25^{\circ}C$ .



### 封装尺寸 / Packing Dimension

### 产品列表 / Product List

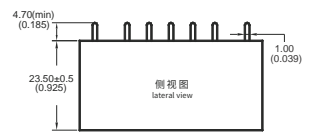
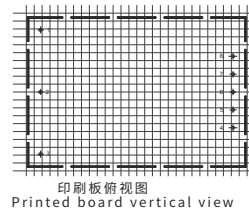
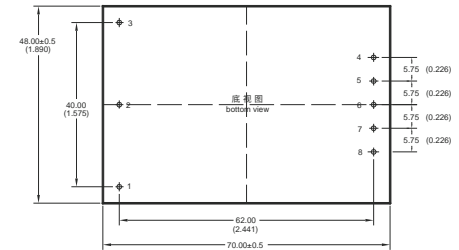


产品型号 Part no.	输入电压 Input voltage	输出电压电流 Output voltage/current				输出效率 Output efficiency
	范围值 Range (VAC/VDC)	电压 1 Voltage (VDC)	电流 1 Current (mA)	电压 2 Voltage (VDC)	电流 2 Current (mA)	(%TYP)
FA25-220S05H2D4	85-305/ 120-430	5	4200	/	/	78
FA25-220S09H2D4		9	2780	/	/	85
FA25-220S12H2D4		12	2083	/	/	85
FA25-220S15H2D4		15	1667	/	/	85
FA25-220S18H2D4		18	1389	/	/	85
FA25-220S24H2D4		24	1042	/	/	85
FA25-220S28H2D4		28	893	/	/	86
FA25-220S29H2D4		29	853	/	/	86
FA25-220S48H2D4		48	520	/	/	86
FA25-220D12H2D4	85-265/ 120-380	+12	+1041	-12	1041	82
FA25-220D15H2D4		+15	+833	-15	833	83
FA30-220S05H2D4	85-305/ 120-430	5	5000	/	/	78
FA30-220S09H2D4		9	3333	/	/	80
FA30-220S12H2D4		12	2500	/	/	82
FA30-220S15H2D4		15	2000	/	/	83
FA30-220S18H2D4		18	1667	/	/	85
FA30-220S24H2D4	24	1250	/	/	85	
UA25-220E0512H2	85-265/ 120-380	5	2500	12	833	85
UA25-220E0515H2		5	2000	15	1000	85

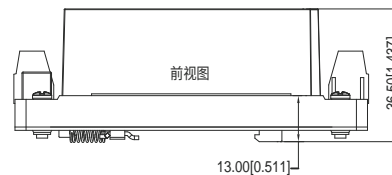
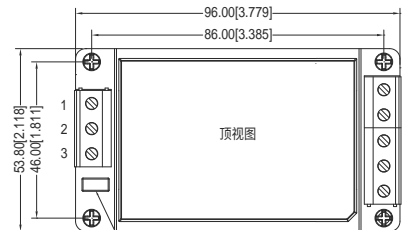
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Note 2: The fluctuation range of full load efficiency (%TYP) is  $\pm 2\%$ , full load output efficiency = total output power/module's input power.  
注3: 后缀带 "C" 为产品带 Ctrl 控制功能; -T 为接线式片封装, -TS 为导轨式封装, 导轨宽度 35mm。  
Note 3: Suffix with "C" means it with CTRL control function; "-T" suffix for chassis mounting, "-TS" suffix for DIN-Rail mounting, DIN-Rail width is: 35mm.

管脚号码 Pin-out	1	2	3	4	5	6	7	8
单路(S)	FG	AC(N)	AC(L)	+Vo	NP	NP	NP	-Vo
单路功能	接地	输入零线	输入火线	输出正极	空脚	空脚	空脚	输出负极
双路(D)	FG	AC(N)	AC(L)	+Vo1	NP	COM	NP	-Vo2
双路(D)功能	接地	输入零线	输入火线	输出正极1	空脚	输出公共端	空脚	输出负极2
双路隔离(E)	FG	AC(N)	AC(L)	+Vo2	-Vo2	NP	+Vo1	-Vo1
双路隔离(E)功能	接地	输入零线	输入火线	输出正极2	输出负极2	空脚	输出正极1	输出负极1

FA20/25/30/UA25-H2/H2D4封装尺寸: 70.00\*48.00\*23.50mm



FA30-220SXXH2-TS封装尺寸: 96.00\*53.80\*36.5mm

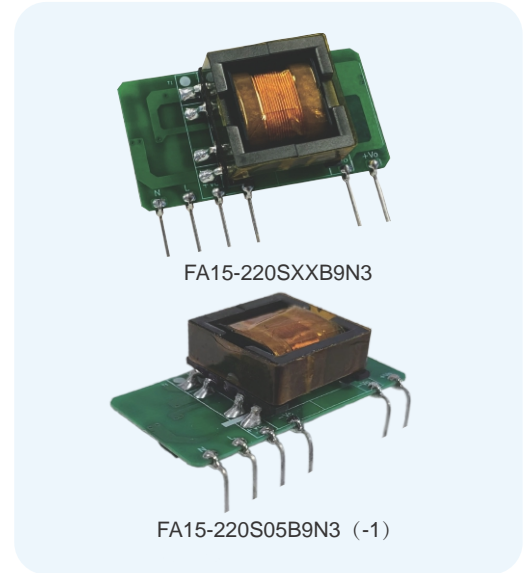


单位 (Unit): mm  
栅格间距 (lattice spacing): 2.54mm (0.1inch)  
未注尺寸公差 (General tolerance):  $\pm 0.5mm$   
未注明引脚直径公差 (Pin section tolerances):  $\pm 0.10mm$

带  
导  
轨

◆ 产品特性/Product Features

- 国际通用全电压范围输入 Universal wide input voltage range
- 超低待机功耗 ≤0.25W Ultra low stand-by power consumption ≤ 0.25W
- 效率高达82% Transfer efficiency up to 85%
- 隔离电压 (Isolation voltage) : 4000VAC
- 超小体积裸板、高功率密度、工业级设计 Ultra small size bare board, high power density, industrial class design
- 工作环境温度 Operating Temp: -40°C~+75°C
- 保护功能: 输出过流、短路保护 Protection: Output over-current, short-circuit
- 电磁兼容EMC: 裸机满足 (bare board) CISPR22/EN55032 CLASS B
- 交直流两用 AC-DC dual use
- 通过LPS (限功率电源) 测试 Pass LPS test
- PCB板上直插式安装 PCB Mounting
- 符合CE认证标准 Meet CE standard
- 应用领域: 工业控制、仪器仪表、通信、电力、智能家居、物联网等领域  
Application Field: Industrial control, instrumentation, communication, electric power, smart home, internet of things etc.
- 测试条件: 如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



◆ 产品列表/Product List



产品型号 Part no.	输入电压 Input voltage	输出电压电流 Output voltage/current		输出效率 Output efficiency (%TYP)
	范围值 Range (VAC/VDC)	电压 Voltage (VDC)	电流 Current (mA)	
FA15-220S05B9N3 (-1)	85-305/ 120-430	5	3000	80
FA15-220S12B9N3 (-1)		12	1250	83
FA15-220S12V7B9N3 (-1)		12.7	1181	82
FA15-220S24B9N3 (-1)		24	625	85

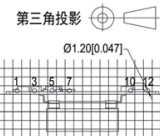
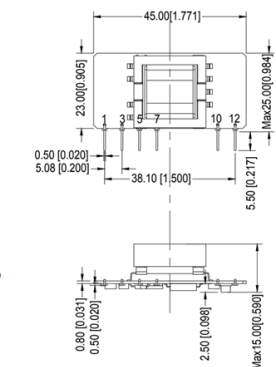
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Note 2: The fluctuation range of full load efficiency (%TYP) is ±2%, full load output efficiency = total output power/module's input power.

管脚号码 Pin-out	1	3	5	7	10	12
单路 Single	AC(N)	AC(L)	+V(cap)	-V(cap)	-Vo	+Vo
功能	输入零线	输入火线	电容正极	电容负极	输出负极	输出正极
封装代号 Packing Code/Dimension	L*W*H 45.00*23.00*15.00mm 1.771*0.905*0.590inch					

- 1.5/7脚间必须外接电容C1
- 2.输出必须外接π型滤波电路, 如产品规格书典型应用图1;
- 3.初级与次级的外围元器件要保持大于或等于6.4mm的安全距离

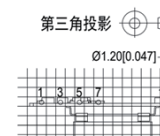
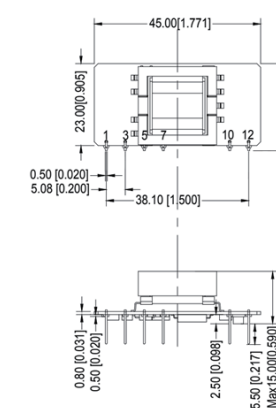
封装尺寸/Packing Dimension

封装尺寸:



注: 栅格距离 2.54\*2.54mm  
尺寸单位: mm[inch]  
未标注之公差: ±1.00mm[±0.039inch]  
器件布局仅供参考, 具体以实物为准

弯脚封装尺寸 (-1):



注: 栅格距离 2.54\*2.54mm  
尺寸单位: mm[inch]  
未标注之公差: ±1.00mm[±0.039inch]  
器件布局仅供参考, 具体以实物为准

单位 (Unit): mm

印刷板俯视图 (Printed board vertical view)

未注明引脚直径公差 ±0.10mm



### ◆ 产品特性 / Product Features

- 国际通用全电压范围输入 Universal wide input voltage range:85-305VAC/120-430VDC
- 超低待机功耗 ≤ 0.30W Ultra low stand-by power consumption ≤ 0.30W
- 效率高达86% Transfer efficiency up to 86%
- 隔离电压 (Isolation voltage) : 4000VAC
- 工作环境温度 Operating Temp:-40°C~+85°C
- 保护功能: 输出过流、短路保护 Protection: Output over-current, short-circuit
- 满足Meet CISPR22/EN55022 test standard 测试标准
- PCB板上直插式安装 PCB Mounting

● 应用领域: 工业控制、仪器仪表、通信、电力、智能家居、物联网等领域  
 Application Field: Industrial control, instrumentation, communication, electric power, smart home, internet of things etc.

● 测试条件: 如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
 Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



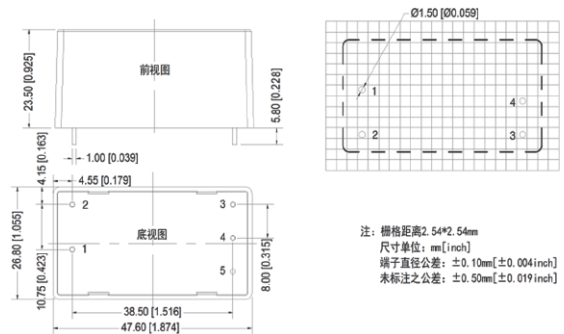
### ◆ 产品列表 / Product List



产品型号 Part no.	输入电压 Input voltage	输出电压电流 Output voltage/current		输出效率 Output efficiency (%TYP)
	范围值 Range (VAC/VDC)	电压 Voltage (VDC)	电流 Current (mA)	
FA15-220S05G2N4	85-305/ 120-430	5	3000	85
FA15-220S12G2N4		12	1250	85
FA15-220S12V5G2N4		12.5	1200	85
FA15-220S24G2N4		24	625	86

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 Note 1: Due to space limitations, above is only a part of our product list, please contact our sales team for more items.  
 注2: 表格中为满载效率(%TYP), 波动幅度为±2%, 满载输出效率等于输出的总功率除以电源模块的输入功率。  
 Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.

### 封装尺寸 / Packing Dimension



印刷板俯视图 (Printed board vertical view)  
 栅格间距 (lattice spacing): 2.54mm (0.1inch)  
 器件布局仅供参考, 具体以实物为准  
 (Component arrangement is just for reference, it should be subject to actual product.)

管脚号码 Pin-out	1	2	3	4
单路 Single	AC(L)	AC(N)	-Vo	+Vo
功能	输入火线	输入零线	输出负极	输出正极
封装代号 Packing Code/Dimension	L*W*H			
G	47.60*26.80*23.50mm			
	1.874*1.055*0.925inch			



◆ 产品特性 / Product Features

- 国际通用全电压范围输入 Universal wide input voltage range
  - 超低待机功耗 ≤ 0.15W Ultra low stand-by power consumption ≤ 0.15W
  - 效率高达86% Transfer efficiency up to 86%
  - 隔离电压 (Isolation voltage) : 4000VAC
  - 外壳: 全封闭塑料外壳, 符合UL94V-0级 Case: 6-side shielding plastic, UL94V-0 class
  - 工作环境温度 Operating Temp: -40°C~+75°C
  - 保护功能: 输出过流、短路保护 Protection: Output over-current, short-circuit
  - 电磁兼容EMC: 裸机满足 (bare board) CISPR22/EN55032 CLASS B
  - 交直流两用 AC-DC dual use
  - 通过CB、CE、RoHS认证 Has passed CB, CE, RoHS certification
- 应用领域: 工业控制、仪器仪表、通信、电力、智能家居、物联网、充电桩等领域  
Application Field: Industrial control, instrumentation, communication, electric power, smart home, internet, charging pile of things etc.
- 测试条件: 如无特殊指定, 所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



◆ 产品列表 / Product List

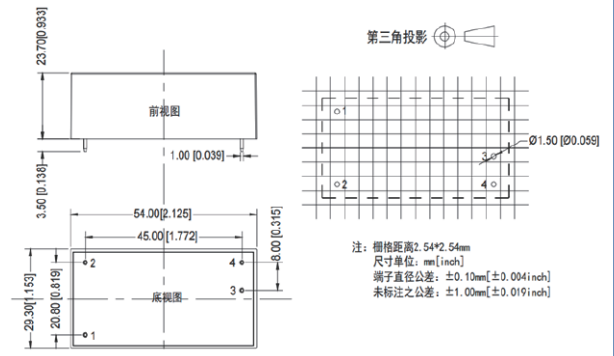


产品型号 Part no.	输入电压 Input voltage		输出电压电流 Output voltage/current		输出效率 Output efficiency (%TYP)
	范围值 Range	电压 Voltage	电流 Current		
	(VAC/VDC)	(VDC)	(mA)		
DA20-220S05G2N4	85-305/ 120-430	5	4000	84	
DA20-220S12G2N4		12	1666	86	
DA20-220S12V5G2N4		12.5	1600	86	
DA20-220S15G2N4		15	1333	86	
DA20-220S24G2N4		24	833	88	

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注2: 表格中为满载效率 (%TYP), 波动幅度为 ±2%, 满载输出效率等于输出的总功率除以电源模块的输入功率。  
Note 2: The fluctuation range of full load efficiency (%TYP) is ±2%, full load output efficiency = total output power/module's input power.

封装尺寸 / Packing Dimension

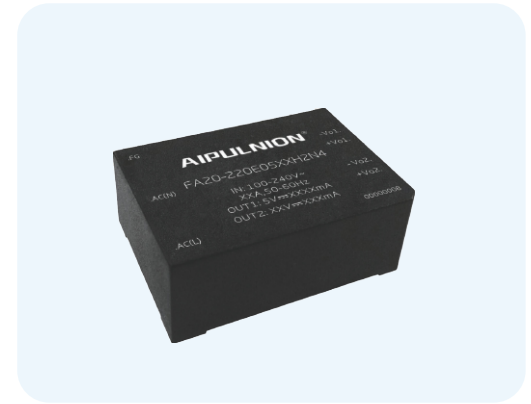


印刷板俯视图 (Printed board vertical view)  
栅格间距 (lattice spacing): 2.54mm(0.1inch)  
器件布局仅供参考, 具体以实物为准  
(Component arrangement is just for reference, it should be subject to actual product.)

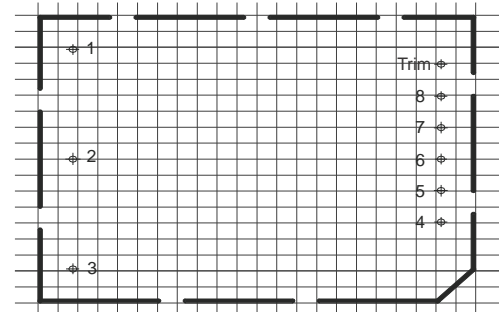
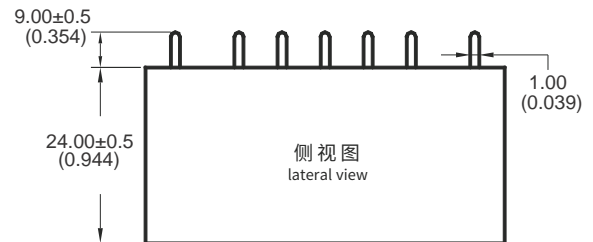
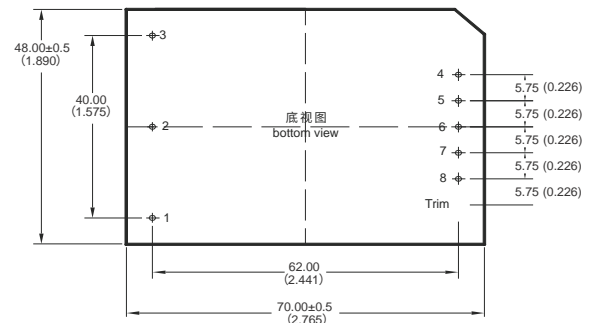
管脚号码 Pin-out	1	2	3	4
单路 Single	AC(L)	AC(N)	+Vo	-Vo
功能	输入火线	输入零线	输出正极	输出负极
封装代号 Packing Code/Dimension	L*W*H			
G2	54.00*29.30*23.70mm			
	2.126*1.153*0.933inch			

◆ 产品特性 / Product Features

- 国际通用全电压范围输入 Universal wide input voltage range
  - 超低待机功耗  $\leq 0.50W$  Ultra low stand-by power consumption  $\leq 0.50W$
  - 效率高达88% Transfer efficiency up to 78%
  - 隔离电压 (Isolation voltage) : 4000VAC
  - 外壳: 全封闭塑料外壳, 符合UL94V-0级 Case: 6-side shielding plastic, UL94V-0 class
  - 工作环境温度 Operating Temp:  $-40^{\circ}C \sim +70^{\circ}C$
  - 保护功能: 输出过流、短路保护 Protection: Output over-current, short-circuit
  - 电磁兼容EMC: 裸机满足 (bare board) CISPR22/EN55032 CLASS B
  - 交直流两用 AC-DC dual use
  - 通过CE、RoHS认证 Has passed CE, RoHS certification
- 应用领域: 工业控制、仪器仪表、通信、电力、智能家居、物联网、充电桩等领域  
Application Field: Industrial control, instrumentation, communication, electric power, smart home, internet, charging pile of things etc.
- 测试条件: 如无特殊指定, 所有参数测试均在标称输入电压、纯电阻额定负载及 $25^{\circ}C$ 室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and  $T_a=25^{\circ}C$ .



封装尺寸 / Packing Dimension



印刷板俯视图  
Printed board vertical view

单位 (Unit): mm  
 栅格间距 (lattice spacing): 2.54mm (0.1inch)  
 未注尺寸公差 (General tolerance):  $\pm 0.5mm$   
 未注明引脚直径公差 (Pin section tolerances):  $\pm 0.10mm$

◆ 产品列表 / Product List



产品型号 Part no.	输入电压 Input voltage	输出电压电流 Output voltage/current				输出效率 Output efficiency
	范围值 Range (VAC/VDC)	电压 1 Voltage (VDC)	电流 1 Current (mA)	电压 2 Voltage (VDC)	电流 2 Current (mA)	(%TYP)
FA20-220E0512H2N4	85-265/	5	2500	12	600	78
FA20-220E0524H2N4	120-370	5	2500	24	300	78

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 Note 2: The fluctuation range of full load efficiency (%TYP) is  $\pm 2\%$ , full load output efficiency = total output power/module's input power.  
 注3: 后缀带 "C" 为产品带Ctrl控制功能; -T为接线式封装, -TS为导轨式封装, 导轨宽度35mm。  
 Note 3: Suffix with "C" means it with CTRL control function; "-T" suffix for chassis mounting, "-TS" suffix for DIN-Rail mounting, DIN-Rail width is: 35mm.

管脚号码 Pin-out	1	2	3	4	5	6	7	8	9
双路 Dual	FG	AC(N)	AC(L)	+Vo2	-Vo2	NC	+Vo1	-Vo1	NC
功能	接大地	零线	火线	输出正极2	输出负极2	空脚	输出正极1	输出负极1	空脚



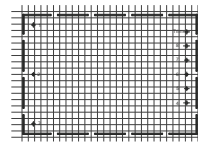
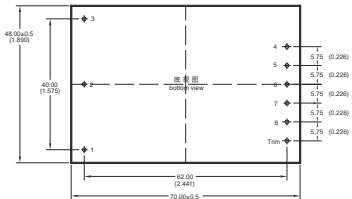
### ◆ 产品特性/Product Features

- 国际通用全电压范围输入 Universal wide input voltage range
  - 超低待机功耗  $\leq 0.50W$  Ultra low stand-by power consumption  $\leq 0.20W$
  - 效率高达79% Transfer efficiency up to 79%
  - 隔离电压 (Isolation voltage) : 4000VAC
  - 外壳: 全封闭塑料外壳, 符合UL94V-0级 Case: 6-side shielding plastic, UL94V-0 class
  - 工作环境温度 Operating Temp:  $-40^{\circ}C \sim +75^{\circ}C$
  - 保护功能: 输出过流、短路保护 Protection: Output over-current, short-circuit
  - 电磁兼容EMC: 裸机满足 (bare board) CISPR22/EN55032/GB9254 CLASS B
  - 交直流两用 AC-DC dual use
  - 通过CE、RoHS认证 Has passed CE, RoHS certification
- 应用领域: 工业控制、仪器仪表、通信、电力、智能家居、物联网、充电桩等领域  
Application Field: Industrial control, instrumentation, communication, electric power, smart home, internet, charging pile of things etc.
- 测试条件: 如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及 $25^{\circ}C$ 室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and  $T_a=25^{\circ}C$ .



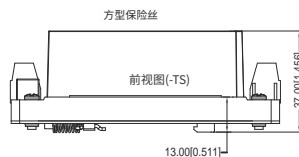
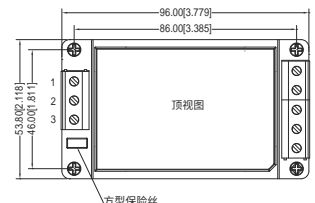
### 封装尺寸/Packing Dimension

H2封装尺寸: 70.00\*48.00\*24.00mm



印刷板俯视图  
Printed board vertical view

H2(-TS)封装尺寸: 96.00\*53.80\*32.50mm / 96.00\*53.80\*37.00mm



带导轨

### ◆ 产品列表/Product List



产品型号 Part no.	输入电压 Input voltage	输出电压电流 Output voltage/current				输出效率 Output efficiency
	范围值 Range (VAC/VDC)	电压 1 Voltage (VDC)	电流 1 Current (mA)	电压 2 Voltage (VDC)	电流 2 Current (mA)	(%TYP)
FA20-220H051212H2D4	85-265/	5	2000	±12	400	79
FA20-220H051515H2D4	120-370	5	2000	±15	300	79

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Note 2: The fluctuation range of full load efficiency (%TYP) is  $\pm 2\%$ , full load output efficiency = total output power/module's input power.

注3: 后缀带 "C" 为产品带 Ctrl 控制功能; "-T" 为接线式封装, "-TS" 为导轨式封装, 导轨宽度 35mm。  
Note 3: Suffix with "C" means it with CTRL control function; "-T" suffix for chassis mounting, "-TS" suffix for DIN-Rail mounting, DIN-Rail width is: 35mm.

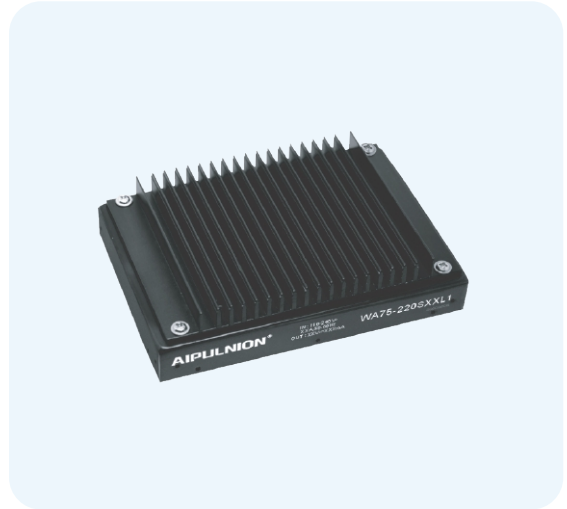
管脚号码 Pin-out	1	2	3	4	5	6	7	8
H2(-T)(-TS)	FG	AC(N)	AC(L)	+Vo2	COM	-Vo2	+Vo1	-Vo1
功能	接地	输入零线	输入火线	输出正极2	Vo2输出公共端	输出负极2	输出正极1	输出负极1

单位 (Unit): mm  
 栅格间距 (lattice spacing): 2.54mm (0.1inch)  
 未注尺寸公差 (General tolerance):  $\pm 0.5mm$   
 未注明引脚直径公差 (Pin section tolerances):  $\pm 0.10mm$



### ◆ 产品特性/Product Features

- 超宽输入电压范围 Universal wide input voltage range:100-265VAC/140-380VDC
  - 超低待机功耗 ≤0.20W Ultra low stand-by power consumption ≤ 0.20W
  - 效率高达86% Transfer efficiency up to 86%
  - 隔离电压 (Isolation voltage) : 2500VAC
  - 外壳:金属外壳屏蔽 Case : Metal case shielded
  - 工作环境温度 Operating Temp:-25°C~+65°C
  - 保护功能:输出过流、短路保护 Protection:Output over-current,short-circuit
  - 电磁兼容EMC:裸机满足(bare board) CISPR22/EN55032/GB9254 CLASS A
  - 交直流两用 AC-DC dual use
  - PCB板上直插式安装 PCB Mounting
- 应用领域:工业控制、仪器仪表、通信、电力、智能家居、物联网等领域  
Application Field:Industrial control, instrumentation, communication, electric power, smart home,internet of things etc.
  - 测试条件:如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



### ◆ 产品列表/Product List



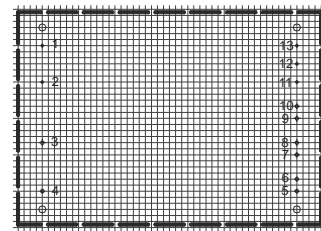
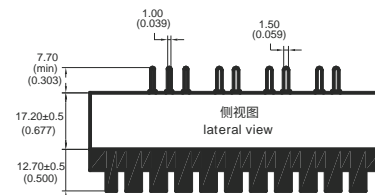
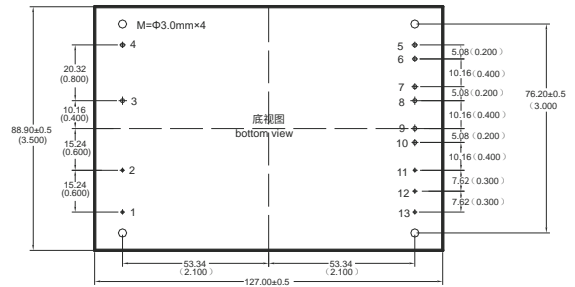
产品型号 Part no.	输入电压 Input voltage	输出电压电流 Output voltage/current		输出效率 Output efficiency (%TYP)
	范围值 Range (VAC/VDC)	电压 Voltage (VDC)	电流 Current (mA)	
WA75-220S05L1	100-265/ 140-380	5	15000	82
WA75-220S12L1		12	6250	85
WA75-220S24L1		24	3125	86
WA100-220S12L1		12	8333	85
WA100-220S24L1		24	4166	86
NA150-220S12L1	165-265/ 200-380	12	12500	84
NA150-220S24L1		24	6250	85
NA150-220S28L1		28	5357	86
NA150-220S36L1		36	4166	85

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注2:表格中为满载效率(%TYP),波动幅度为±2%,满载输出效率等于输出的总功率除以电源模块的输入功率。  
Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.

管脚号码 Pin-out	1	2	3	4	5:6	7:8
单路 Single	NC	FG	AC(N)	AC(L)	+Vo	NP
功能	无电气连接	接地	输入零线	输入火线	输出正极	空脚
管脚号码 Pin-out	9:10	11	12	13	L*W*H	
单路 Single	-Vo	+S	TRIM	-S		
功能	输出负极	正反反馈端	电压调节端	负反馈端	127.00*88.90*17.20mm	
封装代号 Packing Code/Dimension	L				5.000*3.500*0.667inch	

### 封装尺寸/Packing Dimension



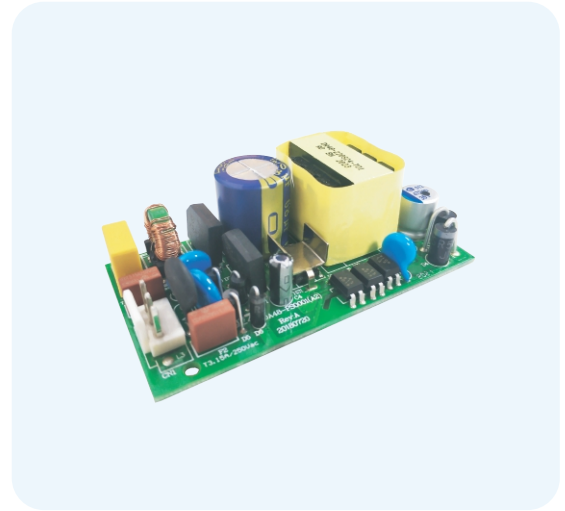
单位 (Unit) :mm  
印刷板俯视图 (Printed board vertical view)  
栅格间距 (latic spacing) :2.54mm(0.1inch)  
未注尺寸公差 (General tolerance) :±0.5mm  
未注明针脚直径公差 (Pin section tolerances) :±0.10mm

注意:电源模块的各管脚定义如与选型手册不符,应以实物标签上的标注为准。  
Note:If the definition of pin is not in accordance with the model selection manual, please refer to the label on actual item.



◆ 产品特性 / Product Features

- 超宽输入电压范围 Universal wide input voltage range:110-270VAC/150-385VDC
  - 超低待机功耗0.6W Ultra low stand-by power consumption 0.6W
  - 效率高达87% Transfer efficiency up to 87%
  - 隔离电压 (Isolation voltage) : 3000VAC
  - 工作环境温度 Operating Temp:-25°C~+50°C
  - 保护功能:输出过流、短路保护 Protection:Output over-current,short-circuit
  - 安全等级 (Security level) : CLASS II
- 应用领域:工业控制、办公、民用、电动窗帘等领域  
Application Field:Industrial control, office, civil applications,electric curtains of things etc.
  - 测试条件:如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



◆ 产品列表 / Product List

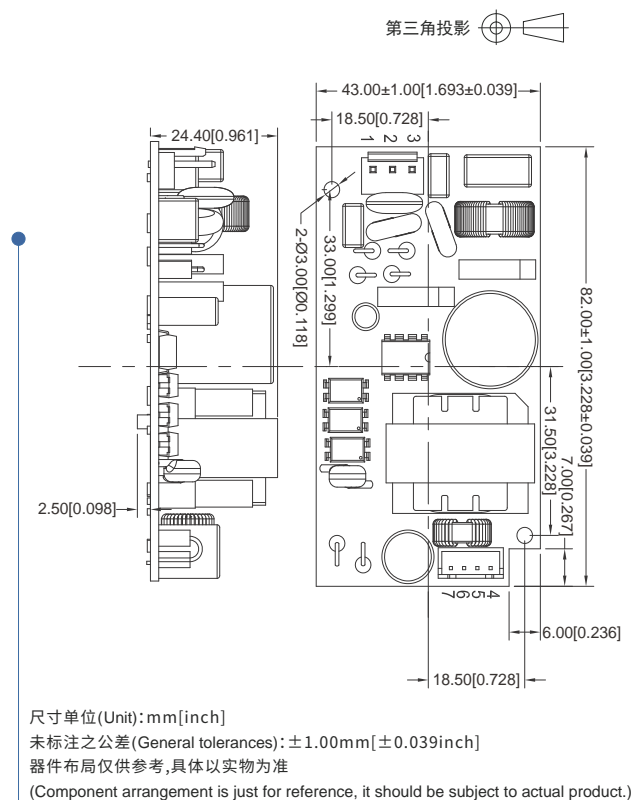


产品型号 Part no.	输入电压 Input voltage	输出电压电流 Output voltage/current		输出效率 Output efficiency
	范围值 Range (VAC/VDC)	电压 Voltage (VDC)	电流 Current (mA)	(%TYP)
DA48-220S24B	110-270/150-385	24	2000	87

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Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.

管脚号码 Pin-out	1	2	3	4
CN1	AC(L1)	AC(N)	AC(L2)	/
功能	输入火线	输入零线	输入火线	/
CN2	AC(2-3)	AC(2-1)	+Vo	-Vo
功能	控制IC5	控制IC4	输出正极	输出负极
封装代号 Packing Code/ Dimension	L*W*H			
B	82.00*43.00*24.40mm			
	3.228*1.693*0.961inch			

封装尺寸 / Packing Dimension





## ◆ 产品特性 / Product Features

- 超宽输入电压范围 Universal wide input voltage range:85-265VAC/120-380VDC
- 超低待机功耗  $\leq 0.30W$  Ultra low stand-by power consumption  $\leq 0.30W$
- 效率高达85% Transfer efficiency up to 85%
- 隔离电压 (Isolation voltage) : 3750VAC
- 外壳:全封闭金属外壳 Case : 6-side shielding metal
- 工作环境温度 Operating Temp:-40°C~+75°C
- 保护功能:输出过流、短路保护 Protection:Output over-current,short-circuit
- 安全等级 (Safety class) :CLASS II
- 交直流两用 AC-DC dual use
- PCB板上直插式安装 PCB Mounting
- 应用领域:工业控制、仪器仪表、通信、电力、智能家居、物联网、充电桩等领域  
Application Field:Industrial control, instrumentation, communication, electric power, smart home, internet,charging pile of things etc.
- 测试条件:如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and  $T_a=25^\circ\text{C}$ .



## ◆ 产品列表 / Product List



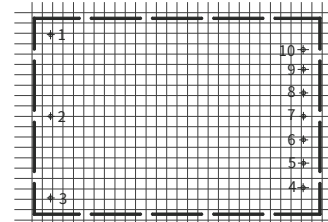
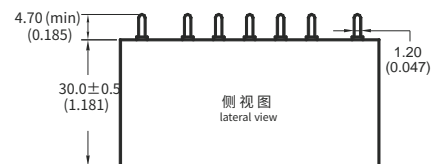
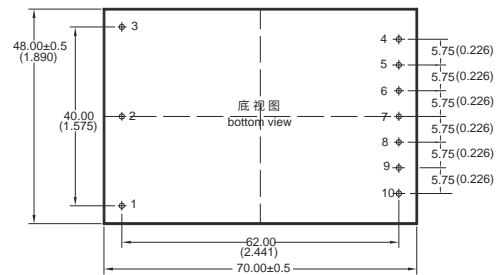
产品型号 Part no.	输入电压 Input voltage		输出电压电流 Output voltage/current		输出效率 Output efficiency (%TYP)
	范围值 Range	电压 Voltage	电流 Current		
	(VAC/VDC)	(VDC)	(mA)		
FA40-220S3V3H3N4	85-265/ 120-380	3.3	7000	76	
FA40-220S05H3N4		5	7000	78	
FA40-220S09H3N4		9	4444	80	
FA40-220S12H3N4		12	3333	83	
FA40-220S15H3N4		15	2667	83	
FA40-220S17H3N4		17	2353	85	
FA40-220S17V5H3N4		17.5	2290	85	
FA40-220S17V6H3N4		17.6	2290	85	
FA40-220S24H3N4		24	1667	86	

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Note 2: The fluctuation range of full load efficiency(%TYP) is  $\pm 2\%$ , full load output efficiency= total output power/module's input power.

管脚号码 Pin-out	1	2	3	4	5
单路 Single	FG	AC(N)	AC(L)	NP	+Vo
功能	接地	输入零线	输入火线	空脚	输出正极
管脚号码 Pin-out	6	7	8	9	10
单路 Single	NP	NP	NP	GND	NP
功能	空脚	空脚	空脚	输出地	空脚
封装代号 Packing Code/ Dimension	L*W*H				
H3	70.00*48.00*30.00mm				
	2.756*1.890*1.181inch				

## 封装尺寸 / Packing Dimension



单位 (Unit): mm  
印刷板俯视图 (Printed board vertical view)  
栅格间距 (lattice spacing): 2.54mm (0.1inch)  
未注尺寸公差 (General tolerance):  $\pm 0.5$ mm  
未注明针脚直径公差 (Pin section tolerances):  $\pm 0.10$ mm



## ◆ 产品特性 / Product Features

- 超宽输入电压范围 Universal wide input voltage range: W2D4: 85-265VAC/120-380VDC, W2N4: 85-305VAC/120-430VDC
- 超待机功耗  $\leq 0.30W$  Ultra low stand-by power consumption  $\leq 0.30W$
- 效率高达86% Transfer efficiency up to 86%
- 隔离电压 (Isolation voltage) : 4000VAC
- 外壳: 全封闭金属外壳 Case : 6-side shielding metal
- 工作环境温度 Operating Temp:  $-40^{\circ}C \sim +75^{\circ}C$
- 保护功能: 输出过流、短路保护 Protection: Output over-current, short-circuit
- 电磁兼容 EMC: 裸机满足 (bare board) CISPR22/EN55032 CLASS B
- 交直流两用 AC-DC dual use
- 通过LPS (限功率电源) 测试 Pass LPS test
- PCB板上直插式安装 PCB Mounting
- 通过CE、RoHS认证 Has passed CE, RoHS certification
- 应用领域: 工业控制、仪器仪表、通信、电力、智能家居、物联网等领域**  
Application Field: Industrial control, instrumentation, communication, electric power, smart home, internet of things etc.
- 测试条件: 如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及 $25^{\circ}C$ 室温环境下测得**  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and  $T_a=25^{\circ}C$ .



## ◆ 产品列表 / Product List



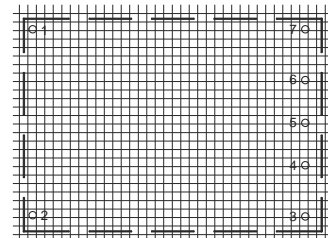
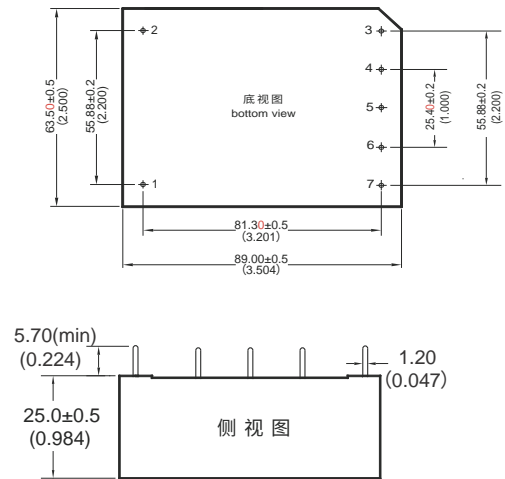
产品型号 Part no.	输入电压 Input voltage		输出电压电流 Output voltage/current		输出效率 Output efficiency (%TYP)
	范围值 Range (VAC/VDC)	电压 Voltage (VDC)	电流 Current (mA)		
FA40-220S05W2D4	85-265/ 120-380	5	8000	79	
FA40-220S12W2D4		12	3333	84	
FA40-220S24W2D4		24	1667	86	
FA40-220S05W2N4	85-305/ 120-430	5	8000	79	
FA40-220S12W2N4		12	3333	83	
FA40-220S24W2N4		24	1667	86	

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Note 2: The fluctuation range of full load efficiency (%TYP) is  $\pm 2\%$ , full load output efficiency = total output power/module's input power.

管脚号码 Pin-out	1	2	3	4	5	6	7
单路 Single	AC(L)	AC(N)	Trim	NC	-Vo	NC/NP	+Vo
功能	输入火线	输入零线	调压脚	无	输出负极	无	输出正极
封装代号 Packing Code/ Dimension	L*W*H						
W2	89.00*63.50*25.00mm						
	3.504*2.500*0.984inch						

## 封装尺寸 / Packing Dimension



单位 (Unit): mm  
印刷板俯视图 (Printed board vertical view)  
栅格间距 (lattice spacing): 2.54mm (0.1inch)  
未注尺寸公差 (General tolerance):  $\pm 0.25$  mm  
未注明引脚直径公差 (Pin section tolerances):  $\pm 0.10$  mm

◆ 产品特性 / Product Features

- 超宽输入电压范围 Universal wide input voltage range:85-265VAC/120-380VDC
- 超低待机功耗1W Ultra low stand-by power consumption 0.5W
- 效率高达82% Transfer efficiency up to 82%
- 隔离电压 (Isolation voltage) : 3000VAC
- 工作环境温度 Operating Temp:-25°C~+70°C
- 保护功能:输出过流、短路保护 Protection:Output over-current,short-circuit
- 裸板 Bare board
- 螺丝固定安装 Screw Mounting
- 应用领域:工业控制、仪器仪表、通信、电力、智能家居、物联网等领域  
Application Field:Industrial control, instrumentation, communication, electric power, smart home, internet of things etc.
- 测试条件:如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



◆ 产品列表 / Product List

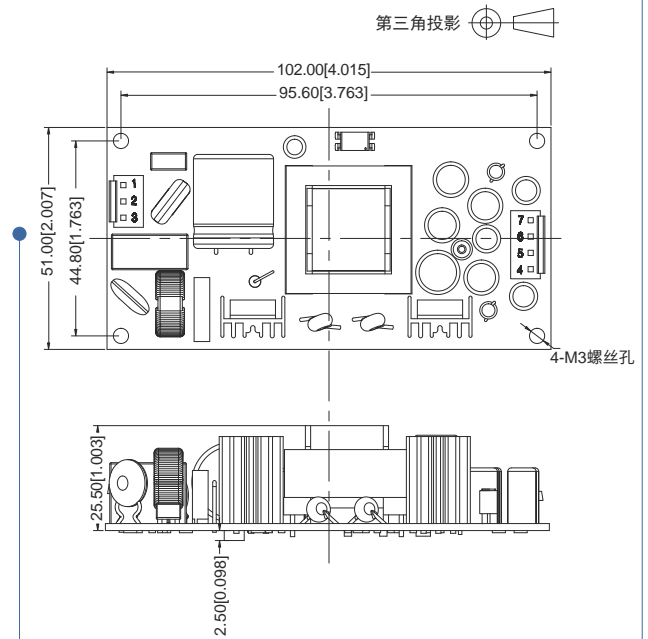


产品型号 Part no.	输入电压 Input voltage	输出电压电流 Output voltage/current						输出效率 Output efficiency
	范围值 Range (VAC/VDC)	电压1 +Vo1 (VDC)	电流1 Io1 (mA)	电压2 +Vo2 (VDC)	电流2 Io2 (mA)	电压3 -Vo3 (VDC)	电流3 Io3 (mA)	(%TYP)
DA45-220T05 1205G9N3	85-265/ 120-380	5	3000	12	2000	-5	300	80
DA45-220T05 1212G9N3		5	3000	12	2000	-12	300	80
DA45-220T05 1515G9N3		5	3000	15	1600	-15	300	82

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Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.

管脚号码 Pin-out	1	3	4	5	6	7
单路 Single	AC(L)	AC(N)	-Vo3	COM	+Vo2	+Vo1
功能	输入火线	输入零线	输出负极	公共地	输出正极	输出正极
封装代号 Packing Code/ Dimension	L*W*H					
/	102.00*51.00*28.00mm					
/	4.016*2.008*1.102inch					

封装尺寸 / Packing Dimension



尺寸单位 (Unit): mm [inch]  
未标注之公差 (General tolerances): ±1.00mm [±0.039inch]  
输入CN1型号: 输入VH-3A(空中间位), 客户端连接器: VH-3Y  
(Input CN1 model: Input VH-3A(no pin for the middle hole), client connector: VH-3Y)  
输出CN2型号: 输出VH-4A, 客户端连接器: VH-4Y  
(Output CN2 model: Output VH-4A, client connector: VH-4Y)  
安装孔拧紧力矩 (Installation hole tightening torques): Max0.4N·m  
器件布局仅供参考, 具体以实物为准  
(Component arrangement is just for reference, it should be subject to actual product.)



◆ 产品特性 / Product Features

- 超宽输入电压范围 Universal wide input voltage range:85-900VAC
- 超低待机功耗1W Ultra low stand-by power consumption 1W
- 效率高达89% Transfer efficiency up to 89%
- 隔离电压 (Isolation voltage) : 4000VAC
- 工作环境温度 Operating Temp:-25°C~+70°C
- 保护功能:输出过流、短路保护 Protection:Output over-current,short-circuit
- 符合CE、RoHS认证标准 Meet CE、RoHS standard
- 专为煤矿电气设备设计 Designed for coal mine electrical equipment
- 应用领域:煤矿、新能源、安防等领域  
Application Field:Coal Industry, alternative energy, Security Industry of things etc.
- 测试条件:如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



◆ 产品列表 / Product List

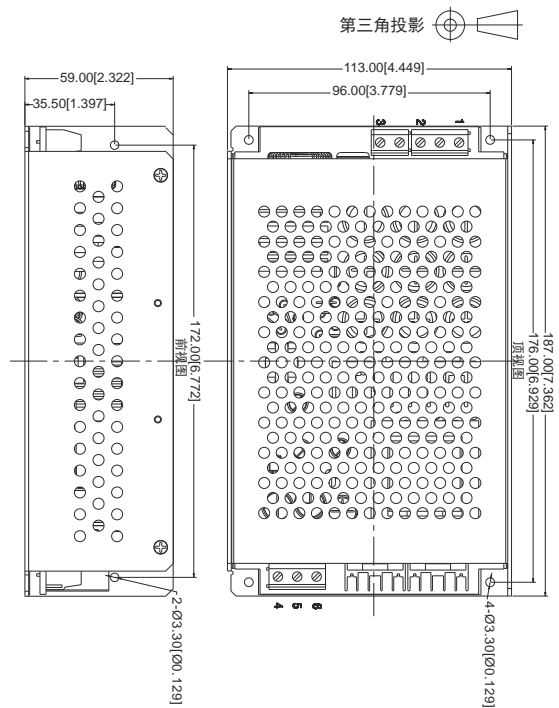


产品型号 Part no.	输入电压 Input voltage		输出电压/电流 Output voltage/current		输出效率 Output efficiency (%TYP)
	范围值 Range (VAC)	电压 Voltage (VDC)	电流 Current (mA)		
DA120-1000S24G1N4	85-900	24	5000	88	
DA120-1000S28G1N4		28	4300	88	
DA120-1000S35G1N4		35	3500	89	
DA120-1000S48G1N4		48	2500	90	

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Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.

管脚号码 Pin-out	1	2	3	4	5	6
单路 Single	PE	AC(L)	AC(N)	Trim	-Vo	+Vo
功能	输入地线	输入火线	输入零线	调节控制端	输出负极	输出正极
封装代号 Packing Code/Dimension	L*W*H					
/	187.00*113.00*59.00mm					
/	7.362*4.449*2.323inch					

封装尺寸 / Packing Dimension

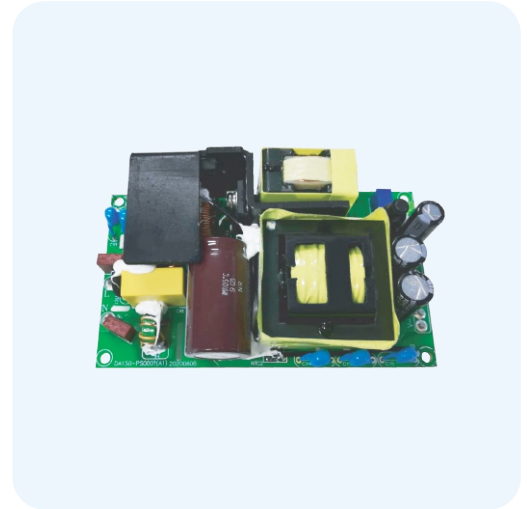


单位 (Unit) : mm  
接线线径 (Wire diameter of terminal) : 24~12AWG  
紧固力矩 (tightening torque) : Max0.4N·m  
未注尺寸公差 (General tolerance) : ±0.5mm



◆ 产品特性/Product Features

- 超宽输入电压范围 Universal wide input voltage range:80-264VAC
- 超低待机功耗0.15W Ultra low stand-by power consumption 0.15W
- 效率高达94% Transfer efficiency up to 94%
- 隔离电压 (Isolation voltage) : 3000VAC
- 工作环境温度 Operating Temp:-30°C~+70°C
- 保护功能:输出过流、短路保护 Protection:Output over-current,short-circuit
- 符合CE、RoHS认证标准 Meet CE、RoHS standard
- 专为5G电气设备设计 Designed for 5G electrical equipment
- 应用领域:5G、安防等领域  
Application Field:5G, Security Industry of things etc.
- 测试条件:如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



◆ 产品列表/Product List

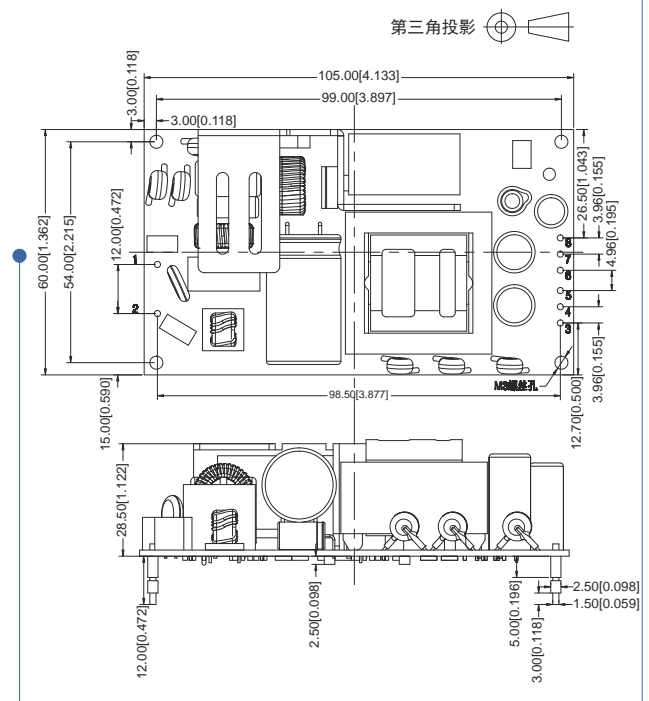


产品型号 Part no.	输入电压 Input voltage	输出电压电流 Output voltage/current		输出效率 Output efficiency
	范围值 Range (VAC)	电压 Voltage (VDC)	电流 Current (mA)	(%TYP)
DA150-220S12G9N3	85-264	12	11700	93
DA150-220S24G9N3		24	5900	94
DA150-220S48G9N3		48	3000	94

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Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.

管脚号码 Pin-out	1	2	3	4	5	6	7	8
单路 Single	AC(L)	AC(N)	-Vo	-Vo	-Vo	+Vo	+Vo	+Vo
功能	输入火线	输入零线	输出负极	输出负极	输出负极	输出正极	输出正极	输出正极
封装代号 Packing Code/Dimension	L*W*H							
/	105.00*60.00*31.00mm							
/	4.134*2.362*1.220inch							

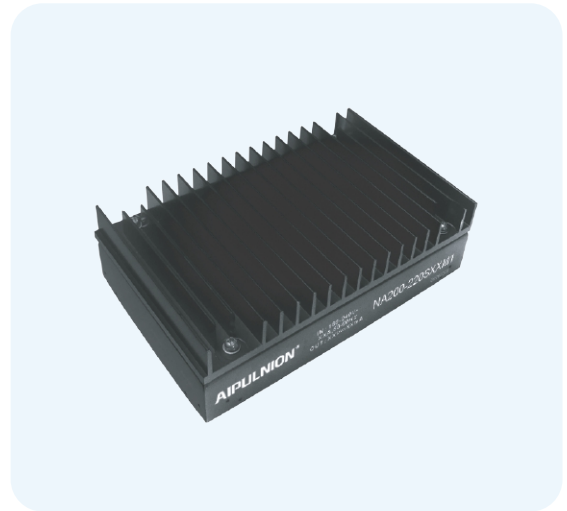
封装尺寸/Packing Dimension



单位 (Unit) : mm  
 端子直径公差 (Pin section tolerances) : ±0.10mm  
 未注尺寸公差 (General tolerance) : ±0.5mm  
 器件布局仅供参考, 具体以实物为准  
 (Component arrangement is just for reference, it should be subject to actual product.)

◆ 产品特性/Product Features

- 超宽输入电压范围 Universal wide input voltage range:165-265VAC/230-370VDC
  - 超低待机功耗 ≤0.20W Ultra low stand-by power consumption ≤ 0.20W
  - 效率高达88% Transfer efficiency up to 88%
  - 隔离电压 (Isolation voltage) : 2500VAC
  - 外壳:金属外壳屏蔽 Case : Metal case shielded
  - 工作环境温度 Operating Temp:-25°C~+65°C
  - 保护功能:输出过流、短路保护 Protection:Output over-current,short-circuit
  - 电磁兼容EMC:裸机满足(bare board) CISPR22/EN55032/GB9254 CLASS A
  - 交直流两用 AC-DC dual use
  - PCB板上直插式安装 PCB Mounting
  - CLASS II电源并通过LPS(限功率电源)测试 CLASS II and pass LPS test
  - 符合CE认证标准 Meet CE standard
- 应用领域:工业控制、仪器仪表、通信、电力、智能家居、物联网等领域  
Application Field:Industrial control, instrumentation, communication, electric power, smart home, internet of things etc.
- 测试条件:如无特殊指定、所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



◆ 产品列表/Product List



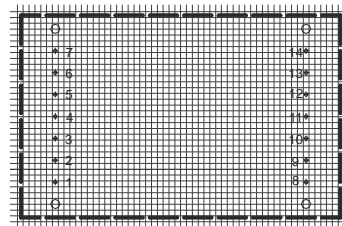
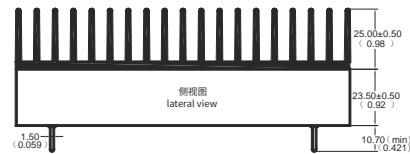
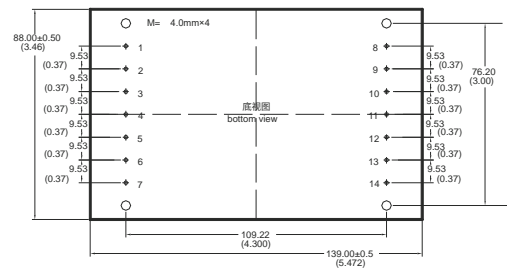
产品型号 Part no.	输入电压 Input voltage		输出电压电流 Output voltage/current		输出效率 Output efficiency (%TYP)
	范围值 Range		电压 Voltage	电流 Current	
	(VAC/VDC)		(VDC)	(mA)	
NA200-220S12M1	165-265/ 230-370		12	16600	88
NA200-220S15M1			15	13300	88
NA200-220S24M1			24	8333	87

注1:因篇幅有限,以上只是部分产品列表,若需列表以外产品,请与本公司销售部联系。  
Note 1: Due to space limitations, above is only a part of our product list, please contact our sales team for more items.

注2:表格中为满载效率(%TYP),波动幅度为±2%,满载输出效率等于输出的总功率除以电源模块的输入功率。  
Note 2: The fluctuation range of full load efficiency(%TYP) is ±2%, full load output efficiency= total output power/module's input power.

管脚号码 Pin-out	1	2	3	4,5,6	7	8,9
单路 Single	AC(N)	NP	AC(L)	NP	FG	+Vo
功能	输入零线	空脚	输入火线	空脚	接地	输出正极
管脚号码 Pin-out	10,11	12	13	14	L*W*H	
单路 Single	-Vo	+S	TRIM	-S		
功能	输出负极	正反馈端	电压调节端	负反馈端	139.00*88.00*23.50mm	
封装代号 Packing Code/Dimension	M				5.472*3.465*0.925inch	

封装尺寸/Packing Dimension



单位 (Unit):mm  
印刷板俯视图 (Printed board vertical view)  
栅格间距 (lattice spacing): 2.54mm(0.1inch)  
未注尺寸公差 (General tolerance): ±0.5mm  
未注明引脚直径公差 (Pin section tolerances): ±0.10mm

◆ 产品特性/Product Features

- 国际通用全电压范围输入 Universal wide input voltage range:85-305VAC
- 体积小、温度特性好 Small size, good temperature characteristics
- 外壳:全封闭塑料外壳,符合UL94V-0级 Case:6-side shielding plastic,UL94V-0 class
- 卧式、接线式、导轨式三种封装形式 Three types of packaging: horizontal, wiring, and rail
- 工作环境温度 Operating Temp:-40°C~+70°C
- 抑制交流电源线浪涌电压,实现一级保护 Suppress AC power line surge voltage to achieve primary protection
- 搭配电源使用可满足 CE 的 CLASS-B 限制要求 Used with power supply to meet CE's CLASS-B restriction requirements
- 搭配电源模块使用可过浪涌:DM-4KV、CM-6KV Can survive surge when used with power module: DM-4KV, CM-6KV
- 测试条件:如无特殊指定,所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得 Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



◆ 产品列表/Product List

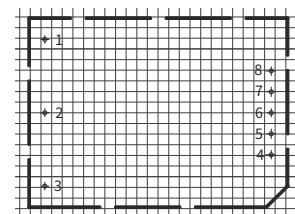
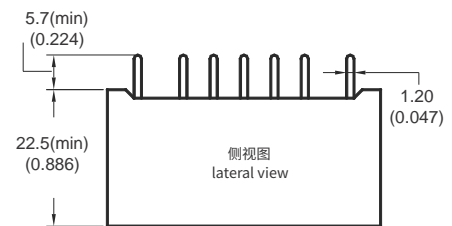
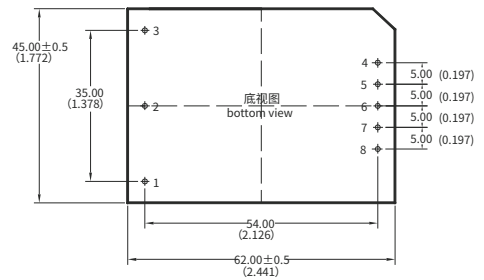


产品型号 Part no.	输入电压 Input voltage	额定输出电流 Rated output current	符合标准 Conforming standards
	范围值 Range (VAC)	(mA&MAX)	EN61000-4-5 CISPR32/EN55032 CLASS-B
LC-AC01F2	85-305	500	

注 1:符合 EMC 标准 IEC/EN61000-4-5 及 CISPR32/EN55032。  
 Note 1: Comply with EMC standards IEC/EN61000-4-5 and CISPR32/EN55032.  
 注 2:该滤波器模块可兼容我司 AC-DC 电源模块输入 85-265AC, 输出 2-20W 的产品满足 MEC 标准要求。  
 Note 2: The filter module is compatible with our AC-DC power supply module input 85-265AC, output 2-20W products, and meet the MEC standard requirements.

管脚号码 Pin-out	1	2	3	4	5,6,7	8
双路 Dual	PE	IN(N)	IN(L)	OUT(L)	NC	OUT(N)
功能	功能接地	零线输入	火线输入	火线输出	空脚	零线输出
封装代号 Packing Code/Dimension	L*W*H					
F2	卧式封装	62.00*45.00*22.50mm				
		2.441*1.772*0.886inch				

封装尺寸/Packing Dimension



印刷板俯视图  
Printed board vertical view

单位(Unit):mm  
 印刷板俯视图(Printed board vertical view)  
 栅格间距(lattice spacing):2.54mm(0.1inch)  
 未注尺寸公差(General tolerance):±0.5mm  
 未注明针脚直径公差(Pin section tolerances):±0.10mm

◆ 产品特性/Product Features

- 国际通用全电压范围输入 Universal wide input voltage range:85-265VAC
- 体积小、温度特性好 Small size, good temperature characteristics
- 外壳:全封闭塑料外壳,符合UL94V-0级 Case:6-side shielding plastic,UL94V-0 class
- PCB板上直插式安装 PCB Mounting
- 工作环境温度 Operating Temp:-40°C~+80°C
- 搭配电源使用可满足 EMI 的 CLASS-B 限制要求  
Used with power supply to meet EMI's CLASS-B restriction requirements
- 搭配电源模块使用可过浪涌:DM-2KV、CM-4KV  
Can survive surge when used with power module: DM-2KV, CM-4KV
- 测试条件:如无特殊指定,所有参数测试均在标称输入电压、纯电阻额定负载及25°C室温环境下测得  
Test condition: Unless otherwise specified, data in the datasheet is tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.



◆ 产品列表/Product List

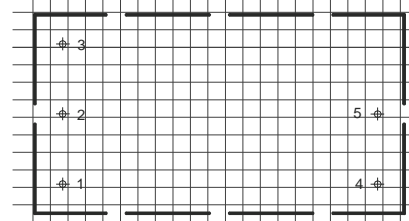
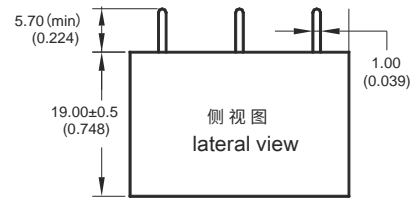
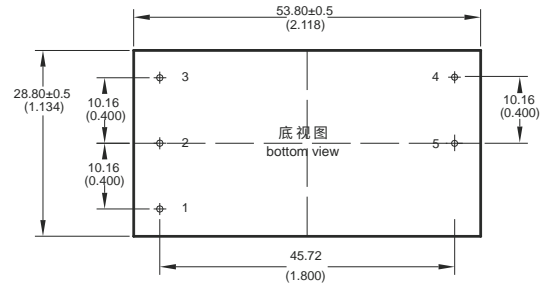


产品型号 Part no.	输入电压 Input voltage	额定输出电流 Rated output current (mA&MAX)	符合标准 Conforming standards
	范围值 Range		EN61000-4-5
	(VAC)		CLASS-4 EN55032
LC-AC01P2	85-265	1200	CLASS-B

注 1:符合 EMC 标准 IEC/EN61000-4-5 及 CISPR32/EN55032。  
 Note 1: Comply with EMC standards IEC/EN61000-4-5 and CISPR32/EN55032.  
 注 2:该滤波器模块可配套我司 AC-DC 电源模块输入 85-305VAC, 85-265VAC。  
 Note 2: The filter module can be matched with our AC-DC power supply module that input 85-305VAC, 85-265VAC.  
 注 3:满足输出功率 2-20W 的产品顺利通过 CE、SURGE 等标准要求检测。  
 Note 3: Meets the product with output power 2-20W. Have successfully passed the CE, SURGE and other standard requirements.

管脚号码 Pin-out	1	2	3	4	5
双路 Dual	PE	IN(N)	IN(L)	OUT(L)	OUT(N)
功能	功能接地	零线输入	火线输入	火线输出	零线输出
封装代号 Packing Code/Dimension	L*W*H				
F2	53.80*28.80*19.00mm				
	2.118*1.134*0.748inch				

封装尺寸/Packing Dimension

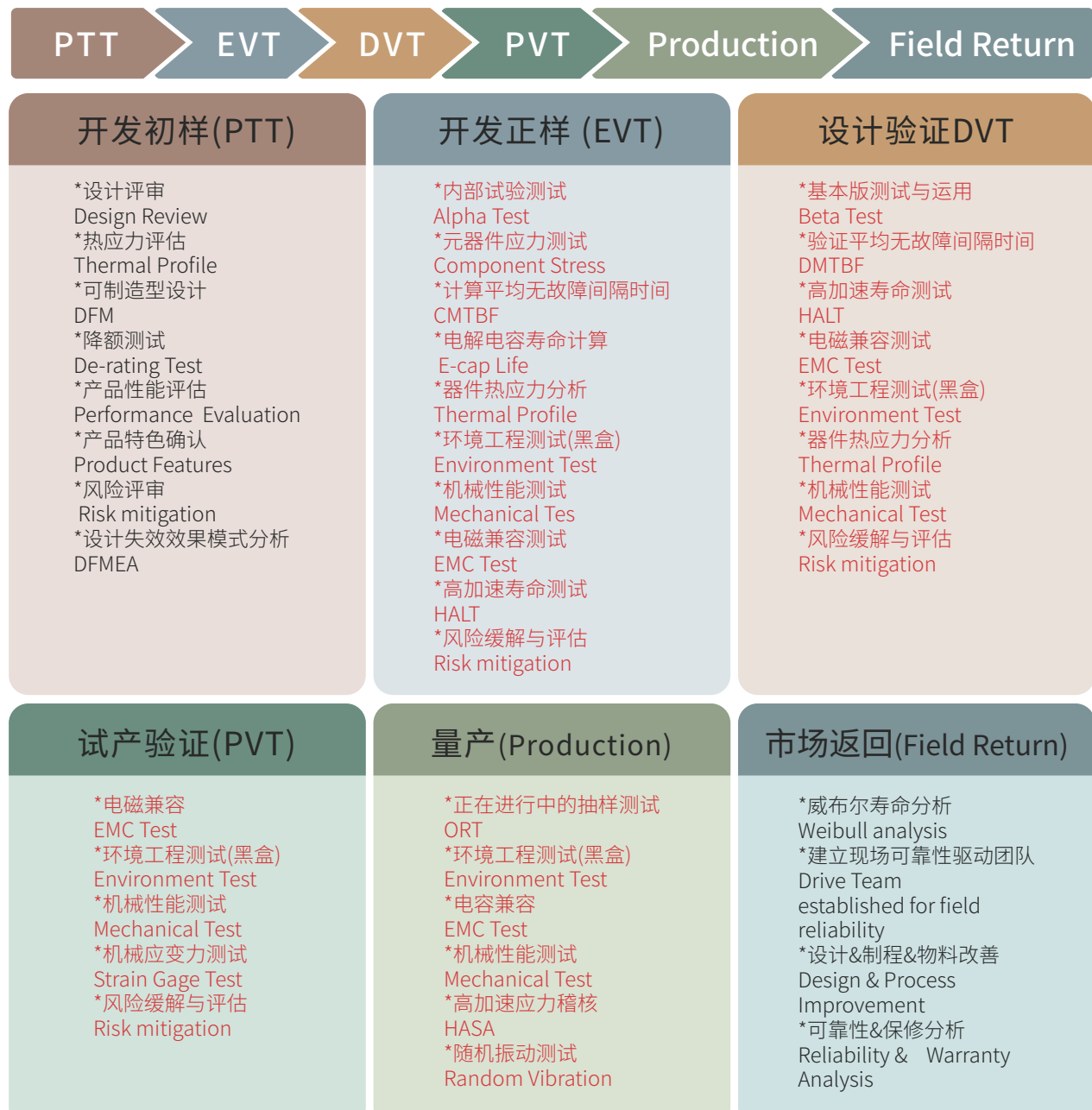


单位(Unit):mm  
 印刷板俯视图(Printed board vertical view)  
 栅格间距(lattice spacing):2.54mm(0.1inch)  
 未注尺寸公差(General tolerance):±0.5mm  
 未注明针脚直径公差(Pin section tolerances):±0.10mm

## ▶ 电源产品可靠性实验

产品可靠性包含可靠性设计、可靠性预计、可靠性分析、可靠性验证、可靠性实验，其中可靠度试验包含内容有环境试验、机械应力试验、耐气候测试试验、功能试验、EMC及安规试验等。

### ■ 产品在各个阶段运用到的可靠度试验项目



### ■ 参照标准(Reference standard)

GB T2421~GB T2424---中国国家标准;

MIL-HDBK-217/251/781---美国军标;

IEC60068---国际电工委员会;

IPC9592B---国际电子工业联接协会;

Bellcore SR 332---美国贝尔通信实验室;

IPC-A-610F---国际电子工业联接协会;





## 目的

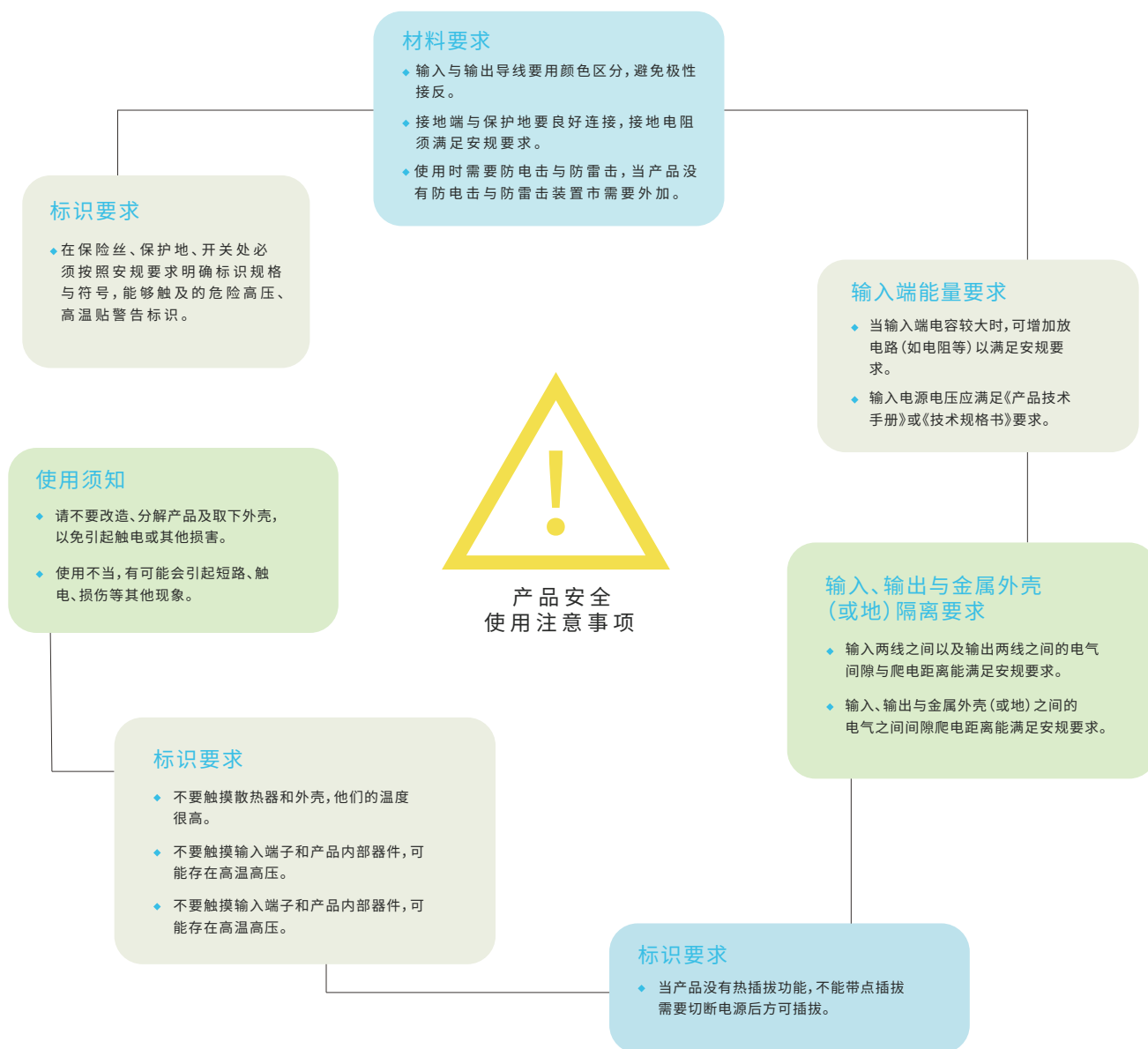
预防客户在使用产品过程中可能出现的安全问题。

## 适用范围

广州市爱浦电子科技有限公司生产的AC/DC&DC/DC&铃流系列模块电源

## 内容

客户在设计选型/批量投产之前,应确保仔细阅读《产品技术手册》中相关型号的所有内容,并按《产品技术手册》中的要求进行产品设计和使用的。



客户在使用过程中遇到问题时,请与我们联系。

电话:020-84206763 E-mail:sale@aipu-elec.com

# 电源测试



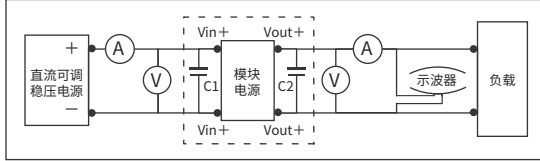
## 电源模块的测试

合适的电源选定后，仍然非常重要。重要的是应用于实际单元电路中的电气性能，使用前产品要经过严格测试合格才能使用，下面以DC-DC为例介绍模块电源的一般测试方法，AC-DC模块的测试在原理上完全一样，在此不重复描述。

### 1. 测试采用标准的开尔文四端测试法

如图：

测试条件：温室TA=25°C 湿度<75%。标称输入和额定负载。



模型的组成：

- a. 直流可调稳压电源：输入电压范围足够大
- b. 电流表A：精度在0.001A
- c. 电压表V：精度在0.001V
- d. 负载电阻：额定负载： $U^2/P$   
轻载： $10\%*(U^2/P)$
- e. 连线：线损越小越好，以1mm多股铜线最佳，以免造成过大压降。

测试：

A: 连线

保证较高的测量精度就要减小连接导线引起的误差，过长过细的连接线及不良的接触会引起较大的回路压降，并大大降低电源模块负载调节率，尤其在负载电流较大时应尽量缩短输出引脚与各负载间的距离，并增加连接导线截面积来减小阻抗产生的压降。一般DC-DC模块的输入不能反接，输入输出电压表连接模块引脚，并选择满足功率大小的负载，将输入电压和负载调节到标称值，便可以测量。

B: 接地

不恰当的接地会引入附加的噪声，对于测量纹波和噪声，避免其他电器通过电源线串入模块，在测量时建议采用单通道探头直接测量法测量输出，避免输入输出共地和外界干扰产生的测量误差。（参见图“纹波和噪声”）

C: 负载

为了安全测量取得有效的测试数据，对于定电压产品必须保证在10-100%之间负载，容性负载不能大于技术资料规定值，才能保证较为准确的电压和纹波输出；对于宽压产品可先10%的负载测试确定好坏，再进行额定负载的准确性测试。具体外接图示参考产品技术资料。

### 2. 电源模块的性能

连接好电源模块就可以进行性能的测试和判定，确认性能参数是否达标。

1) 输出电压精度：

设置输入电压为标称值，输出为额定负载，测得输出电压记为Vout；输出标称值记为Vnom。

计算公式：

$$\frac{V_{OUT}-V_{NOM}}{V_{NOM}} \times 100\%$$

如：稳压产品FW1-12S12B标称12V输出，额定负载为144Ohm。测得实际输出电压12.039V。

则有：

$$\frac{12.039VDC-12.000VDC}{12.000VDC} \times 100\%=0.3255\%$$

2) 线性电压调节率：

负载为满载时在允许变化范围内调节输入电压，测量输出电压的最大值和最小值之差值比例。

$$\text{线性调节率} = \frac{V_{OUTN}-V_{MDEV}}{V_{OUTN}} \times 100\%$$

在标称电压输入，额定负载下，测得输出电压记为VoutN；在输入电压上限，额定负载下，测得输出电压记为VoutH；在输入电压下限，额定负载下，测得输出电压记为VoutL；VMDEV取VoutH,VoutL中偏离VoutN最大值。

定电压输入隔离非稳压输出系列：

$$\text{线性调节率} = \left| \frac{\Delta V_{OUT}}{\Delta V_{IN}} \right|$$

$$\Delta V_{OUT} = \frac{V_{OUT(1+10\%)}-V_{OUT(1-10\%)}}{V_{OUTNOM}} \times 100\%$$

$$\Delta V_{IN} = \frac{V_{IN(1+10\%)}-V_{IN(1-10\%)}}{V_{INNOM}} \times 100\%$$

式中：

Vin(1+10%)	将输入电压标称值+10%作为其输入电压
Vin(1-10%)	上限；将输入电压标称值-10%作为其输入
Vout(1+10%)	电压为下限；满载条件下，输入电压为
Vout(1-10%)	上限时所测得的输出电压值；满载条件下，
Vinnom	输入电压为下限时所测得的输出电压值；
Voutnom	指输入电压的额定值；满载条件下，输入
	电压为额定值时测得的输出电压值。

如：以定电压系列NN1-05S05AN为例，输出接25欧姆恒阻性负载，输入范围： $\pm 10\%$ （即4.5V~5.5V） $V_{in(1+10\%)}=5.5V$   
 $V_{in(1-10\%)}=4.5V$ ； $V_{innom}=5V$ ； $V_{out(1+10\%)}$ 测得为：5.32V； $V_{out(1-10\%)}$ 测得为：4.2V； $V_{outnom}$ 测得为：4.77V；

$$\Delta V_{OUT} = \frac{5.32V-4.2V}{4.77V} \times 100\%=23.5\%$$

$$\Delta V_{IN} = \frac{5.5V-4.5V}{5V} \times 100\%=20\%$$

$$\text{故线性电压调节率} = \left| \frac{\Delta V_{OUT}}{\Delta V_{IN}} \right| = 1.174$$

3) 负载调节率：

输入电压为额定值时，分别接10%和100%的恒阻性负载，分别测出输出电压为10%负载及100%负载与额定值之差的程度，并取与额定值之差最大值计算。

$$\text{负载调整率} = \frac{V_{b1}(V_{b2})-V_{b0}}{V_{b0}} \times 100\%$$

式中：

- Vb0——输出电压整定值；
- Vb1——输出电流最小值得输出电压；
- Vb2——输出电流额定值时的输出电压。

定电压输入非稳压输出系列：

$$\text{计算公式：} \frac{V_{OUTNL}-V_{OUTFL}}{V_{OUTFL}} \times 100\%$$

VoutNL负载为10%时所测输出电压值；  
VoutFL负载为100%时所测输出电压值 如：以定电压产品B0505XD-1W为例，额定负载为：U<sup>2</sup>/P=25欧姆，负载范围为：10~100%，测得：VoutNL=5.29V,VoutFL=4.77V

$$\text{负载调节率} = \frac{5.29V-4.77V}{4.77V} \times 100\% = 10.9\%$$

4) 效率：

标称输入和额定负载下输出功率与输入功率的比值。

$$\text{计算公式：} \frac{L_{OUT} \times V_{OUT}}{L_{IN} \times V_{IN}} \times 100\%$$

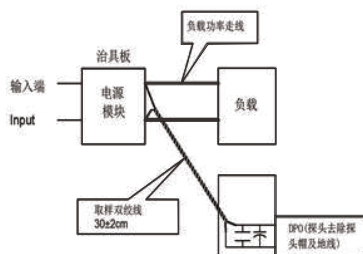
如：稳压产品IB1212LS-1W 额定12V输入，满负载下测得输出电压为12.039V；电流为83.3mA时；输入电流为115.0mA。

则有：

$$\frac{0.0833A \times 12.039V}{0.1150A \times 12.00V} \times 100\% = 73\%$$

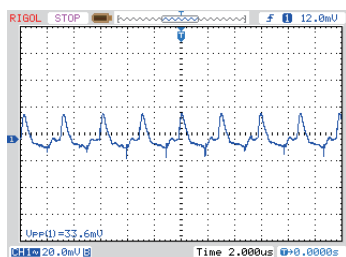
5) 纹波与噪声：

1、纹波噪声是利用12#双绞线连接，示波器带宽设置为20MHz,100M带宽探头，且在探头端上并联0.1uF聚丙烯电容和47uF高频低阻电解电容，示波器采样使用Sample取样模式。如下图所示：



注：把电源输入端连接到输入电源，电源输出通过治具板连接到电子负载，测试单独用30cm±2cm取样线直接从电源输出口取样。功率线根据输出电流的大小选取相应线径的带绝缘皮的导线。

由于电源输出端含有大量高频谐波，为了测量准确，将示波器的地线夹去掉，因为它会像天线一样吸收各种高频噪音、干扰测量结果。



波形中清晰明亮的部分为纹波，垂直而不太清晰的部分为噪声；实际上的噪声和纹波会因电路和外接的元件的不同而有所差异。由于噪声的频率极高，大部分输出电路都不会受到噪声的影响。

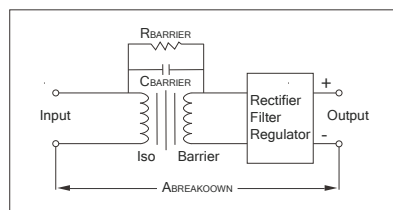
6) 启动时间：

由于一些特殊场合要求非常高的启动时间(例：配电控制系统)，所以一般模块内部不放置电感。启动时间为输入开启后输出相对于输入达到目标电压值时响应延迟的时间。一般在额定满负载下测得，外接滤波器(包括输入输出电容)均会大大延迟启动的时间，实际设计要与噪声要求权衡考虑。定压产品采用开环设计，启动较为缓慢。具体的产品及应用疑问请申请技术支持服务。

7) 隔绝及绝缘特性：

隔离能力是电源模块一个非常重要的特性，输入/出的隔离可以提供独立，不同极性的电源给负载，常常用于仪器仪表、数据处理和噪声敏感电路中负载与电源及系统的相互隔离，防止共模干扰，也用于工业、电力、医疗系统人身安全隔离和矿井中的防爆等。

如图：



$$I_{LEAKAGE} = \frac{V_{BREAKDOWN}}{R_{BARRIER}} = 2\pi(60\text{Hz})(C_{BARRIER})(240\text{V})$$

CBARRIER: 隔离电容; 输入初级线圈同输出次级线圈的耦合电容;  
RBARRIER: 隔离电阻; 输入/出间的阻性, 一般在加500VDC电压测试;  
ILEAKAGE: 漏电流; 由于隔离电容的存在, 在输入/出间引起的电流;  
VBREAKDOWN: 测试电压; 这里为240VAC/60HZ; 也可以是其他值或噪声电压;

当为其他值时：

$$Z_f = \frac{1}{j2\pi f C_{IS}} \quad I_L = \frac{V_{test}}{Z_f}$$

CIS: 隔离电容f: 给定值(测试信号) Vtest: 测试信号电压;

由上可见，一个低漏电、高噪声抗扰性、高隔离的电源模块一定需要很低耦合电容的隔离材料；实际的绝缘测试需要按照相应规定和专门的仪器，相关的隔离测试参数有：绝缘强度：在输入输出间加隔离电压(直流或交流的峰值)测试1分钟。绝缘电阻：在输入输出间加500VDC，测的输入输出间绝缘电阻大于1GOhm。

8) 遥控特性(仅限于有遥控端子的型号)：

1. 测试目的：测试模块提供的遥控端子来控制模块开关机的性能，应能正常实现遥控开关机。
2. 线路图：按图1接线



图一

- 1) 若输出有Sense端，则将Sense+(S+)与Vout+短接，Sense-(S-)与Vout-短接。
- 2) 部分模块在输入端设置有使能端(即REM端)，分为高电平和低电平使能两种情况，如要使用，请按产品要求接入电平。
- 3) 部分模块需要在输入，输出端接上电容等外围器件，该器件的取值请参见产品的企业标准或使用说明书。
- 4) 对于非隔离的模块，要将所有的地统一共地。



### 3. 测试方法：

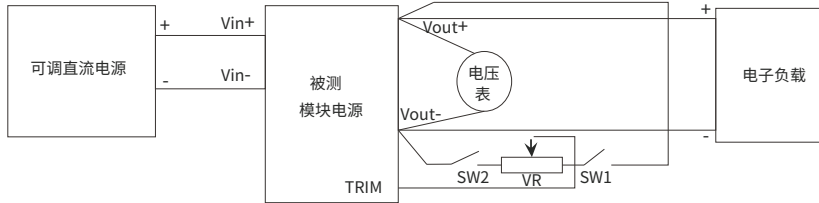
在额定输入电压，额定负载条件下，如果模块是正逻辑，则使能端REM接高电平或悬空时模块正常输出，反之，REM接低电平模块无输出；如果模块是负逻辑时，则使能端REM接低电平时，模块应正常输出，反之，REM接高电平或悬空时模块无输出。（其中的参考电平见产品资料说明）

注：测试时应单独对REM悬空的逻辑特性进行测试并记录

### 9) 输出电压微调性能 (仅限于有输出可调功能者)

1. 测试说明：测试通过模块给定的微调端子调节输出电压的能力。

2. 线路图：按图2接线



图二

注：电位器VR的取值，不同的型号依据使用说明有不同的取值其余的外部接线见图一中注释

### 3. 测试方法：

- (1) 额定输入电压，额定负载条件下，起机。
- (2) 闭合SW2，调VR，直到电压表读数能大于规定的输出可调节范围上限。
- (3) 闭合SW1，调VR，直到电压表读数能小于规定的输出可调节范围下限。

### 10) 温度系数

1. 测试目的：测试环境温度变化时输出电压的变化相对于整定值和温度的百分比。

2. 线路图：接线图如图1，并且将被测电源模块放到高低温箱中。

3. 测试方法：

- (1) 额定输入电压，额定负载，环境温度为常温 T0(25°C)条件下，测试输出电压V0；
- (2) 将电源的工作温度调节到上限值T1，稳定工作后（一般半小时），测试在此条件下的输出电压V1；
- (3) 将电源的工作温度降低到下限值T2，稳定工作后（一般半小时），测试在此条件下的输出电压V2；
- (4) 根据下式计算温度系数：

$$\text{温度系数} = |V1 - V2| / V0 / \Delta T \times 100\%$$

式中：Δ—温差（即T1-T2）

### 11) 动态负载特性

1. 测试目的：测试输出负载变化情况下，模块输出电压稳定在整定值的能力，过冲幅度和恢复时间应满足要求。

2. 线路图：按图1接线，并在输出管脚处接数字示波器。

3. 测试方法：

- (1) 输入电压为额定值，使输出负载在额定值的25%-50%-25%和50%-75%-50%周期性变化，其电流变化速度见厂家给定资料，如厂家没有给出，则按照周期1mS，变化速率1A/US设定。
- (2) 用示波器测量输出电压的过冲幅度及恢复时间，恢复时间以负载调整率规定电压为比较电平（或者参照厂家资料），注意此时器件不能出现啸叫。

### 12) 输入反射电流

1. 测试目的：为衡量模块对同一电源供电的其他设备的影响，测试模块输入电流上叠加的交流电流值。

2. 线路图：按图3接线

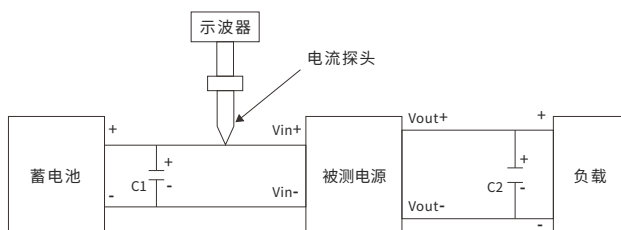


图3

注：C1,C2以及其他必要的外围器件的取值参照产品技术资料提供的应用资料

### 3. 测试方法：

在额定输入电压，额定负载条件下起机，观察示波器上的波形，读出反射电流值。



## 13) 高温贮存试验

1. 测试目的: 检查模块电源在高温环境存储之后有无损坏。
2. 所用仪器: 高温箱
3. 线路图: 无
4. 测试步骤:
  - (1) 初始检测: 在正常条件下, 对样品进行外观检查和各项指标测试。
  - (2) 试验: 把不包装, 不通电的样品放入高温箱内, 将温箱调至模块电源存储温度的最高值, 试验时间从温箱达到规定值时算起。
  - (3) 最后检测: 经2小时试验后, 将样品取出, 在正常条件下, 恢复2h后, 对样品进行外观检查和输出电压, 纹波测试。

## 14) 低温贮存试验

1. 测试目的: 检查模块电源在高温环境存储之后有无损坏。
2. 所用仪器: 高温箱
3. 线路图: 无
4. 测试步骤:
  - (1) 初始检测: 在正常条件下, 对样品进行外观检查和各项指标测试。
  - (2) 试验: 把不包装, 不通电的样品放入高温箱内, 将温箱调至模块电源存储温度的最高值, 试验时间从温箱达到规定值时算起。
  - (3) 最后检测: 经2小时试验后, 将样品取出, 在正常条件下, 恢复2h后, 对样品进行外观检查和输出电压, 纹波测试。

## 15) 高温带电老化实验

1. 测试目的: 测试模块电源在高温条件下正常工作的能力。
2. 接线图: 按图一接线, 并将被测模块放入高温箱内。
3. 测试方法:
  - (1) 初始检测: 在正常大气条件下, 对样品进行外观检查和输出电压测试。
  - (2) 试验: 将样品按输入, 输出接好线, 放置实验箱内, 温度达到要求值时, 接通电源。
  - (3) 在额定负载条件下, 输入电压分别为标称值, 最大值, 最小值, 各进行2小时试验, 实验过程中反复开关机, 模块起机应正常。
  - (4) 在最小负载条件下, 标称输入电压, 进行2小时试验, 实验过程中, 反复开关机, 模块起机应正常。每次实验条件改变之前, 对输出电压和纹波进行测试。
  - (5) 最后检测: 将样品取出, 在正常条件下, 恢复2h后, 对样品进行外观检查和输出电压和纹波测试。

## 16) 低温带电老化实验

1. 测试目的: 测试模块电源在低温条件下正常工作的能力。
2. 接线图: 按图一接线, 并将被测模块放入低温箱内。
3. 测试方法:
  - (1) 初始检测: 在正常大气条件下, 对样品进行外观检查和输出电压测试。
  - (2) 试验: 将样品按输入, 输出接好线, 放置实验箱内, 温度达到要求值时, 接通电源。
  - (3) 在额定负载条件下, 输入电压分别为标称值, 最大值, 最小值, 各进行2小时试验, 实验过程中反复开关机, 模块起机应正常。
  - (4) 在最小负载条件下, 标称输入电压, 进行2小时试验, 实验过程中, 反复开关机, 模块起机应正常。每次实验条件改变之前, 对输出电压和纹波进行测试。
  - (5) 最后检测: 将样品取出, 在正常条件下, 恢复2h后, 对样品进行外观检查和输出电压和纹波测试。



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