# PLA15F

A 15







High voltage pulse noise type : NAP series Low leakage current type : NAM series

\*A higher current rating EMI/EMC filter may be recommended in view of the other devices that could be connected in parallel with the power supply.



- ①Series name ②Single output ③Output wattage ④Universal input
- ⑤Output voltage
- ®Optional \*7
   C: with Coating
   J: Connector interface
  - T : Vertical terminal block
- -N

  : with DIN rail

See 5.1 in Instruction Manual.

\*Make sure necessary tests will be carried out on your end equipment with the power supply installed in accordance with any required EMC/EMI regulations.

### **SPECIFICATIONS**

	MODEL		PLA15F-5	PLA15F-12	PLA15F-15	PLA15F-24			
	VOLTAGE[V]		AC85 - 264 1 φ (Output de	rating is required at AC85V	- 115V. See 1.1 and 3.2 in Inst	ruction Manual) *3			
	ACIN 100V		0.4typ (lo=90%)						
	CURRENT[A]	ACIN 115V	0.4typ (lo=100%)						
		ACIN 230V	0.25typ (lo=100%)						
	FREQUENCY[Hz]		50 / 60 (47 - 63)						
		ACIN 100V	72.5typ (lo=90%)	75.5typ (Io=90%)	77.0typ (lo=90%)	78.0typ (Io=90%)			
NPUT	EFFICIENCY[%]	ACIN 115V	73.5typ (lo=100%)	77.0typ (lo=100%)	78.5typ (lo=100%)	79.0typ (lo=100%)			
		ACIN 230V	75.5typ (lo=100%)	78.5typ (lo=100%)	79.5typ (Io=100%)	80.0typ (Io=100%)			
		ACIN 100V	16typ (lo=90%) Ta=25℃ at	cold start					
	INRUSH CURRENT[A]	ACIN 115V	16typ (lo=100%) Ta=25°C a	t cold start					
		ACIN 230V	32typ (lo=100%) Ta=25°C a	nt cold start					
	LEAKAGE CURRENT	[mA]	0.30max (ACIN 115V / 240	V, 60Hz, Io=100%, According	ng to IEC60950-1 and DEN-AN	1)			
	VOLTAGE[V]		5	12	15	24			
	CURRENT[A]	-	3	1.3	1	0.7			
	WATTAGETHE	ACIN 85-115V	Output derating is required	at ACIN 115V or less (refer	to instruction manual 3.2)				
	WATTAGE[W]	ACIN 115V-264V	15.0	15.6	15.0	16.8			
	LINE REGULATION[n	nV] *4	20max	48max	60max	96max			
	LOAD REGULATION	mV] *4	40max	100max	120max	150max			
	_	0 to +50°C	80max	120max	120max	120max			
	RIPPLE[mVp-p] *1	-10 to 0℃	140max	160max	160max	160max			
		lo=0 to 35%	160max	240max	240max	280max			
UTPUT	RIPPLE NOISE[mVp-p] *1	0 to +50℃	120max	150max	150max	150max			
		-10 to 0°C	160max	180max	180max	180max			
		lo=0 to 35%	240max	300max	300max	320max			
		0 to +50°C	50max	120max	150max	240max			
	TEMPERATURE REGULATION[mV]	-10 to +50°C	60max	150max	180max	290max			
	DRIFT[mV]	*2	20max	48max	60max	96max			
	START-UP TIME[ms]		200typ (ACIN 115V, Io=100%) *Start-up time is 700 ms typ for less than 1 minute of applying input again from turning off the input volta						
	HOLD-UP TIME[ms]	-	20typ (ACIN 115V, Io=100%)						
	OUTPUT VOLTAGE ADJUSTMENT RANGE[V]		4.50 to 5.50	10.80 to 13.20	13.50 to 16.50	21.60 to 26.40			
	OUTPUT VOLTAGE SETT	ING[V]	5.00 to 5.15	12.00 to 12.48	15.00 to 15.60	24.00 to 24.96			
	OVERCURRENT PROTE	CTION	Works over 105% of rating	and recovers automatically	·	'			
ROTECTION	OVERVOLTAGE PROTE	CTION[V]	5.75 to 7.00	13.80 to 16.80	17.25 to 21.00	27.60 to 33.60			
IRCUIT AND	OPERATING INDICAT	ION	LED (Green)						
THERS	REMOTE SENSING		Not provided						
	REMOTE ON/OFF		Not provided						
	INPUT-OUTPUT		AC3,000V 1minute, Cutoff current = 10mA, DC500V 50M $\Omega$ min (At room temperature)						
SOLATION	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At room temperature)						
	OUTPUT-FG				$M\Omega$ min (At room temperature)	·			
	OPERATING TEMP.,HUMID.AND	ALTITUDE *5	-20 to +70°C, 20 - 90%RH (Non condensing), 3,000m (10,000 feet) max						
	STORAGE TEMP., HUMID. AND		-20 to +75°C, 20 - 90%RH		· · · · · · · · · · · · · · · · · · ·				
NVIRONMENT	VIBRATION		· ·		each along X, Y and Z axes				
	IMPACT		196.1m/s² (20G), 11ms, once each X, Y and Z axes						
AFETY AND	AGENCY APPROVAL	S			78, UL508 (Except option -J) C	omplies with DEN-AN			
NOISE	CONDUCTED NOISE		Complies with FCC-B, VCC			•			
		ATOR *8	Complies with IEC61000-3-		•				

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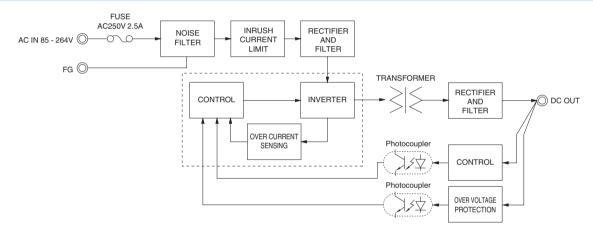
OTHERS	CASE SIZE/WEIGHT	38×80×73mm [1.50×3.15×2.87 inches] (Excluding terminal block and screw) (W×H×D) / 250g max
OTHERS	COOLING METHOD	Convection
WARRANTY	WARRANTY *6	5 years (subject to the operating conditions)

- This is the result of measurement of the testing board with capacitors of 22  $\mu$  F and 0.1  $\mu$  F placed at 150 mm from the output terminals by a 20 MHz oscilloscope or a ripple-noise meter equivalent to Keisoku Giken RM103.
  - See 1.6 of Instruction Manual for more details.
  - When the load factor is 0 35%, the switching power loss is reduced by burst operation, which will cause ripple and ripple noise to go beyond the specifications.
- \*2 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C.
- As for DC input, consult us for advice.
- Consult us about dynamic load and input response. Measure the output voltage by using the average mode of the tester to deal with the burst operation at 35% load or less
- Output power derating is required. See 3.2 in Instruction Manual.
- See 3.3 in Instruction Manual for more detail
- Consult us about safety agency approvals for the models with optional functions
- Consult us about other classes.
- Do not use the power supply in overcurrent conditions or in unspecified input voltage ranges. Otherwise the internal components may be damaged.
- Parallel operation is not possible with this mode.
- Sound noise may be heard from the power supply when used for pulse load.

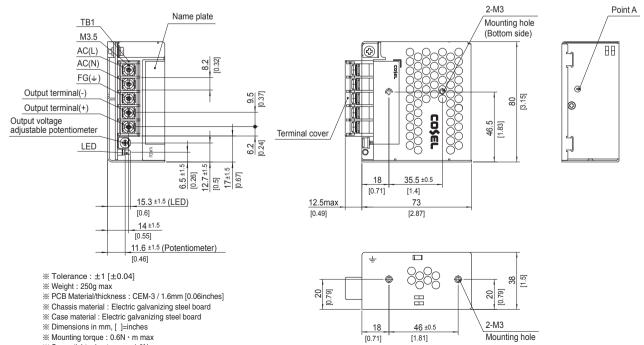
#### **Features**

- · Compact design (Depth: 73mm 2.87inches)
- · Low power consumption (1.0W typ AC240Vin, no load at standard model)
- · UL508 approved (Except option -J), and complies with SEMI F47
- · Various connection interface options (vertical terminal [-T], AMP connector [-J])

#### **Block diagram**



#### **External view**



\* Screw tightening torque: 1.0N · m max

# PLA30F

30







High voltage pulse noise type : NAP series Low leakage current type : NAM series

\*A higher current rating EMI/EMC filter may be recommended in view of the other devices that could be connected in parallel with the power supply.



- ①Series name ②Single output ③Output wattage ④Universal input
- ⑤Output voltage
- ®Optional \*7
   C: with Coating
   J: Connector interface
- T : Vertical terminal block
- -N

  : with DIN rail

See 5.1 in Instruction Manual.

\*Make sure necessary tests will be carried out on your end equipment with the power supply installed in accordance with any required EMC/EMI regulations.

### **SPECIFICATIONS**

	MODEL		PLA30F-5	PLA30F-12	PLA30F-15	PLA30F-24			
	VOLTAGE[V]		AC85 - 264 1 φ (Output derating is required at AC85V - 115V. See 1.1 and 3.2 in Instruction Manual) *3						
		ACIN 100V	0.7typ (lo=90%)						
	CURRENT[A]	ACIN 115V	0.7typ (lo=100%)						
		ACIN 230V	0.4typ (lo=100%)						
	FREQUENCY[Hz]		50 / 60 (47 - 63)						
NIDIT		ACIN 100V	73.0typ (Io=90%)	80.0typ (Io=90%)	81.0typ (lo=90%)	82.5typ (lo=90%)			
INPUT	EFFICIENCY[%]	ACIN 115V	74.0typ (Io=100%)	80.5typ (lo=100%)	81.5typ (lo=100%)	83.0typ (lo=100%)			
		ACIN 230V	77.0typ (Io=100%)	81.0typ (lo=100%)	82.0typ (lo=100%)	83.5typ (lo=100%)			
		ACIN 100V	16typ (Io=90%) Ta=25℃ at c	old start	•	'			
	INRUSH CURRENT[A]	ACIN 115V	16typ (Io=100%) Ta=25℃ at	cold start					
		ACIN 230V	32typ (Io=100%) Ta=25°C at	cold start					
	LEAKAGE CURRENT	[mA]	0.65max (ACIN 115V / 240V,	, 60Hz, Io=100%, According to	IEC60950-1 and DEN-AN)				
	VOLTAGE[V]		5	12	15	24			
	CURRENT[A]		6	2.5	2	1.3			
	WATTAGEIWI	ACIN 85-115V	Output derating is required a	t ACIN 115V or less (refer to i	nstruction manual 3.2)				
	WATTAGE[W]	ACIN 115V-264V	30.0	30.0	30.0	31.2			
	LINE REGULATION[n	nV] *4	20max	48max	60max	96max			
	LOAD REGULATION[	mV] *4	40max	100max	120max	150max			
	RIPPLE[mVp-p] *1	0 to +50°C	80max	120max	120max	120max			
	mrrcc[mvp-p] *	-10 to 0℃	140max	160max	160max	160max			
DUTPUT	RIPPLE NOISE[mVp-p] *1	0 to +50°C	120max	150max	150max	150max			
		-10 to 0℃	160max	180max	180max	180max			
	TEMPERATURE REGULATION[mV]	0 to +50°C	50max	120max	150max	240max			
		-10 to +50℃	60max	150max	180max	290max			
	DRIFT[mV] *2		20max	48max	60max	96max			
	START-UP TIME[ms]		150typ (ACIN 115V, Io=100%)						
	HOLD-UP TIME[ms]		20typ (ACIN 115V, Io=100%)						
	OUTPUT VOLTAGE ADJUSTMENT RANGE[V]			10.80 to 13.20	13.50 to 16.50	21.60 to 26.40			
	OUTPUT VOLTAGE SETT		5.00 to 5.15	12.00 to 12.48	15.00 to 15.60	24.00 to 24.96			
	OVERCURRENT PROTE		Works over 105% of rating a	· · · · · · · · · · · · · · · · · · ·					
PROTECTION	OVERVOLTAGE PROTE		5.75 to 7.00	13.80 to 16.80	17.25 to 21.00	27.60 to 33.60			
CIRCUIT AND	OPERATING INDICAT	ION	LED (Green)						
THERS	REMOTE SENSING		Not provided						
	REMOTE ON/OFF		Not provided						
	INPUT-OUTPUT			urrent = 10mA, DC500V 50MQ	<u> </u>	<u>'                                      </u>			
SOLATION	INPUT-FG			urrent = 10mA, DC500V 50MQ		)			
	OUTPUT-FG			rent = 25mA, DC500V 50M $\Omega$					
	OPERATING TEMP.,HUMID.AND								
NVIRONMENT	STORAGE TEMP.,HUMID.AND	ALTITUDE	· ·	lon condensing), 9,000m (30,					
	VIBRATION		10 - 55Hz, 19.6m/s² (2G), 3minutes period, 60minutes each along X, Y and Z axes						
	IMPACT		196.1m/s² (20G), 11ms, once each X, Y and Z axes						
SAFETY AND	AGENCY APPROVAL	S		60-1), EN60950-1, EN50178, L		mplies with DEN-AN			
NOISE	CONDUCTED NOISE			-B, CISPR22-B, EN55011-B, E	N55022-B				
REGULATIONS	HARMONIC ATTENUA	ATOR *8	Complies with IEC61000-3-2	class A					

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OTHERS	CASE SIZE/WEIGHT	38×80×88mm [1.50×3.15×3.46 inches] (Excluding terminal block and screw) (W×H×D) / 330g max
OTHERS	COOLING METHOD	Convection
WARRANTY	WARRANTY *6	5 years (subject to the operating conditions)

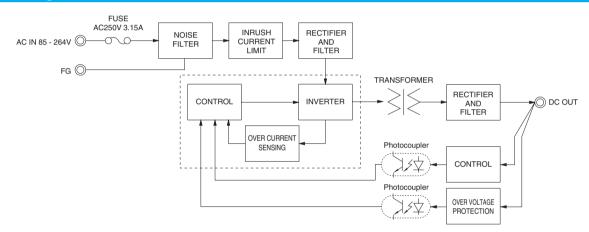
- This is the result of measurement of the testing board with capacitors of 22  $\mu$  F and 0.1  $\mu$  F placed at 150 mm from the output terminals by a 20 MHz oscilloscope or a ripple-noise meter equivalent to Keisoku Giken RM103.
  - See 1.6 of Instruction Manual for more details.
- \*2 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C.
   \*3 As for DC input, consult us for advice.
- Consult us about dynamic load and input response.
- Output power derating is required. See 3.2 in Instruction Manual.
- \*6 See 3.3 in Instruction Manual for more details.

- Consult us about safety agency approvals for the models with optional functions.
- Consult us about other classes
- Do not use the power supply in overcurrent conditions or in unspecified input voltage ranges. Otherwise the internal components may be damaged.
- Parallel operation is not possible with this mode.
- Sound noise may be heard from the power supply when used for pulse load.

#### **Features**

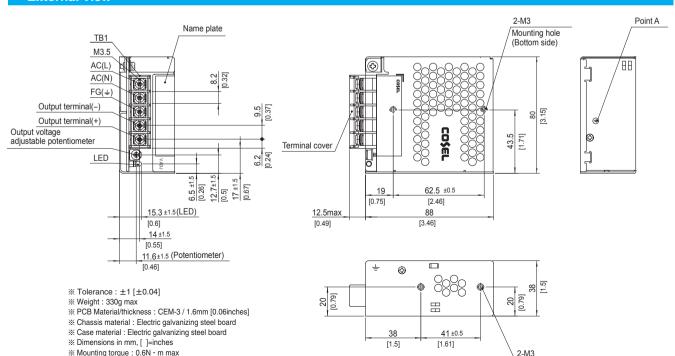
- · Compact design (Depth: 88mm 3.46inches)
- · UL508 approved (Except option -J), and complies with SEMI F47
- · Various connection interface options (vertical terminal [-T], AMP connector [-J])

#### **Block diagram**



#### **External view**

Screw tightening torque: 1.0N · m max



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Mounting hole

# PLA50F

50







High voltage pulse noise type : NAP series Low leakage current type : NAM series

\*A higher current rating EMI/EMC filter may be recommended in view of the other devices that could be connected in parallel with the power supply.



- ①Series name ②Single output ③Output wattage ④Universal input
- ⑤Output voltage
- ®Optional \*7
   C: with Coating
   J: Connector interface
- T : Vertical terminal block
- -N

  : with DIN rail

See 5.1 in Instruction Manual.

\*Make sure necessary tests will be carried out on your end equipment with the power supply installed in accordance with any required EMC/EMI regulations.

### **SPECIFICATIONS**

ļ	MODEL		PLA50F-5	PLA50F-12	PLA50F-15	PLA50F-24			
	VOLTAGE[V]		AC85 - 264 1 φ (Output der	ating is required at AC85V -	115V. See 1.1 and 3.2 in Inst	ruction Manual) *3			
ļ		ACIN 100V	0.6typ (lo=90%) 0.7typ (lo=90%)						
	CURRENT[A]	ACIN 115V	0.6typ (lo=100%)	6typ (lo=100%) 0.7typ (lo=100%)					
		ACIN 230V	0.3typ (lo=100%)	0.4typ (lo=100%)					
İ	FREQUENCY[Hz]		50 / 60 (47 - 63)	,					
	ACIN 100V		74.5typ (Io=90%)	80.0typ (lo=90%)	80.0typ (lo=90%)	81.5typ (lo=90%)			
ļ	EFFICIENCY[%]	ACIN 115V	75.0typ (Io=100%)	80.5typ (lo=100%)	80.5typ (Io=100%)	82.0typ (lo=100%)			
IPUT		ACIN 230V	76.5typ (Io=100%)	82.0typ (lo=100%)	82.0typ (Io=100%)	84.0typ (lo=100%)			
		ACIN 100V	0.97typ (Io=90%)	0.98typ (lo=90%)	, ,,,	71 \			
	POWER FACTOR	ACIN 115V	0.97typ (Io=100%)	0.98typ (lo=100%)					
		ACIN 230V	0.85typ (lo=100%)	0.87typ (lo=100%)					
		ACIN 100V	16typ (lo=90%) Ta=25°C at						
	INRUSH CURRENT[A]	ACIN 115V	16typ (lo=100%) Ta=25℃ a						
		ACIN 230V	71 \	32typ (lo=100%) Ta=25°C at cold start					
	LEAKAGE CURRENT		71 \ /		to IEC60950-1 and DEN-AN	I)			
	VOLTAGE[V]		5	12	15	24			
	CURRENT[A]		8	4.3	3.5	2.2			
		ACIN 85-115V	-	at ACIN 115V or less (refer to					
	WATTAGE[W]	ACIN 115V-264V	40.0	51.6	52.5	52.8			
	LINE REGULATION[n	nV1 *4	20max	48max	60max	96max			
	LOAD REGULATION[mV] *4		40max	100max	120max	150max			
	RIPPLE[mVp-p] *1 RIPPLE NOISE[mVp-p] *1 TEMPERATURE REGULATION[mV]	0 to +45℃	80max	120max	120max	120max			
		-10 to 0℃	140max	160max	160max	160max			
UTPUT		0 to +45℃	120max	150max	150max	150max			
		-10 to 0°C	160max	180max	180max	180max			
		0 to +45℃	50max	120max	150max	240max			
		-10 to +45℃	60max	150max	180max	290max			
	DRIFT[mV]	*2	20max	48max	60max	96max			
	START-UP TIME[ms]		350typ (ACIN 115V, Io=100%)						
ŀ	HOLD-UP TIME[ms]		20typ (ACIN 115V, Io=100%)						
ŀ	OUTPUT VOLTAGE ADJUSTMEN	IT RANGEIVI	71 \	10.80 to 13.20	13.50 to 16.50	21.60 to 26.40			
}	OUTPUT VOLTAGE SETT		5.00 to 5.15	12.00 to 12.48	15.00 to 15.60	24.00 to 24.96			
	OVERCURRENT PROTE		Works over 105% of rating a		10.00 to 10.00	27.00 to 27.00			
ROTECTION	OVERVOLTAGE PROTE		5.75 to 7.00	13.80 to 16.80	17.25 to 21.00	27.60 to 33.60			
RCUIT AND	OPERATING INDICAT		LED (Green)	1.5.00 to 10.00	17.20 to 21.00	27.00 to 00.00			
THERS	REMOTE SENSING		Not provided						
-	REMOTE ON/OFF		Not provided						
	INPUT-OUTPUT			current = 10mA DC500V 50M	MΩ min (At room temperature	۵)			
OLATION	INPUT-FG				$M\Omega$ min (At room temperature				
- Allon	OUTPUT-FG				$\Omega$ min (At room temperature)	<u></u>			
	OPERATING TEMPHUMID.AND	ΔI TITUDE *5		Non condensing), 3,000m (1					
	STORAGE TEMP., HUMID.AND		· · · · · · · · · · · · · · · · · · ·	Non condensing), 9,000m (3					
NVIRONMENT	VIBRATION	ALITIODE							
-	IMPACT		10 - 55Hz, 19.6m/s² (2G), 3minutes period, 60minutes each along X, Y and Z axes 196.1m/s² (20G), 11ms, once each X, Y and Z axes						
ACCTV AND	AGENCY APPROVAL	<u> </u>			3, UL508 (Except option -J) C	omnlies with DENLAN			
AFETY AND	CONDUCTED NOISE		. ,			omplies with DEN-AN			
	OCHDOCIED MOISE		Complies with FCC-B, VCCI-B, CISPR22-B, EN55011-B, EN55022-B  Complies with IEC61000-3-2 class A						

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OTHERS	CASE SIZE/WEIGHT	38×80×99mm [1.50×3.15×3.90 inches] (Excluding terminal block and screw) (W×H×D) / 400g max
	COOLING METHOD	Convection
WARRANTY	WARRANTY	5 years (subject to the operating conditions)

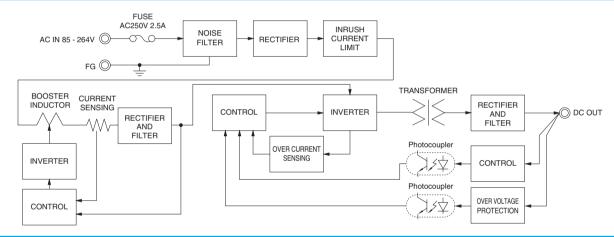
- This is the result of measurement of the testing board with capacitors of 22  $\mu$  F and 0.1  $\mu$  F placed at 150 mm from the output terminals by a 20 MHz oscilloscope or a ripple-noise meter equivalent to Keisoku-Giken RM103.
  - See 1.6 of Instruction Manual for more details.
- \*2 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C.
- \*3 As for DC input, consult us for advice.
- Consult us about dynamic load and input response.
- Output power derating is required. See 3.2 in Instruction Manual.
- \*6 See 3.3 in Instruction Manual for more details.

- Consult us about safety agency approvals for the models with optional functions.
- Consult us about other classes Do not use the power supply in overcurrent conditions or in unspecified input voltage ranges. Otherwise the internal components may be damaged.
- Parallel operation is not possible with this mode.
- Sound noise may be heard from the power supply when used for pulse load.

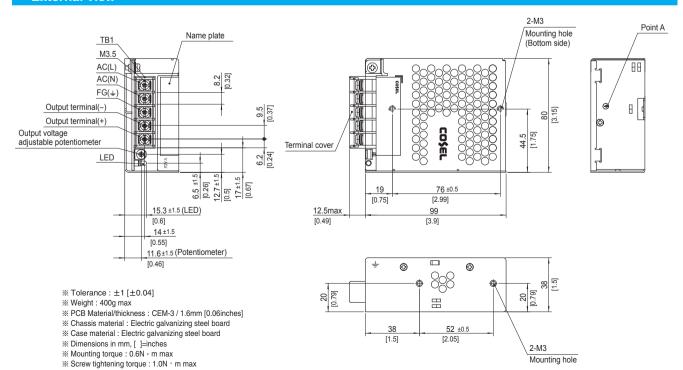
#### **Features**

- · Compact design (Depth: 99mm 3.90inches)
- · UL508 approved (Except option -J), and complies with SEMI F47
- · Various connection interface options (vertical terminal [-T], AMP connector [-J])

#### **Block diagram**



#### **External view**



# PLA100F

100









High voltage pulse noise type : NAP series Low leakage current type : NAM series

\*A higher current rating EMI/EMC filter may be recommended in view of the other devices that could be connected in parallel with the power supply.

- ①Series name ②Single output ③Output wattage ④Universal input
- ⑤Output voltage
- ®Optional \*7
   C: with Coating
   R: Remote on/off
  - (Required external power source)
    J : Connector interface
- T : Vertical terminal block
  -N□ : with DIN rail

See 5.1 in Instruction Manual.

\*Make sure necessary tests will be carried out on your end equipment with the power supply installed in accordance with any required EMC/EMI regulations.

#### **SPECIFICATIONS**

\* Please consider "PBA100F-5-N" about 5V output with case cover.

			* Please consider "PBA"	·		1	1	
	MODEL		PLA100F-12	PLA100F-15	PLA100F-24	PLA100F-36	PLA100F-48	
	VOLTAGE[V]			t derating is required at	AC85V - 115V. See 1.1 a	and 3.2 in Instruction Ma	nual) *3	
		ACIN 100V	1.2typ (lo=90%)					
	CURRENT[A]	ACIN 115V	1.1typ (lo=100%)					
L		ACIN 230V	0.6typ (lo=100%)					
	FREQUENCY[Hz]		50 / 60 (47 - 63)					
		ACIN 100V	82typ (Io=90%)	83typ (lo=90%)	85typ (lo=90%)	86typ (lo=90%)	86typ (Io=90%)	
	EFFICIENCY[%]	ACIN 115V	82typ (Io=100%)	83typ (lo=100%)	85typ (lo=100%)	86typ (lo=100%)	86typ (lo=100%)	
IPUT		ACIN 230V	85typ (lo=100%)	86typ (lo=100%)	88typ (lo=100%)	89typ (lo=100%)	89typ (lo=100%)	
Γ		ACIN 100V	0.98typ (lo=90%)	•			•	
	POWER FACTOR	ACIN 115V	0.98typ (lo=100%)					
		ACIN 230V	0.95typ (lo=100%) * F	ower factor correction is	stopped at AC250V or	more.		
Γ		ACIN 100V	16typ (lo=90%) Ta=25°	at cold start				
	INRUSH CURRENT[A]	ACIN 115V	16typ (lo=100%) Ta=25	℃ at cold start				
		ACIN 230V	32typ (lo=100%) Ta=25	℃ at cold start				
	LEAKAGE CURRENT	[mA]	0.75max (ACIN 115V /	240V, 60Hz, lo=100%, A	According to IEC60950-1	and DEN-AN)		
	VOLTAGE[V]		12	15	24	36	48	
	OUDDENT'S	ACIN 85-115V	Output derating is requi	red at ACIN 115V or les	s (refer to instruction ma	anual 3.2)	,	
	CURRENT[A]	ACIN 115V-264V	8.4	6.7	4.3	2.8	2.1	
		ACIN 85-115V	Output derating is requi	red at ACIN 115V or les	s (refer to instruction ma	nual 3.2)		
	WATTAGE[W]	ACIN 115V-264V	100.8	100.5	103.2	100.8	100.8	
	LINE REGULATION[m	1V] *4	48max	60max	96max	144max	192max	
H	LOAD REGULATION	lo=30 to 100%	100max	120max	150max	150max	300max	
	[mV] *4	lo=0 to 30%	Burst operation (Please	contact us about detail	)		1	
F	RIPPLE[mVp-p]	0 to +40°C		120max	120max	150max	150max	
	*1	-10 to 0℃	160max	160max	160max	200max	400max	
UTPUT	lo: load factor	lo=0 to 30%	500max	500max	500max	500max	500max	
	RIPPLE NOISE[mVp-p]	0 to +40°C	150max	150max	150max	200max	200max	
	*1	-10 to 0°C	180max	180max	180max	240max	500max	
	lo: load factor		600max	600max	600max	600max	600max	
		0 to +40°C	120max	150max	240max	360max	480max	
[	TEMPERATURE REGULATION[mV]	-10 to +40°C	180max	180max	290max	440max	600max	
	DRIFT[mV]	*2	48max	60max	96max	144max	192max	
	START-UP TIME[ms]				Comax	TTITIOX	TOZITICA	
	HOLD-UP TIME[ms]		500typ (ACIN 115V, lo=100%) Ta=25°C  20typ (ACIN 115V, lo=100%)					
	OUTPUT VOLTAGE ADJUSTMEN	IT RANGEIVI	10.80 to 13.20	13.50 to 16.50	21.60 to 26.40	32.40 to 39.60	43.20 to 52.80	
	OUTPUT VOLTAGE SETT		12.00 to 12.48	15.00 to 15.60	24.00 to 24.96	36.00 to 37.44	48.00 to 49.92	
	OVERCURRENT PROTE			ing and recovers autom		23.00 10 07.11	1.0.00 10.02	
F	OVERVOLTAGE PROTE		13.80 to 16.80	17.25 to 21.00	27.60 to 33.60	41.40 to 50.40	54.00 to 67.20	
	OPERATING INDICAT		LED (Green)					
⊢	REMOTE SENSING		Not provided					
-	REMOTE ON/OFF		Optional (Required external power source. Option -R)					
	INPUT-OUTPUT • RC	*9						
	INPUT-FG				$500V$ $50M\Omega$ min (At roo			
OLATION ⊢	OUTPUT • RC-FG	*9		·	$500V$ $50M\Omega$ min (At room			
	OUTPUT-RC	*9			$500V 50M\Omega$ min (At room			
	OPERATING TEMP., HUMID. AND				· · · · · · · · · · · · · · · · · · ·	ig), 3,000m (10,000 feet)	) max	
	STORAGE TEMP., HUMID.AND		` '		,000m (30,000 feet) max	<del></del>	,	
JVIRONMENT 🗕	VIBRATION	ALITIODE			ninutes each along X, Y			
-	IMPACT	-		, once each X, Y and Z		una = 4x03		
	AGENCY APPROVAL	<u> </u>				ot option -J) Complies wi	th DEN-AN	
	CONDUCTED NOISE			/CCI-B, CISPR22-B, EN		option of Complies Wi	a. DEN AIN	
	HARMONIC ATTENUA	ATOP ±0	Complies with IEC6100		1000 I I-D, LINUUUZZ-D			
	I A I I ENUA	11011 ***	Complies with IEC0100	0 0 2 01033 A				

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OTHERS	CASE SIZE/WEIGHT	41×97×109mm [1.61×3.82×4.29 inches] (Excluding terminal block and screw) (W×H×D) / 500g max
	COOLING METHOD	Convection
WARRANTY	WARRANTY	*6 5 years (subject to the operating conditions)

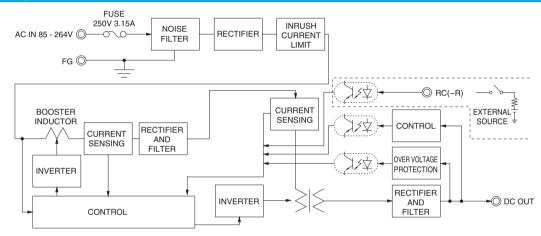
- \*1 This is the result of measurement of the testing board with canacitors of 22 U.F. and 0.1 U.F. placed at 150 mm from the output terminals by a 20 MHz oscilloscope or a ripple-noise meter equivalent to Keisoku-Giken RM103. See 1.6 of Instruction Manual for more details.
  - When the load factor is 0 30%, the switching power loss is reduced by burst operation, which will cause ripple and ripple noise to go beyond the specifications.
- Drift is the change in DC output for an eight hour period after a half-
- hour warm-up at 25℃.
- As for DC input, consult us for advice.
- Consult us about dynamic load and input response. Measure the output voltage by using the average mode of the tester to deal with the burst operation at 30% load or less.
- Output power derating is required. See 3.2 in Instruction Manual.
- See 3.3 in Instruction Manual for more details
- Consult us about safety agency approvals for the models with optional functions
- Consult us about other classes

- The RC terminal is added to option -R models. The RC terminal is isolated from input, output, and FG.
- Do not use the power supply in overcurrent conditions or in unspecified input voltage ranges. Otherwise the internal components may be damaged.
- Parallel operation is not possible with this mode
- Sound noise may be heard from the power supply when used for pulse load.

#### **Features**

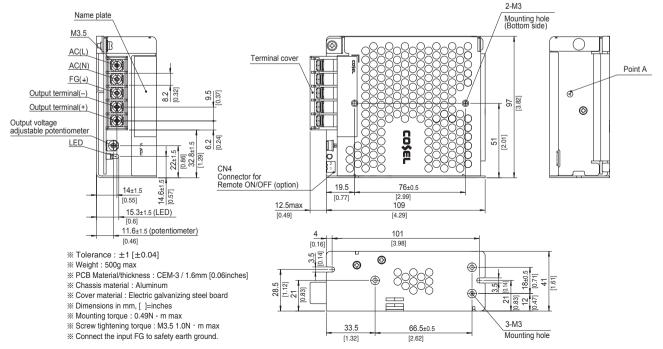
- · Compact design (Depth: 109mm 4.29inches)
- · High efficiency (88%typ PLA100F-24, AC230Vin, 100% load)
- · Low power consumption (1.5W typ AC240Vin, no load at standard model)
- · UL508 approved (Except option -J), and complies with SEMI F47 (see instruction manual 1.1)
- · Various connection interface options (vertical terminal [-T], AMP connector [-J])

#### **Block diagram**



#### **External view**

The external size of -R option, -J option, -N1 option and -T option models is different from the standard model. See "5. Options and Others" in Instruction Manual for more details.



April 17, 2018

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# PLA150F

150









High voltage pulse noise type : NAP series Low leakage current type : NAM series

\*A higher current rating EMI/EMC filter may be recommended in view of the other devices that could be connected in parallel with the power supply.

- ①Series name ②Single output ③Output wattage ④Universal input

- ⑤Output voltage
- ®Optional \*7
   C: with Coating
   R: Remote on/off
  - (Required external
- power source)
  J : Connector interface
- T : Vertical terminal block
  -N□ : with DIN rail

See 5.1 in Instruction Manual.

\*Make sure necessary tests will be carried out on your end equipment with the power supply installed in accordance with any required EMC/EMI regulations.

#### **SPECIFICATIONS**

\* Please consider "PBA150F-5-N" about 5V output with case cover.

JI	ICATIONS		* Please consider "PBA"			1	1	
	MODEL		PLA150F-12	PLA150F-15	PLA150F-24	PLA150F-36	PLA150F-48	
	VOLTAGE[V]			t derating is required at	AC85V - 115V. See 1.1	and 3.2 in Instruction M	lanual) *3	
		ACIN 100V	1.7typ (lo=90%)					
	CURRENT[A]	ACIN 115V	1.6typ (lo=100%)					
		ACIN 230V	0.8typ (lo=100%)					
	FREQUENCY[Hz]		50 / 60 (47 - 63)					
		ACIN 100V	84typ (lo=90%)	84typ (lo=90%)	87typ (Io=90%)	87typ (Io=90%)	87typ (Io=90%)	
	EFFICIENCY[%]	ACIN 115V	84typ (lo=100%)	84typ (lo=100%)	87typ (Io=100%)	87typ (Io=100%)	87typ (Io=100%)	
PUT		ACIN 230V	87typ (lo=100%)	87typ (lo=100%)	90typ (lo=100%)	90typ (lo=100%)	90typ (Io=100%)	
		ACIN 100V	0.98typ (lo=90%)					
	POWER FACTOR	ACIN 115V	0.98typ (lo=100%)					
		ACIN 230V	0.95typ (lo=100%) * F	Power factor correction i	s stopped at AC250V o	r more.		
		ACIN 100V	16typ (lo=90%) Ta=25°	C at cold start				
	INRUSH CURRENT[A]	ACIN 115V	16typ (lo=100%) Ta=25	5℃ at cold start				
		ACIN 230V	32typ (lo=100%) Ta=25	5°C at cold start				
	LEAKAGE CURRENT	[mA]	0.75max (ACIN 115V /	240V, 60Hz, lo=100%,	According to IEC60950	-1 and DEN-AN)		
	VOLTAGE[V]		12	15	24	36	48	
		ACIN 85-115V	Output derating is requ	ired at ACIN 115V or le	ss (refer to instruction r	nanual 3.2)		
	CURRENT[A]	ACIN 115V-264V	12.5	10	6.4	4.2	3.2	
		ACIN 85-115V	Output derating is requ	ired at ACIN 115V or le	ss (refer to instruction r	nanual 3.2)		
	WATTAGE[W]	ACIN 115V-264V	150.0	150.0	153.6	151.2	153.6	
	LINE REGULATION[m	nV] *4	48max	60max	96max	144max	192max	
	LOAD REGULATION	lo=30 to 100%	100max	120max	150max	150max	300max	
	[mV] *4	lo=0 to 30%	Burst operation (Please			1.00	1	
	RIPPLE[mVp-p]	0 to +40°C	120max	120max	120max	150max	150max	
	*1	-10 to 0°C	160max	160max	160max	200max	400max	
UTPUT	lo: load factor	10 10 0	500max	500max	500max	500max	500max	
	RIPPLE NOISE[mVp-p]	0 to +40°C	150max	150max	150max	200max	200max	
	*1	-10 to 0°C	180max	180max	180max	240max	500max	
	lo: load factor		600max	600max	600max	600max	600max	
		0 to +40℃	120max	150max	240max	360max	480max	
	TEMPERATURE REGULATION[mV]	-10 to +40°C	180max	180max	290max	440max	600max	
	DRIFT[mV]	*2	48max	60max	96max	144max	192max	
	START-UP TIME[ms]				Joinax	144IIIdX	13ZIIIdX	
	HOLD-UP TIME[ms]		500typ (ACIN 115V, Io=100%) Ta=25°C  20typ (ACIN 115V, Io=100%)					
	OUTPUT VOLTAGE ADJUSTMEN	IT DANGERA	** *	13.50 to 16.50	21.60 to 26.40	32.40 to 39.60	43.20 to 52.80	
			12.00 to 12.48	15.00 to 15.60	24.00 to 24.96	_		
	OUTPUT VOLTAGE SETT  OVERCURRENT PROTE			ting and recovers auton		36.00 to 37.44	48.00 to 49.92	
				, -		41 40 to 50 40	54.00 to 67.00	
ROTECTION RCUIT AND	OVERVOLTAGE PROTE							
THERS	REMOTE SENSING	ION	LED (Green)					
	REMOTE SENSING	-	Not provided					
	INPUT-OUTPUT • RC	*9	Optional (Required external power source. Option -R) AC3,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At room temperature)					
		*9						
OLATION	INPUT-FG			toff current = 10mA, DC				
	OUTPUT PC	*9	AC500V 1minute, Cuto					
	OUTPUT-RC		AC500V 1minute, Cuto				at\	
	OPERATING TEMP.,HUMID.AND					sing), 3,000m (10,000 fee	ei) rnax	
VIRONMENT	STORAGE TEMP., HUMID.AND	ALIIIUDE	-20 to +75°C, 20 - 90%					
	VIBRATION	-		G), 3minutes period, 60		r and ∠ axes		
	IMPACT		\ //	s, once each X, Y and Z				
AFETY AND	AGENCY APPROVAL	S		· · · · · · · · · · · · · · · · · · ·		ept option -J) Complies	with DEN-AN	
DISE EGULATIONS	CONDUCTED NOISE			VCCI-B, CISPR22-B, E	N55011-B, EN55022-B			
	HARMONIC ATTENUA	ATOD 10	Complies with IEC6100	10-3-2 class ∆				

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OTHERS	CASE SIZE/WEIGHT	41 × 97 × 129mm [1.61 × 3.82 × 5.08 inches] (Excluding terminal block and screw) (W × H × D) / 600g max			
OTHERS	COOLING METHOD	Convection			
WARRANTY	WARRANTY *6	5 years (subject to the operating conditions)			

This is the result of measurement of the testing board with capacitors of 22 U.F. and 0.1 U.F. placed at 150 mm from the output terminals by a 20. MHz oscilloscope or a ripple-noise meter equivalent to Keisoku-Giken

See 1.6 of Instruction Manual for more details.

When the load factor is 0 - 30%, the switching power loss is reduced by burst operation, which will cause ripple and ripple noise to go beyond the specifications

\*2 Drift is the change in DC output for an eight hour period after a half-

hour warm-up at 25℃. As for DC input, consult us for advice

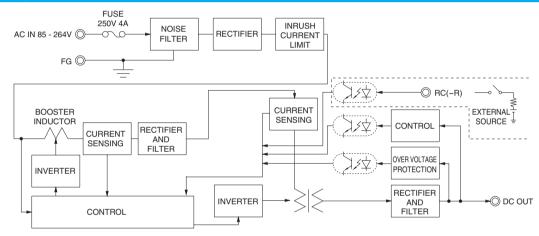
- Consult us about dynamic load and input response. Measure the output voltage by using the average mode of the tester to deal with the burst operation at 30% load or less.
- Output power derating is required. See 3.2 in Instruction Manual.
- See 3.3 in Instruction Manual for more details.
- Consult us about safety agency approvals for the models with optional functions
- Consult us about other classes

- The RC terminal is added to option -R models. The RC terminal is isolated from input, output, and FG.
- Do not use the power supply in overcurrent conditions or in unspecified input voltage ranges. Otherwise the internal components may be damaged.
- Parallel operation is not possible with this mode
- Sound noise may be heard from the power supply when used for pulse load.

#### **Features**

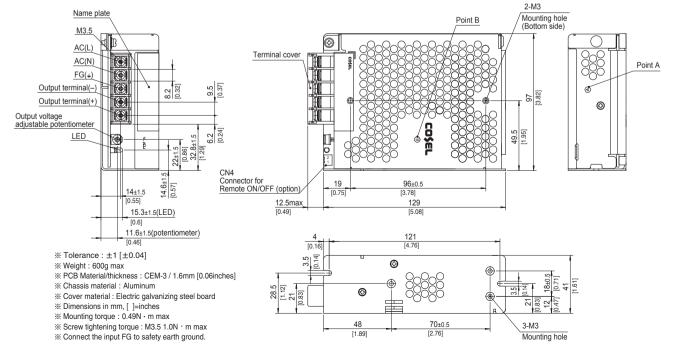
- · Compact design (Depth: 129mm 5.08inches)
- · High efficiency (90%typ PLA150F-24, AC230Vin, 100% load)
- · Low power consumption (1.5W typ AC240Vin, no load at standard model)
- · UL508 approved (Except option -J), and complies with SEMI F47 (see instruction manual 1.1)
- · Various connection interface options (vertical terminal [-T], AMP connector [-J])

#### **Block diagram**



#### **External view**

The external size of -R option, -J option, -N1 option and -T option models is different from the standard model. See "5. Options and Others" in Instruction Manual for more details.



# PLA300F

300



Example recommended EMI/EMC filter NAC-06-472

High voltage pulse noise type : NAP series Low leakage current type : NAM series

\*A higher current rating EMI/EMC filter may be recommended in view of the other devices that could be connected in parallel with the power supply.

- ①Series name ②Single output ③Output wattage ④Universal input
- ⑤Output voltage

- (a) Output voltage
  (b) Optional \*7
  C: with Coating
  G: Low leakage current
  V: External potentiometer for
  - output voltage adjustment
  - U: Low input voltage stop (Complies with SEMI F-47) R: Remote on/off
- (Required external power source) F4: Low speed fan
- T2: Horizontal terminal block
- (non-screw-hold type)

See 5.1 in Instruction Manual.

\*Make sure necessary tests will be carried out on your end equipment with the power supply installed in accordance with any required EMC/EMI regulations.

#### **SPECIFICATIONS**

	MODEL		PLA300F-5	PLA300F-12	PLA300F-15	PLA300F-24	PLA300F-36	PLA300F-48			
	VOLTAGE[V]		AC85 - 264 1 φ (O	utput derating is requ	uired at AC85V - 115	V. See 1.1 and 3.2 ir	n Instruction Manual)	*3			
		ACIN 100V	3.1typ (lo=90%)	3.4typ (lo=90%)							
	CURRENT[A]	ACIN 115V	3.0typ (lo=100%)	.0typ (lo=100%) 3.3typ (lo=100%)							
		ACIN 230V	1.5typ (lo=100%)	1.7typ (lo=100%)							
	FREQUENCY[Hz]		50 / 60 (47 - 63)	, , , , , , , , , , , , , , , , , , , ,							
		ACIN 100V	73typ (lo=90%)	78typ (lo=90%)	79typ (lo=90%)	81typ (lo=90%)	81typ (lo=90%)	82typ (lo=90%)			
	EFFICIENCY[%]	ACIN 115V	74typ (lo=100%)	78typ (lo=100%)	80typ (lo=100%)	82typ (lo=100%)	82typ (lo=100%)	83typ (lo=100%			
NPUT		ACIN 230V	77typ (lo=100%)	81typ (lo=100%)	83typ (lo=100%)	86typ (lo=100%)	86typ (Io=100%)	86typ (Io=100%			
		ACIN 100V	0.98typ (lo=90%)	, , , , , , , , , , , , , , , , , , , ,	, , , , , , , , , , , , , , , , , , , ,	, , , , , , , , , , , , , , , , , , , ,	, , , , , , , , , , , , , , , , , , , ,				
	POWER FACTOR	ACIN 115V	0.98typ (lo=100%)								
		ACIN 230V	0.95typ (lo=100%)								
		ACIN 100V	20typ (lo=90%) Ta=	=25°C at cold start							
	INRUSH CURRENT[A]	ACIN 115V	20typ (lo=100%) Ta								
		ACIN 230V	40typ (Io=100%) Ta								
	LEAKAGE CURRENT		, , ,		100%, According to	EC60950-1 and DE	N-AN)				
	VOLTAGE[V]	• •	5	12	15	24	36	48			
		ACIN 85-115V	Output derating is r	equired at ACIN 115	V or less (refer to ins	struction manual 3.2	)				
	CURRENT[A]	ACIN 115V-264V	50	25	20	12.5	8.4	6.3			
		ACIN 85-115V	Output derating is r	equired at ACIN 115	V or less (refer to ins	struction manual 3.2	)				
	WATTAGE[W]	ACIN 115V-264V	250	300	300	300	302.4	302.4			
	LINE REGULATION[mV] *4		20max	48max	60max	96max	144max	192max			
	LOAD REGULATION		40max	100max	120max	150max	150max	300max			
	RIPPLE[mVp-p]	0 to +50℃	80max	120max	120max	120max	150max	150max			
	MIPPLE[IIIVP-P]	-10 to 0℃	140max	160max	160max	160max	160max	400max			
OUTPUT	RIPPLE NOISE[mVp-p]  *1  TEMPERATURE REGULATION[mV]	0 to +50℃	120max	150max	150max	150max	200max	200max			
		-10 to 0℃	160max	180max	180max	180max	240max	500max			
		0 to ±50°C	50max	120max	150max	240max	360max	480max			
		-10 to +50°C	75max	180max	180max	290max	440max	600max			
	DRIFT[mV]		20max	48max	60max	96max	144max	192max			
	START-UP TIME[ms]		20max								
	HOLD-UP TIME[ms]		20typ (ACIN 115V, Io=100%)								
	OUTPUT VOLTAGE ADJUSTME	NT RANGEIVI	4.50 to 5.50	10.80 to 13.20	13.50 to 16.50	21.60 to 26.40	32.40 to 39.60	43.20 to 52.80			
	OUTPUT VOLTAGE SETTING[V]		5.00 to 5.15	12.00 to 12.48	15.00 to 15.60	24.00 to 24.96	36.00 to 37.44	48.00 to 49.92			
	OVERCURRENT PROTI			of rating and recover		21.00 to 21.00	00.00 to 07.11	10.00 to 10.02			
PROTECTION	OVERVOLTAGE PROTE		5.75 to 7.00	13.80 to 16.80	17.25 to 21.00	27.60 to 33.60	41.40 to 50.40	55.20 to 67.20			
CIRCUIT AND	OPERATING INDICAT		LED (Green)	10.00 to 10.00	17.20 to 21.00	27.00 to 00.00	11.10 to 00.10	00.20 to 07.20			
OTHERS	REMOTE SENSING		Not provided								
	REMOTE ON/OFF		Optional (Required external power source. Option -R)								
	INPUT-OUTPUT • RC	*10									
	INPUT-FG	- 110	AC2,000V Iminute, Cutoff current = 10mA, DC500V 50M $\Omega$ min (At room temperature)								
SOLATION	OUTPUT • RC-FG	*10	-								
	OUTPUT-RC	*10	AC500V 1minute, Cutoff current = 100mA, DC500V 50M $\Omega$ min (At room temperature)  AC500V 1minute, Cutoff current = 100mA, DC500V 50M $\Omega$ min (At room temperature)								
	OPERATING TEMP., HUMID. AND										
	STORAGE TEMP.,HUMID.AND		, ,		nsing), 9,000m (30,00		on (10,000 leet) illax	•			
ENVIRONMENT	VIBRATION	ALIHODE	· · · · · · · · · · · · · · · · · · ·		iod, 60minutes each						
	IMPACT			1ms, once each X, Y		aiong A, i and Z axi					
PAFETY AND	AGENCY APPROVAL	9	. ,,,		and 2 axes 0950-1, EN50178 Co	mplies with DEN AN	İ				
SAFETY AND NOISE	CONDUCTED NOISE				22-B, EN55011-B, EN		<u>.</u>				
REGULATIONS	HARMONIC ATTENU		Complies with FCC		'-D, ENOOUTT-B, El	100UZZ-D					
AOLAHONO	HARINONIC ATTENU	AIUR *9	Compiles with IEC	TUUU-3-∠ CIASS A							

**PLA-12** April 17, 2018





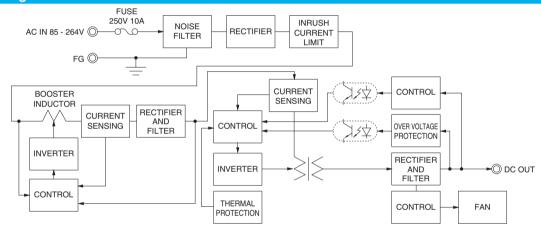
OTHERS	CASE SIZE/WEIGHT	102 X 41 X 190mm [4.02 X 1.61 X 7.48 inches] (Excluding terminal block and screw) (WXHXD) / 1.0kg max
OTHERS	COOLING METHOD *8	Forced cooling (internal fan)
WARRANTY	WARRANTY *6	5 years (subject to the operating conditions)

- \*1 This is the result of measurement of the testing board with capacitors of 22 U.F. and 0.1 U.F. placed at 150 mm from the output terminals by a 20. MHz oscilloscope or a ripple-noise meter equivalent to Keisoku-Giken
  - See 1.6 of Instruction Manual for more details.
- \*2 Drift is the change in DC output for an eight hour period after a half-hour arm-up at 25°C Output power derating is required. As for DC input, consult us for advice.
- See 3.2 in Instruction Manual
- See 3.3 in Instruction Manual for more details
- Consult us about safety agency approvals for the models with optional functions.
- The fan speed slows down at no load.
- Consult us about other classes
- \*10 The RC terminal is added to option -R models. The RC terminal is isolated from input, output, and FG.
- Do not use the power supply in overcurrent conditions or in unspecified input voltage ranges. Otherwise the internal components may be damaged.
- Parallel operation is not possible with this mode
- Sound noise may be heard from the power supply when used for pulse load.

#### **Features**

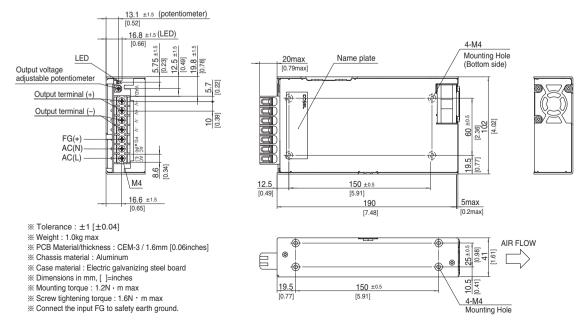
- · Cost-effective
- · Longer life (see Instruction Manual)
- · Low profile (meets 1U height = 41 mm or 1.61 inches)
- ·Wide operating temperature range (-20°C to +70°C see instruction manual)
- · Screw hold type terminal block
- · Slow fan speed at no load
- · Many optional functions
- · Complies with SEMI F-47 (-U option, see Instruction Manual for details)

#### **Block diagram**



#### **External view**

The external size of -V option, -R option, and -T2 option models is different from the standard model. See "5. Options and Others" in Instruction Manual for more details.



# PLA600F

600



1) Series name
2) Single output
3) Output wattage
4) Universal input
5) Output voltage
6) Optional \*7 Example recommended EMI/EMC filter NAC-16-472

- Optional \*7
  C: with Coating
  G: Low leakage current
  V: External potentiometer for output voltage adjustment
  U: Low input voltage stop (Complies with SEMI F-47)
  W: Parallel operation,
  LV alarm Remote sensing
  R: Remote on/off (Required external power source)
  F4: Low speed fan

- F4: Low speed fan
  T2: Horizontal terminal block
- (non-screw-hold type)

See 5.1 in Instruction Manual.

\*Make sure necessary tests will be carried out on your end equipment with the power supply installed in accordance with any required EMC/EMI regulations. \*Please consider "PJA600F-5" about 5V output.

### **SPECIFICATIONS**

	MODEL		PLA600F-12	PLA600F-15	PLA600F-24	PLA600F-36	PLA600F-48	
	VOLTAGE[V]		AC85 - 264 1 φ (Outpu	t derating is required at	AC85V - 115V. See 1.1 a	and 3.2 in Instruction Mar	nual) *4	
	ACIN 100V		6.7typ (lo=90%)					
	CURRENT[A]	ACIN 115V	6.5typ (lo=100%)					
		ACIN 230V	3.2typ (lo=100%)					
	FREQUENCY[Hz]		50 / 60 (47 - 63)					
		ACIN 100V	81typ (lo=90%)	81typ (lo=90%)	84typ (lo=90%)	85typ (lo=90%)	85typ (lo=90%)	
INPUT	EFFICIENCY[%]	ACIN 115V	81typ (lo=100%)	81typ (lo=100%)	84typ (lo=100%)	85typ (lo=100%)	85typ (lo=100%)	
		ACIN 230V	84typ (lo=100%)	84typ (lo=100%)	88typ (lo=100%)	88typ (lo=100%)	88typ (lo=100%)	
	POWER FACTOR	ACIN 100V	0.98typ (lo=90%)					
		ACIN 115V	0.98typ (lo=100%)					
		ACIN 230V	0.95typ (Io=100%)					
		ACIN 100V	20/40typ (Io=90%) (Primary inrush current /Secondary inrush current) (More than 3sec to re-start)					
	INRUSH CURRENT[A]	ACIN 115V	20/40typ (Io=100%) (Primary inrush current /Secondary inrush current) (More than 3sec to re-start)					
		ACIN 230V	40/40typ (Io=100%) (Primary inrush current /Secondary inrush current) (More than 3sec to re-start)					
	LEAKAGE CURRENT[mA]		1.5max (ACIN 115V / 240V, 60Hz, Io=100%, According to IEC60950-1 and DEN-AN)					
	VOLTAGE[V]		12	15	24	36	48	
ОИТРИТ		ACIN 85-115V		ired at ACIN 115V or les		1		
	CURRENT[A]	ACIN 115V-264V	50	40	25	16.7	12.5	
	WATTAGE[W]	ACIN 85-115V	Output derating is regu	ired at ACIN 115V or les	s (refer to instruction ma	anual 3.2)		
		ACIN 115V-264V	600	600	600	601.2	600	
	LINE REGULATION[mV] *8		48max	60max	96max	144max	192max	
	LOAD REGULATION[mV] *8		100max	120max	150max	150max	300max	
	RIPPLE[mVp-p]	0 to +50℃	120max	120max	120max	150max	150max	
	*1	-20 to 0°C	160max	160max	160max	160max	400max	
	RIPPLE NOISE[mVp-p]	0 to +50°C	150max	150max	150max	200max	200max	
	*1	-20 to 0°C	180max	180max	180max	240max	500max	
		0 to ±50°C	120max	150max	240max	360max	480max	
	TEMPERATURE REGULATION[mV]	-20 to +50°C	180max	180max	290max	440max	600max	
	DRIFT[mV] *2		48max	60max	96max	144max	192max	
	START-UP TIME[ms]		300typ (ACIN 115V, Io=100%)					
	HOLD-UP TIME[ms]		20typ (ACIN 115V, Io=100%)					
	OUTPUT VOLTAGE ADJUSTMENT RANGE[V]		10.80 to 13.20	13.50 to 16.50	21.60 to 26.40	32.40 to 39.60	43.20 to 52.80	
	OUTPUT VOLTAGE SETTING[V]		12.00 to 12.48	15.00 to 15.60	24.00 to 24.96	36.00 to 37.44	48.00 to 49.92	
PROTECTION CIRCUIT AND OTHERS	OVERCURRENT PROTECTION		Works over 105% of ra	ting and recovers autom	atically			
	OVERVOLTAGE PROTECTION[V]		13.80 to 16.80	17.25 to 21.00	27.60 to 33.60	41.40 to 50.40	55.20 to 67.20	
	OPERATING INDICATION		LED (Green)					
	REMOTE SENSING		Optional (Option -W)					
	REMOTE ON/OFF		Optional (Required external power source. Option -R)					
ISOLATION	INPUT-OUTPUT • RC *3							
	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At room temperature)					
	OUTPUT • RC-FG *3							
	OUTPUT-RC *3		AC500V 1minute, Cutoff current = 100mA, DC500V 50M $\Omega$ min (At room temperature)					
	OPERATING TEMP.,HUMID.AND ALTITUDE *5		-20 to +70°C (Output derating is required), 20 - 90%RH (Non condensing), 3,000m (10,000 feet) max					
	STORAGE TEMP., HUMID.AND ALTITUDE		-20 to +75°C, 20 - 90%RH (Non condensing), 9,000m (30,000 feet) max					
NVIRONMENT	VIBRATION		10 - 55Hz, 19.6m/s² (2G), 3minutes period, 60minutes each along X, Y and Z axes					
	IMPACT		196.1m/s² (20G), 11ms, once each X, Y and Z axes					
	AGENCY APPROVALS		UL60950-1, C-UL (CSA60950-1), EN60950-1, EN50178 Complies with DEN-AN					
SAFETY AND	AGENCY APPROVAL	.3	Complies with FCC-B, VCCI-B, CISPR22-B, EN55011-B, EN55022-B					
SAFETY AND	CONDUCTED NOISE							

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OTHERS	CASE SIZE/WEIGHT	120×61×215mm [4.72×2.40×8.46 inches] (Excluding terminal block and screw) (W×H×D) / 2.0kg max
OTHERS	COOLING METHOD	*9 Forced cooling (internal fan)
WARRANTY	WARRANTY	*6 5 years (subject to the operating conditions)

- This is the result of measurement of the testing board with capacitors of 22  $\mu$  F and 0.1  $\mu$  F placed at 150 mm from the output terminals by a 20 MHz oscilloscope or a ripple-noise meter equivalent to Keisoku-Giken RM103
- See 1.6 of Instruction Manual for more details. Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25 °C.
- The BC terminal is added to option -B models. The BC terminal is
- isolated from input, output, and FG. As for DC input, consult us for advice
- Output power derating is required. See 3.2 in Instruction Manual. See 3.3 in Instruction Manual for more details.
- Consult us about safety agency approvals for the models with optional functions. \*8 Consult us about dynamic load and input response
- \*10 Consult us about other classes.

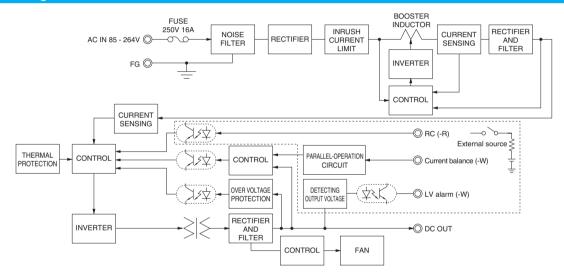
The fan speed slows down at no load

- Do not use the power supply in overcurrent conditions or in unspecified input voltage ranges. Otherwise the internal components may be damaged. Parallel operation is allowed for PLA600F models with the –W option only.
- Sound noise may be heard from the power supply when used for pulse load.

#### **Features**

- · Cost-effective
- · Longer life (see Instruction Manual)
- · Low profile (meets 2U height = 61 mm or 2.40 inches)
- · Wide operating temperature range (-20°C to +70°C see instruction manual)
- · Screw hold type terminal block
- · Slow fan speed at no load
- · Many optional functions
- · Complies with SEMI F-47 (-U option, see Instruction Manual for details)

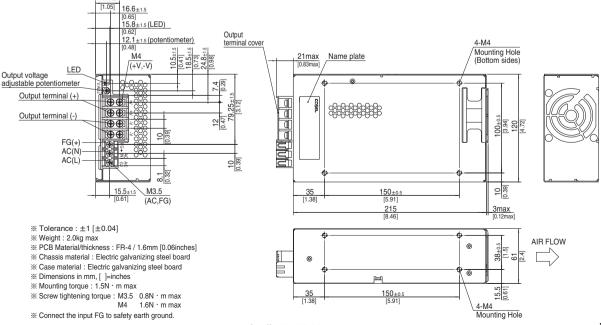
#### **Block diagram**



#### **External view**

26.6±1.

The external size of -V option, -W option, -R option, and -T2 option is different from the standard model. See "5. Options and Others" in Instruction Manual for more details.



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