# 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.

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

	MODEL		PLA15F-5	PLA15F-12	PLA15F-15	PLA15F-24			
	VOLTAGE[V]		AC85 - 264 1 φ (Output d	erating 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							
		ACIN 230V							
	FREQUENCY[Hz]		50 / 60 (47 - 63)						
NPUT		ACIN 100V	72.5typ (lo=90%)	78.0typ (lo=90%)					
IPUI	EFFICIENCY[%]	ACIN 115V	73.5typ (lo=100%)	77.0typ (lo=100%)	78.5typ (lo=100%)	79.0typ (lo=100%)			
		ACIN 230V	75.5typ (Io=100%)	78.5typ (lo=100%)	79.5typ (lo=100%)	80.0typ (lo=100%)			
		ACIN 100V	16typ (lo=90%) Ta=25°C a	t 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]	0.30max (ACIN 115V / 24	0V, 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			
	WATTAGE[W]	ACIN 85-115V	Output derating is require	d 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°C	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 ADJUSTMEN	NT 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			
RCUIT 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 50M $\Omega$ min (At room temperature)						
	OUTPUT-FG		AC500V 1minute, Cutoff current = 25mA, DC500V 50M $\Omega$ min (At room temperature)						
	OPERATING TEMP., HUMID. AND	ALTITUDE *5							
IVIDONMENT	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						
AFETY AND	AGENCY APPROVAL	s	UL60950-1, C-UL (CSA60	950-1), EN60950-1, EN5017	78, UL508 (Except option -J) C	omplies with DEN-AN			
OISE	CONDUCTED NOISE		Complies with FCC-B, VC	CI-B, CISPR22-B, EN55011-	B, EN55022-B				
EGULATIONS	HARMONIC ATTENUA	ATOD	Complies with FCC-B, VCCI-B, CISPR22-B, EN55011-B, EN55022-B  Complies with IEC61000-3-2 class A						



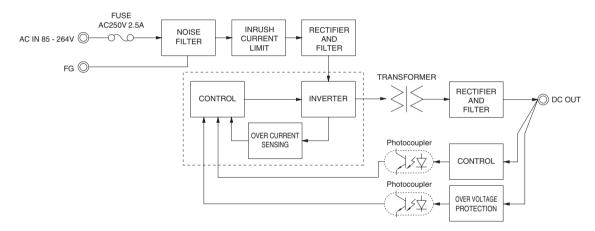
OTHERS	CASE SIZE/WEIGHT	38×80×73mm [1.50×3.15×2.87 inches] (Excluding terminal block and screw) (W×H×D) / 250g max
OTHERS	COOLING METHOD	Convection
WARRANTY	WARRANTY *6	5 years (subject to the operating conditions)

- \*1 This is the result of measurement of the testing board with capacitors of 22 µ F and 0.1 µ 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.
- \*3 As for DC input, consult us for advice.
- 64 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.
- \*6 See 3.3 in Instruction Manual for more details.
- \*7 Consult us about safety agency approvals for the models with optional functions
- \*8 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.

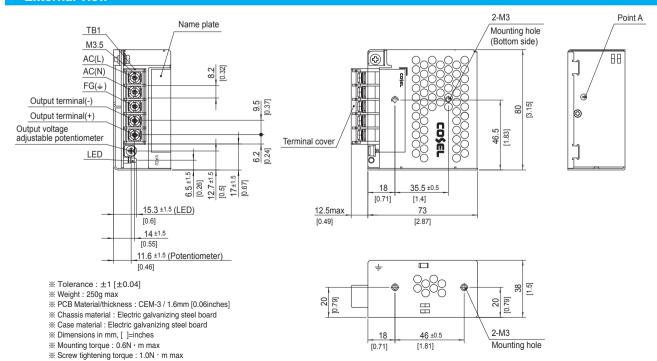
#### **Features**

- · 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**



# 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.

	MODEL		PLA30F-5	PLA30F-12	PLA30F-15	PLA30F-24			
	VOLTAGE[V]		AC85 - 264 1 φ (Output de	erating is required at AC85V	- 115V. See 1.1 and 3.2 in Inst	ruction 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)						
		ACIN 100V	73.0typ (Io=90%)	80.0typ (Io=90%)	81.0typ (lo=90%)	82.5typ (lo=90%)			
INPUT	EFFICIENCY[%]	ACIN 115V	74.0typ (lo=100%)	80.5typ (Io=100%)	81.5typ (lo=100%)	83.0typ (lo=100%)			
		ACIN 230V	77.0typ (lo=100%)	81.0typ (Io=100%)	82.0typ (lo=100%)	83.5typ (lo=100%)			
		ACIN 100V	16typ (Io=90%) Ta=25℃ a	, , ,	1 2 31 ( 2 2 2 2 2 )	1			
	INRUSH CURRENT[A]	ACIN 115V	16typ (lo=100%) Ta=25℃	at cold start					
		ACIN 230V	32typ (lo=100%) Ta=25 °C at cold start						
	LEAKAGE CURRENT		, ,		ng to IEC60950-1 and DEN-AN	1)			
	VOLTAGE[V]	<u></u>	5	12	15	24			
	CURRENT[A]		6	2.5	2	1.3			
		ACIN 85-115V		at ACIN 115V or less (refer					
	WATTAGE[W]	ACIN 115V-264V	30.0	30.0	30.0	31.2			
	LINE REGULATION[n		20max	48max	60max	96max			
	LOAD REGULATION[mV]		40max	100max	120max	150max			
		<del>'</del>	80max	120max	120max	120max			
	RIPPLE[mVp-p] *1		140max	160max	160max	160max			
OUTPUT	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℃	50max	120max	150max	240max			
		-10 to +50°C	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 ADJUSTME	NT RANGE[V]	71 \	10.80 to 13.20	13.50 to 16.50	21.60 to 26.40			
	OUTPUT VOLTAGE SETT	INGIVI	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 and recovers automatically					
PROTECTION	OVERVOLTAGE PROTE	CTION[V]	5.75 to 7.00	13.80 to 16.80	17.25 to 21.00	27.60 to 33.60			
CIRCUIT AND	OPERATING INDICAT		LED (Green)						
OTHERS	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		AC500V 1minute, Cutoff current = 25mA, DC500V 50M $\Omega$ min (At room temperature)						
	OPERATING TEMP., HUMID. AND	ALTITUDE *5							
	STORAGE TEMP., HUMID. AND	ALTITUDE	·	(Non condensing), 9,000m (	· · · · · · · · · · · · · · · · · · ·				
ENVIRONMENT	VIBRATION		· ·	3minutes period, 60minutes	,				
	IMPACT			196.1m/s² (20G), 11ms, once each X, Y and Z axes					
SAFETY AND	AGENCY APPROVAL	s		·	78, UL508 (Except option -J) C	omplies with DEN-AN			
NOISE	CONDUCTED NOISE		Complies with FCC-B, VCC	CI-B, CISPR22-B, EN55011-	B, EN55022-B	•			
REGULATIONS	HARMONIC ATTENUATOR *8		Complies with IEC61000-3						





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)

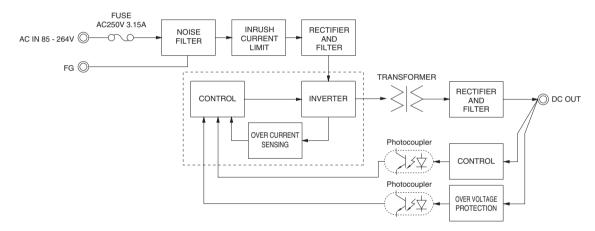
- This is the result of measurement of the testing board with capacitors of 22  $\mu$  F and 0.1  $\mu$  F placed at 150 mm from the output terminals by a 20 MHz oscilloscope or a ripple-noise meter equivalent to Keisoku Giken RM103.
  - See 1.6 of Instruction Manual for more details.
- \*2 Drift is 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.

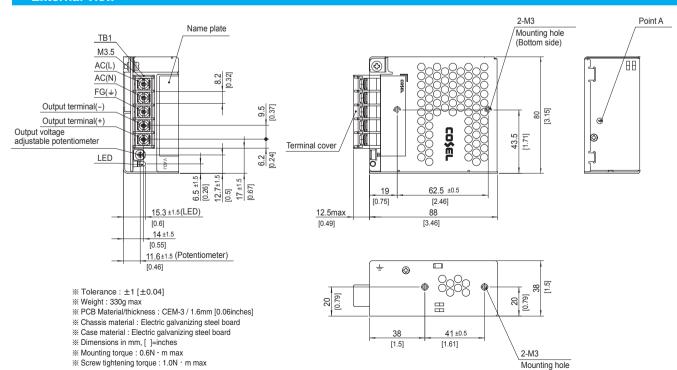
### **Features**

- · 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**



# 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.



®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.

	MODEL		PLA50F-5	PLA50F-12	PLA50F-15	PLA50F-24			
	VOLTAGE[V]		AC85 - 264 1 φ (Output dera	ting is required at AC85V - 11	5V. See 1.1 and 3.2 in Instructi	ion Manual) *3			
		ACIN 100V	0.6typ (lo=90%) 0.7typ (lo=90%)						
	CURRENT[A]	ACIN 115V	0.6typ (lo=100%)	0.7typ (lo=100%)					
		ACIN 230V	0.3typ (lo=100%)	0.4typ (lo=100%)					
	FREQUENCY[Hz]		50 / 60 (47 - 63)						
		ACIN 100V	74.5typ (lo=90%)	80.0typ (lo=90%)	80.0typ (Io=90%)	81.5typ (lo=90%)			
	EFFICIENCY[%]	ACIN 115V	75.0typ (lo=100%)	80.5typ (Io=100%)	80.5typ (lo=100%)	82.0typ (lo=100%)			
INPUT		ACIN 230V	76.5typ (lo=100%)	82.0typ (Io=100%)	82.0typ (lo=100%)	84.0typ (lo=100%)			
		ACIN 100V	0.97typ (lo=90%)	0.98typ (lo=90%)	1 - 31 (	1			
	POWER FACTOR	ACIN 115V	0.97typ (lo=100%)	0.98typ (Io=100%)					
		ACIN 230V	0.85typ (lo=100%)	0.87typ (lo=100%)					
		ACIN 100V	16typ (lo=90%) Ta=25°C at c	71 ( /					
	INRUSH CURRENT[A]	ACIN 115V	16typ (Io=100%) Ta=25°C at						
		ACIN 230V	32typ (Io=100%) Ta=25℃ at	,					
	LEAKAGE CURRENT		, ,	60Hz, Io=100%, According to	IFC60950-1 and DFN-AN)				
	VOLTAGE[V]	[]	5	12	15	24			
	CURRENT[A]		8	4.3	3.5	2.2			
		ACIN 85-115V		t ACIN 115V or less (refer to in					
	WATTAGE[W]	ACIN 65-115V ACIN 115V-264V	40.0	51.6	52.5	52.8			
	LINE REGULATIONIN		20max	48max	60max	96max			
	LOAD REGULATION[mV] *4		40max	100max	120max	150max			
	RIPPLE[mVp-p] *1	0 to +45℃	80max	120max	120max	120max			
		-10 to 0°C	140max	160max	160max	160max			
ОИТРИТ	RIPPLE NOISE[mVp-p] *1 TEMPERATURE REGULATION[mV]	0 to +45℃	120max	150max	150max	150max			
JUIPUI		-10 to 0°C	160max	180max	180max	180max			
		0 to +45℃	50max	120max	150max	240max			
		-10 to +45℃	60max		180max	240max 290max			
				150max					
	DRIFT[mV] *2		20max	48max	60max	96max			
	START-UP TIME[ms]		350typ (ACIN 115V, Io=100%)						
	HOLD-UP TIME[ms]	T DAMOERO	20typ (ACIN 115V, Io=100%)	1	10.50: 10.50	104.004.0040			
	OUTPUT VOLTAGE ADJUSTMEN		4.50 to 5.50	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	· · · · · · · · · · · · · · · · · · ·	T	T			
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)						
OTHERS	REMOTE SENSING		Not provided						
	REMOTE ON/OFF		Not provided						
	INPUT-OUTPUT			urrent = 10mA, DC500V 50MΩ					
SOLATION	INPUT-FG			urrent = 10mA, DC500V 50MΩ					
	OUTPUT-FG			ent = 25mA, DC500V 50M $\Omega$ r					
	OPERATING TEMP.,HUMID.AND		· · · · · · · · · · · · · · · · · · ·	lon condensing), 3,000m (10,0					
ENVIRONMENT	STORAGE TEMP., HUMID. AND	ALTITUDE		lon condensing), 9,000m (30,0					
	VIBRATION		. , , , , , , , , , , , , , , , , , , ,	ninutes period, 60minutes each	along X, Y and Z axes				
	IMPACT		196.1m/s² (20G), 11ms, once	· · · · · · · · · · · · · · · · · · ·		,			
SAFETY AND	AGENCY APPROVAL	S	UL60950-1, C-UL (CSA6095	0-1), EN60950-1, EN50178, U	L508 (Except option -J) Comp	olies with DEN-AN			
NOISE	CONDUCTED NOISE		Complies with FCC-B, VCCI-	B, CISPR22-B, EN55011-B, E	N55022-B				
REGULATIONS	HARMONIC ATTENUA	ATOR *8	Complies with IEC61000-3-2	class A					



OTHERS	CASE SIZE/WEIGHT	38×80×99mm [1.50×3.15×3.90 inches] (Excluding terminal block and screw) (W×H×D) / 400g 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.
- 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.

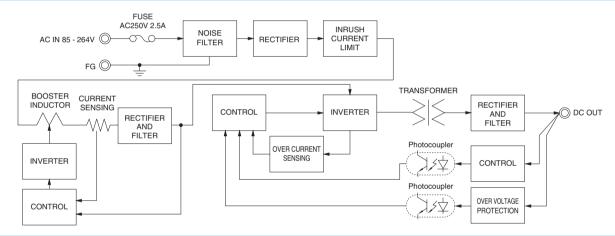
Consult us about other classes

Sound noise may be heard from the power supply when used for pulse load.

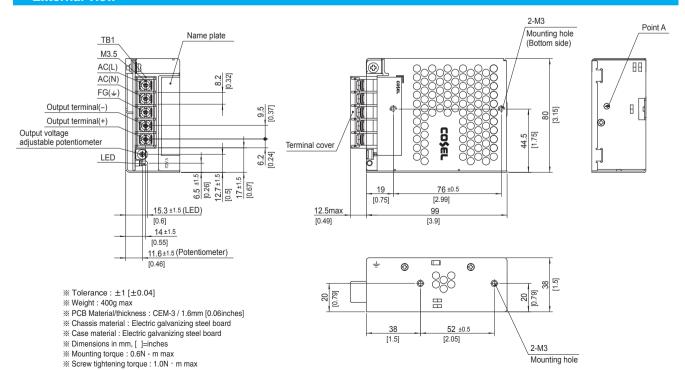
### **Features**

- · 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]		500typ (ACIN 115V, Io=		Comax	TTITIOX	TOZITICA	
	HOLD-UP TIME[ms]		20typ (ACIN 115V, Io=1					
	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 ***	Compiles with IEC0100	0 0 2 01033 A				



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

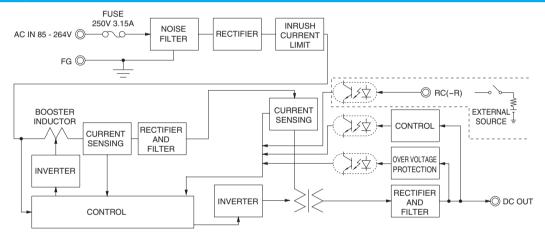
- \*1 This is the result of measurement of the testing board with canacitors of 22 U.F. and 0.1 U.F. placed at 150 mm from the output terminals by a 20 MHz oscilloscope or a ripple-noise meter equivalent to Keisoku-Giken RM103. See 1.6 of Instruction Manual for more details.
  - When the load factor 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**

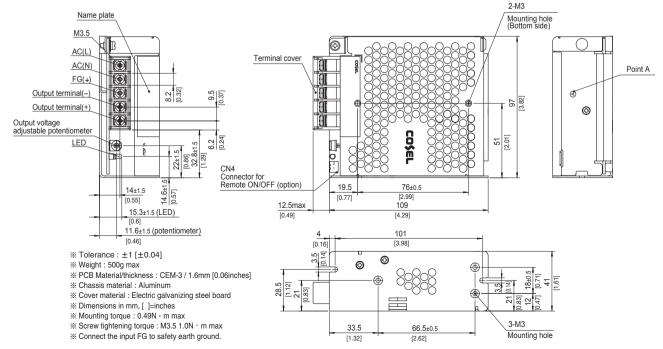
- · Compact design (Depth: 109mm 4.29inches)
- · High efficiency (88%typ PLA100F-24, AC230Vin, 100% load)
- · Low power consumption (1.5W typ AC240Vin, no load at standard model)
- · UL508 approved (Except option -J), and complies with SEMI F47 (see instruction manual 1.1)
- · Various connection interface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



# PLA150F

A 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.

1) Series name 2) Single output 3) Output wattage 4) Universal input 5) Output 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.

SPECIF	ICATIONS		* Please consider "PB.	A150F-5-N" about 5V outp	ut with case cover.			
	MODEL		PLA150F-12	PLA150F-15	PLA150F-24	PLA150F-36	PLA150F-48	
	VOLTAGE[V]		AC85 - 264 1 φ (Outp	ut 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 (lo=90%)	87typ (lo=90%)	87typ (lo=90%)	
	EFFICIENCY[%]	ACIN 115V	84typ (lo=100%)	84typ (lo=100%)	87typ (lo=100%)	87typ (lo=100%)	87typ (lo=100%)	
NPUT		ACIN 230V	87typ (lo=100%)	87typ (lo=100%)	90typ (lo=100%)	90typ (Io=100%)	90typ (lo=100%)	
• .		ACIN 100V	0.98typ (lo=90%)	( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( )	100,75 (10 100,15)	(10.75)	CC13/P (CC   CC1/C)	
	POWER FACTOR	ACIN 115V	0.98typ (lo=100%)					
		ACIN 230V		Power factor correction i	s stopped at AC250V o	r more		
		ACIN 100V	16typ (lo=90%) Ta=25		0 010pp0d dt 710200 v 0	i moro.		
	INRUSH CURRENT[A]	ACIN 115V	16typ (lo=100%) Ta=2					
	INTOSTI CONTILITITA	ACIN 113V	32typ (lo=100%) Ta=2					
	LEAKAGE CURRENT		, ,	/ 240V, 60Hz, Io=100%,	According to IEC60050	1 and DEN ANI)		
	VOLTAGE[V]	[IIIA]	12	15	24	36	48	
	VOLIAGE[V]	ACIN 85-115V		uired at ACIN 115V or le			40	
	CURRENT[A]	ACIN 05-115V ACIN 115V-264V	12.5	10	6.4	4.2	3.2	
		ACIN 115V-204V			1 -		3.2	
	WATTAGE[W]			uired at ACIN 115V or le	<del></del>	<del></del>	450.0	
	LINE DECLU ATIONS	ACIN 115V-264V	150.0	150.0	153.6	151.2	153.6	
	LINE REGULATION[n		48max	60max	96max	144max	192max	
	LOAD REGULATION	lo=30 to 100%	100max	120max	150max	150max	300max	
	[mV] *4			se contact us about detai	<u></u>	1	1	
ОИТРИТ	RIPPLE[mVp-p]	0 to +40℃	120max	120max	120max	150max	150max	
	*1	-10 to 0℃	160max	160max	160max	200max	400max	
	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℃	180max	180max	180max	240max	500max	
	lo: load factor	lo=0 to 30%	600max	600max	600max	600max	600max	
	TEMPERATURE REGULATION[mV]	0 to +40°C	120max	150max	240max	360max	480max	
	TEMPENATONE NEGOEATION[IIIV]	-10 to +40°C	180max	180max	290max	440max	600max	
	DRIFT[mV] *2		48max	60max	96max	144max	192max	
	START-UP TIME[ms]		500typ (ACIN 115V, Id	=100%) Ta=25℃				
	HOLD-UP TIME[ms]		20typ (ACIN 115V, lo-	=100%)				
	OUTPUT VOLTAGE ADJUSTMEN	IT 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 SETT	ING[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	
	OVERCURRENT PROTE	CTION	Works over 105% of r	ating and recovers auton	natically			
ROTECTION	OVERVOLTAGE PROTE	CTION[V]	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	
IRCUIT AND	OPERATING INDICAT	ION	LED (Green)					
THERS	REMOTE SENSING		Not provided					
	REMOTE ON/OFF		Optional (Required external power source. Option -R)					
	INPUT-OUTPUT • RC	*9						
	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50M $\Omega$ min (At room temperature)					
SOLATION	OUTPUT • RC-FG	*9						
	OUTPUT-RC	*9						
	OPERATING TEMP., HUMID. AND			derating is required), 20			et) max	
	STORAGE TEMP., HUMID.AND			6RH (Non condensing), 9		0,1		
NVIRONMENT	VIBRATION			2G), 3minutes period, 60				
	IMPACT	-		is, once each X, Y and Z		una Z anos		
ACCTV AND	AGENCY APPROVAL	<u> </u>		SA60950-1), EN60950-1,		ent ontion - I) Complies	with DEN-AN	
SAFETY AND IOISE	CONDUCTED NOISE			, VCCI-B, CISPR22-B, E		opt option -a) Complies	WIGH DEIN-AIN	
REGULATIONS	HARMONIC ATTENUA	ATOR **	<u> </u>	·	100011-D, EN00022-B			
LGOLATIONS	HARINONIC AT LENUA	AIUN *8	Complies with IEC610	JUU-3-2 CIASS A				



OTHERS	CASE SIZE/WEIGHT	41 X 97 X 129mm [1.61 X 3.82 X 5.08 inches] (Excluding terminal block and screw) (W X H X 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℃.

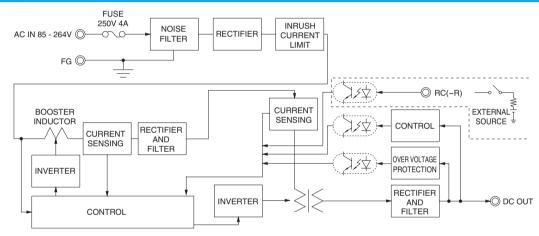
- As for DC input, consult us for advice Consult us about dynamic load and input response. Measure the output
- voltage by using the average mode of the tester to deal with the burst operation at 30% load or less.
- Output power derating is required. See 3.2 in Instruction Manual.
- See 3.3 in Instruction 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**

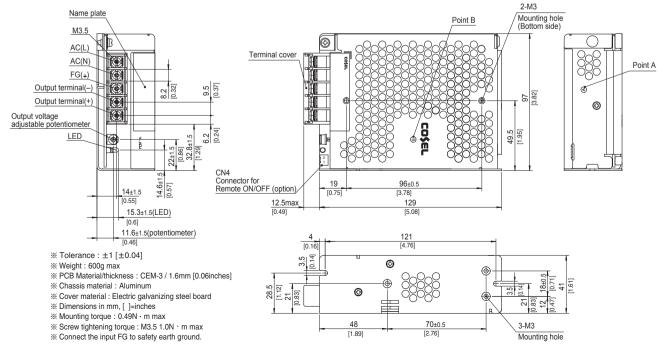
- · Compact design (Depth: 129mm 5.08inches)
- · High efficiency (90%typ PLA150F-24, AC230Vin, 100% load)
- · Low power consumption (1.5W typ AC240Vin, no load at standard model)
- · UL508 approved (Except option -J), and complies with SEMI F47 (see instruction manual 1.1)
- · Various connection interface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

	MODEL		PLA300F-5	PLA300F-12	PLA300F-15	PLA300F-24	PLA300F-36	PLA300F-48	
	VOLTAGE[V]		AC85 - 264 1 φ (Οι	utput derating is requ	uired at AC85V - 115	V. See 1.1 and 3.2 ir	Instruction Manual	) *3	
		ACIN 100V	3.1typ (lo=90%)	3.4typ (lo=90%)					
	CURRENT[A]	ACIN 115V	3.0typ (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 (Io=90%)	81typ (Io=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%)	
INPUT		ACIN 230V	77typ (lo=100%)	81typ (lo=100%)	83typ (Io=100%)	86typ (lo=100%)	86typ (lo=100%)	86typ (lo=100%)	
		ACIN 100V	0.98typ (lo=90%)	1 21 (1	1 31- (	1	1 2 3 7 7 7 2 2 2 2 3 7 7	1	
	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				-		
	INTOSTI CONTILIVITA	ACIN 113V	40typ (lo=100%) Ta						
	LEAKAGE CURRENT		71 \ /		100%, According to	IEC60050 1 and DE	NI ANI)		
		[IIIA]	5		15	24	36	48	
	VOLTAGE[V]	ACINI OF 14EV		12				40	
	CURRENT[A]	ACIN 85-115V			V or less (refer to in:			0.0	
		ACIN 115V-264V	50	25	20	12.5	8.4	6.3	
	WATTAGE[W]	ACIN 85-115V			V or less (refer to in:			T	
		ACIN 115V-264V	250	300	300	300	302.4	302.4	
	LINE REGULATION[n		20max	48max	60max	96max	144max	192max	
	LOAD REGULATION	<del>-</del>	40max	100max	120max	150max	150max	300max	
	RIPPLE[mVp-p]	0 to +50℃	80max	120max	120max	120max	150max	150max	
OUTPUT	*1	-10 to 0°C	140max	160max	160max	160max	160max	400max	
OUTPUT	RIPPLE NOISE[mVp-p]	0 to +50°C	120max	150max	150max	150max	200max	200max	
	*1	-10 to 0℃	160max	180max	180max	180max	240max	500max	
	TEMPERATURE REQUIRATIONSV.	0 to +50°C	50max	120max	150max	240max	360max	480max	
	TEMPERATURE REGULATION[mV]	-10 to +50°C	75max	180max	180max	290max	440max	600max	
	DRIFT[mV]	*2	20max	48max	60max	96max	144max	192max	
	START-UP TIME[ms]		300typ (ACIN 115V	, lo=100%)	•				
	HOLD-UP TIME[ms]		20typ (ACIN 115V,	lo=100%)					
	OUTPUT VOLTAGE ADJUSTMEN	NT RANGE[V]	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 SETT		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 PROTE			of rating and recover		1 - 11 - 11 - 11 - 11	1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	1 10100 10 10100	
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 10 10.00		27.00 10 00.00	111101000110	00.20 to 07.20	
OTHERS	REMOTE SENSING	1011	Not provided						
	REMOTE ON/OFF		Optional (Required external power source. Option -R)						
	INPUT-OUTPUT • RC	*10							
	INPUT-FG	*10	, , , , , , , , , , , , , , , , , , , ,						
ISOLATION	OUTPUT • RC-FG	*10	AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At room temperature)						
	OUTPUT-RC	*10	,						
	OPERATING TEMP.,HUMID.AND		\ \		ed), 20 - 90%RH (No	0,, ,	un (10,000 feet) ma	x	
ENVIRONMENT	STORAGE TEMP., HUMID.AND	ALIIIUDE			nsing), 9,000m (30,00	· · · · · · · · · · · · · · · · · · ·			
	VIBRATION		·		iod, 60minutes each	along X, Y and Z ax	es		
	IMPACT		· · · ·	1ms, once each X, Y					
SAFETY AND	AGENCY APPROVAL	-			0950-1, EN50178 Co		1		
NOISE	CONDUCTED NOISE		<u>'</u>		22-B, EN55011-B, EN	N55022-B			
REGULATIONS	HARMONIC ATTENU	ATOR *9	Complies with IEC6	31000-3-2 class A					



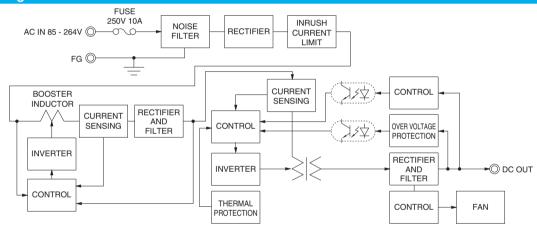
OTHERS	CASE SIZE/WEIGHT	102×41×190mm [4.02×1.61×7.48 inches] (Excluding terminal block and screw) (W×H×D) / 1.0kg max				
OTHERS	COOLING METHOD *8	Forced cooling (internal fan)				
WARRANTY	WARRANTY *6	5 years (subject to the operating conditions)				

- \*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**

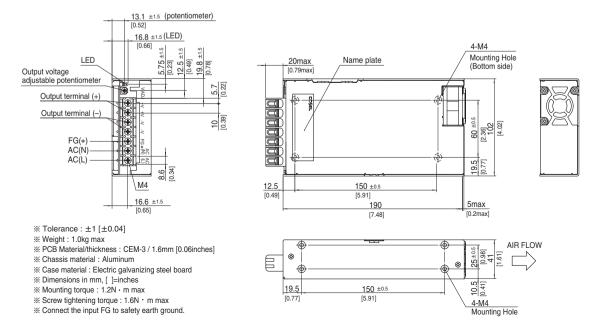
- · Cost-effective
- · Longer life (see Instruction Manual)
- · Low profile (meets 1U height = 41 mm or 1.61 inches)
- ·Wide operating temperature range (-20°C to +70°C see instruction manual)
- · Screw hold type terminal block
- · Slow fan speed at no load
- · Many optional functions
- · Complies with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

- 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.

	MODEL		PLA600F-12	PLA600F-15	PLA600F-24	PLA600F-36	PLA600F-48	
INPUT	VOLTAGE[V]		AC85 - 264 1 φ (Outpu	ut derating is required at	AC85V - 115V. See 1.1	and 3.2 in Instruction Ma	nual) *4	
	ACIN 100V		6.7typ (Io=90%)					
	CURRENT[A]	ACIN 115V	/ 6.5typ (lo=100%)					
		ACIN 230V						
	FREQUENCY[Hz]		50 / 60 (47 - 63)					
		ACIN 100V	81typ (lo=90%)	81typ (lo=90%)	84typ (lo=90%)	85typ (lo=90%)	85typ (lo=90%)	
	EFFICIENCY[%]	ACIN 115V	81typ (lo=100%)	81typ (lo=100%)	84typ (Io=100%)	85typ (lo=100%)	85typ (lo=100%)	
		ACIN 230V	84typ (Io=100%)	84typ (lo=100%)	88typ (Io=100%)	88typ (lo=100%)	88typ (lo=100%)	
	POWER FACTOR	ACIN 100V	0.98typ (lo=90%)					
		ACIN 115V	/ 0.98typ (lo=100%)					
		ACIN 230V						
		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)					
ОИТРИТ	VOLTAGE[V]		12	15	24	36	48	
	CURRENTIAL	ACIN 85-115V	Output derating is requ	uired at ACIN 115V or le	ss (refer to instruction m	nanual 3.2)		
	CURRENT[A]	ACIN 115V-264V	50	40	25	16.7	12.5	
	WATTACEIWI	ACIN 85-115V	Output derating is required at ACIN 115V or less (refer to instruction manual 3.2)					
	WATTAGE[W]	ACIN 115V-264V	600	600	600	601.2	600	
	LINE REGULATION[mV] *8		48max	60max	96max	144max	192max	
	LOAD REGULATION[mV]		100max	120max	150max	150max	300max	
	RIPPLE[mVp-p]	0 to +50°C	120max	120max	120max	150max	150max	
	*1	-20 to 0°C	160max	160max	160max	160max	400max	
	RIPPLE NOISE[mVp-p]  *1  TEMPERATURE REGULATION[mV]	0 to +50°C	150max	150max	150max	200max	200max	
		-20 to 0°C	180max	180max	180max	240max	500max	
		0 to +50°C	120max	150max	240max	360max	480max	
		-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 auton	natically			
	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 50M $\Omega$ 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							
ENVIRONMENT	STORAGE TEMP., HUMID. AND ALTITUDE		-20 to +75°C, 20 - 90%RH (Non condensing), 9,000m (30,000 feet) max					
I VIII ON WEIGHT	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					
AFETY AND	CONDUCTED NOISE		UL60950-1, C-UL (CSA60950-1), EN60950-1, EN50178 Complies with DEN-AN					
IOISE			Complies with FCC-B, VCCI-B, CISPR22-B, EN55011-B, EN55022-B					
EGULATIONS			Complies with IEC61000-3-2 class A					





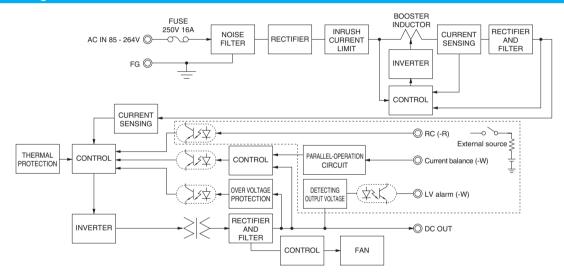
OTHERS	CASE SIZE/WEIGHT	120×61×215mm [4.72×2.40×8.46 inches] (Excluding terminal block and screw) (W×H×D) / 2.0kg max
	COOLING METHOD	*9 Forced cooling (internal fan)
WARRANTY	WARRANTY	*6 5 years (subject to the operating conditions)

- 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
- The fan speed slows down at no load
- \*10 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 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)

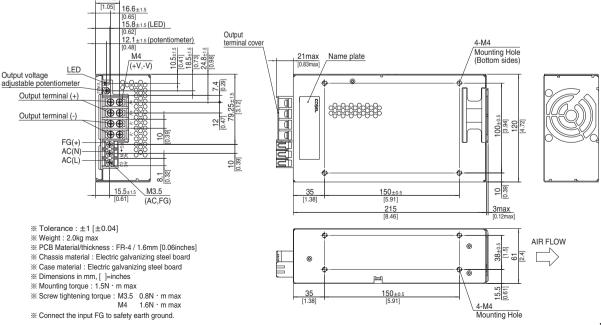
# **Block diagram**



## **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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