#### **AC-DC Power Supplies Enclosed Type**









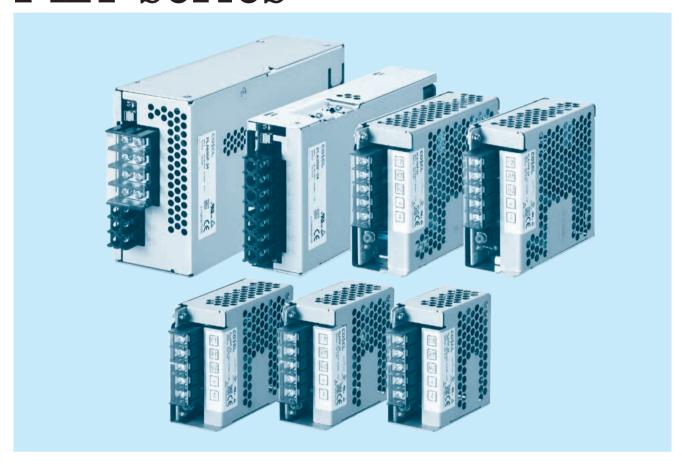








# **PLA-series**



#### Feature

Low Profile (15, 30, 50, 100, 150, 300W: 1U size.

600W: 2U size)

Wide temperature range (-20℃ to +70℃, Derating is required) Harmonic attenuator (Complies with IEC61000-3-2 class A)

Universal input (AC85 - 264V, Derating is required)

Low power consumption at no load

Screw hold type terminal block (Only PLA300F and PLA600F) Complies with SEMI F-47 (Option -U : Refer to instruction manual) Many optional functions

### Safety agency approvals

UL60950-1, C-UL (CSA60950-1), EN62368-1 UL508 (PLA15F-150F) approved Complies with DEN-AN

#### 5-year warranty (See Instruction Manual)

### CE marking

Low Voltage Directive

### UKCA marking

**Electrical Equipment Safety Regulations RoHS Regulations** 

#### EMI

Complies with FCC-B, CISPR22-B, EN55011-B, EN55022-B,

#### **EMS Compliance**: EN61204-3, EN61000-6-2

EN61000-4-2

EN61000-4-3

EN61000-4-4

EN61000-4-5

EN61000-4-6

EN61000-4-8

EN61000-4-11

# 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.

	MODEL		PLA15F-5	PLA15F-12	PLA15F-15	PLA15F-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	0.4typ (Io=90%)						
	CURRENT[A]	ACIN 115V	0.4typ (lo=100%)						
		ACIN 230V	0.25typ (Io=100%)						
	FREQUENCY[Hz]		50 / 60 (47 - 63)						
		ACIN 100V	72.5typ (Io=90%)	75.5typ (lo=90%)	77.0typ (lo=90%)	78.0typ (lo=90%)			
INPUT	EFFICIENCY[%]	ACIN 115V	73.5typ (Io=100%)	77.0typ (Io=100%)	78.5typ (Io=100%)	79.0typ (lo=100%)			
		ACIN 230V	75.5typ (Io=100%)	78.5typ (Io=100%)	79.5typ (Io=100%)	80.0typ (lo=100%)			
		ACIN 100V	16typ (lo=90%) Ta=25℃ at	71 ( )	1	22.27			
	INRUSH CURRENT[A]	ACIN 115V	16typ (Io=100%) Ta=25℃ a						
		ACIN 230V	32typ (Io=100%) Ta=25°C at cold start						
	LEAKAGE CURRENT		,, ,	/, 60Hz, Io=100%, According	to IEC62368-1 and DEN-AN	)			
	VOLTAGE[V]	<u> </u>	5	12	15	24			
	CURRENT[A]	-	3	1.3	1	0.7			
		ACIN 85-115V		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		20max	48max	60max	96max			
	LOAD REGULATION		40max	100max	120max	150max			
		0 to +50℃	80max	120max	120max	120max			
	RIPPLE[mVp-p] *1	-10 to 0°C		160max	160max	160max			
		lo=0 to 35%		240max	240max	280max			
OUTPUT		0 to +50°C		150max	150max	150max			
	RIPPLE NOISE[mVp-p] *1  TEMPERATURE REGULATION[mV]	-10 to 0°C		180max	180max	180max			
		lo=0 to 35%		300max	300max	320max			
		0 to +50°C		120max	150max	240max			
		-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 voltage						
	HOLD-UP TIME[ms]		20typ (ACIN 115V, Io=100%)						
	OUTPUT VOLTAGE ADJUSTMEN	IT RANGE[V]	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						
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		AC3,000V 1minute, Cutoff of	current = 10mA, DC500V 50M	$\Omega$ min (At room temperature	e)			
ISOLATION	INPUT-FG		AC2,000V 1minute, Cutoff of	current = 10mA, DC500V 50M	$\Omega$ min (At room temperature	9)			
	OUTPUT-FG		AC500V 1minute, Cutoff current = 25mA, DC500V 50M $\Omega$ min (At room temperature)						
	OPERATING TEMP., HUMID. AND	ALTITUDE *5	-20 to +70°C, 20 - 90%RH (	Non condensing), 3,000m (10	0,000 feet) max				
E10//B0104E1	STORAGE TEMP., HUMID.AND	ALTITUDE	· '	Non condensing), 9,000m (30	·				
ENVIRONMENT	VIBRATION	-		minutes period, 60minutes ea					
	IMPACT		196.1m/s² (20G), 11ms, onc	ce each X, Y and Z axes					
SAFETY AND	AGENCY APPROVAL	s		50-1), EN62368-1, UL508 (Ex	ccept option -J) Complies wit	th DEN-AN			
NOISE	CONDUCTED NOISE		Complies with FCC-B, VCC	I-B, CISPR22-B, EN55011-B,	EN55022-B				

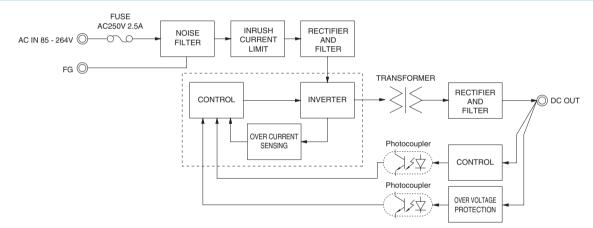
OTHERS	CASE SIZE/WEIGHT	38×80×73mm [1.50×3.15×2.87 inches] (Excluding terminal block and screw) (W×H×D) / 250g max
OTHERS	COOLING METHOD	Convection
WARRANTY	WARRANTY *6	5 years (subject to the operating conditions)

- \*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.
- 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.
- 44 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.
- \*5 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.

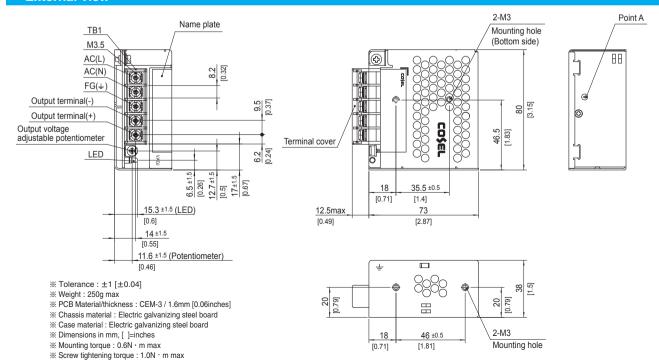
#### **Features**

- · 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 dera	ting is required at AC85V - 11	5V. See 1.1 and 3.2 in Instru	uction 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)						
NIDUT	ACIN 100V		73.0typ (lo=90%)	80.0typ (lo=90%)	81.0typ (lo=90%)	82.5typ (lo=90%)			
NPUT	EFFICIENCY[%]	ACIN 115V	74.0typ (Io=100%)	80.5typ (lo=100%)	81.5typ (lo=100%)	83.0typ (Io=100%)			
		ACIN 230V	77.0typ (lo=100%)	81.0typ (lo=100%)	82.0typ (lo=100%)	83.5typ (lo=100%)			
		ACIN 100V	16typ (lo=90%) Ta=25℃ at c	old 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]	0.65max (ACIN 115V / 240V,	60Hz, Io=100%, According to	IEC62368-1 and DEN-AN)				
	VOLTAGE[V]		5	12	15	24			
	CURRENT[A]		6	2.5	2	1.3			
		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			
		0 to +50°C	80max	120max	120max	120max			
	RIPPLE[mVp-p] *1	-10 to 0°C	140max	160max	160max	160max			
UTPUT	RIPPLE NOISE[mVp-p] *1	0 to +50°C	120max	150max	150max	150max			
		-10 to 0°C	160max	180max	180max	180max			
		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]		150typ (ACIN 115V, Io=100%)						
	HOLD-UP TIME[ms]	-	20typ (ACIN 115V, Io=100%)						
	OUTPUT VOLTAGE ADJUSTMEN	IT RANGE[V]	, ,	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	<del></del>	Works over 105% of rating a	nd recovers automatically					
ROTECTION	OVERVOLTAGE PROTE		5.75 to 7.00	13.80 to 16.80	17.25 to 21.00	27.60 to 33.60			
IRCUIT AND	OPERATING INDICAT		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 cu	urrent = 10mA, DC500V 50MS	2 min (At room temperature	)			
	OUTPUT-FG		<u>'</u>	rent = 25mA, DC500V 50M $\Omega$		·			
	OPERATING TEMP., HUMID. AND	ALTITUDE *5		lon condensing), 3,000m (10,					
	STORAGE TEMP., HUMID. AND		· '	lon condensing), 9,000m (30,					
NVIRONMENT	VIBRATION			ninutes period, 60minutes eac					
	IMPACT		196.1m/s² (20G), 11ms, once						
AFETY AND	AGENCY APPROVAL		· / / · · · · ·	0-1), EN62368-1, UL508 (Exc	cept option -J) Complies with	n DEN-AN			
IOISE	CONDUCTED NOISE	-	. ,	·B, CISPR22-B, EN55011-B, I					
		ATOR *8	Complies with IEC61000-3-2						



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)

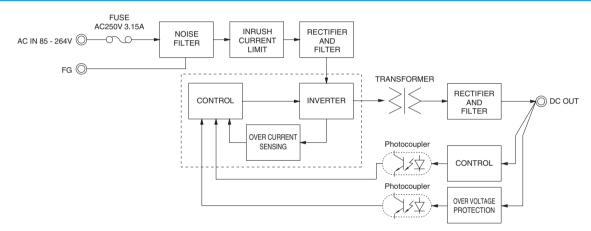
- This is the result of measurement of the testing board with capacitors of 22  $\mu$  F and 0.1  $\mu$  F placed at 150 mm from the output terminals by a 20 MHz oscilloscope or a ripple-noise meter equivalent to Keisoku Giken RM103.
  - See 1.6 of Instruction Manual for more details.
- \*2 Drift is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

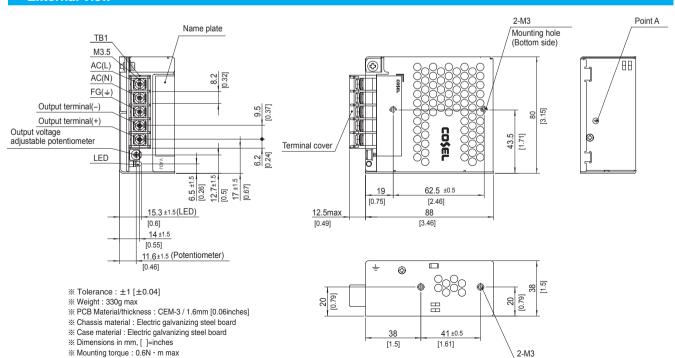
- · Compact design (Depth: 88mm 3.46inches)
- · UL508 approved (Except option -J), and complies with SEMI F47
- · Various connection interface options (vertical terminal [-T], AMP connector [-J])

#### **Block diagram**



#### **External view**

Screw tightening torque: 1.0N · m max



Mounting hole

eco

#### Ordering information

# 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.



- 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		PLA50F-5	PLA50F-12	PLA50F-15	PLA50F-24		
	VOLTAGE[V]		AC85 - 264 1 φ (Output dera	ating is required at AC85V - 1	15V. See 1.1 and 3.2 in Insti	ruction Manual) *3		
		ACIN 100V	0.6typ (Io=90%) 0.7typ (Io=90%)					
	CURRENT[A]	ACIN 115V	0.6typ (lo=100%)					
		ACIN 230V	0.3typ (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 (lo=100%)	80.5typ (lo=100%)	82.0typ (lo=100%)		
NPUT		ACIN 230V	76.5typ (lo=100%)	82.0typ (lo=100%)	82.0typ (Io=100%)	84.0typ (lo=100%)		
		ACIN 100V	0.97typ (lo=90%)	0.98typ (lo=90%)	1	1		
	POWER FACTOR	ACIN 115V	0.97typ (lo=100%)	0.98typ (lo=100%)				
		ACIN 230V	0.85typ (lo=100%)	0.87typ (lo=100%)				
		ACIN 100V	16typ (Io=90%) Ta=25℃ at c	71 \ /				
	INRUSH CURRENT[A]	ACIN 115V	16typ (Io=100%) Ta=25°C at					
		ACIN 230V	32typ (lo=100%) Ta=25°C at					
	LEAKAGE CURRENT		0.75max (ACIN 115V / 240V		to IFC62368-1 and DEN-AN	)		
	VOLTAGE[V]		5	12	15	24		
	CURRENT[A]		8	4.3	3.5	2.2		
		ACIN 85-115V	Output derating is required a			<del></del>		
	WATTAGE[W]	ACIN 115V-264V	40.0	51.6	52.5	52.8		
	LINE REGULATION[n		20max	48max	60max	96max		
	LOAD REGULATION		40max	100max	120max	150max		
	RIPPLE[mVp-p] *1  RIPPLE NOISE[mVp-p] *1  TEMPERATURE REGULATION[mV]  DRIFT[mV]	0 to +45℃		120max	120max	120max		
			140max	160max	160max	160max		
DUTPUT		0 to +45℃		150max	150max	150max		
5011-01		-10 to 0°C	160max	180max	180max	180max		
		0 to +45℃	50max	120max	150max	240max		
		-10 to +45°C	60max	150max	180max	290max		
		*2	20max	48max	60max	96max		
	START-UP TIME[ms]		350typ (ACIN 115V, Io=100%		Oomax	Joinax		
	HOLD-UP TIME[ms]		20typ (ACIN 115V, Io=100%)					
	OUTPUT VOLTAGE ADJUSTMEN	IT DANCEIVI	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		15.00 10 15.00	24.00 to 24.96		
	OVERVOLTAGE PROTE		5.75 to 7.00	13.80 to 16.80	17.25 to 21.00	27.60 to 33.60		
PROTECTION CIRCUIT AND	OPERATING INDICAT			13.80 10 10.80	17.25 10 21.00	27.00 10 33.00		
OTHERS		ION	LED (Green)					
JIHENS	REMOTE SENSING		Not provided					
	REMOTE ON/OFF		Not provided  AC3,000V 1minute, Cutoff current = 10mA, DC500V 50M $\Omega$ min (At room temperature)					
COL ATION	INPUT-OUTPUT			<u>'</u>		/		
SOLATION	INPUT-FG		AC2,000V 1minute, Cutoff cu	· · · · · · · · · · · · · · · · · · ·		9)		
	OUTPUT-FG	ALTITUDE : -	AC500V 1minute, Cutoff cur					
	OPERATING TEMP., HUMID. AND		-20 to +70°C, 20 - 90%RH (N	• • • • • • • • • • • • • • • • • • • •	·			
NVIRONMENT	STORAGE TEMP., HUMID.AND	ALTITUDE	-20 to +75°C, 20 - 90%RH (N	· · · · · · · · · · · · · · · · · ·	· , , , , , , , , , , , , , , , , , , ,			
	VIBRATION		10 - 55Hz, 19.6m/s² (2G), 3n		ch along X, Y and Z axes			
	IMPACT		196.1m/s² (20G), 11ms, once each X, Y and Z axes					
SAFETY AND	AGENCY APPROVAL	S	UL60950-1, C-UL (CSA6095			th DEN-AN		
NOISE	CONDUCTED NOISE		Complies with FCC-B, VCCI-		EN55022-B			
REGULATIONS	HARMONIC ATTENU	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)

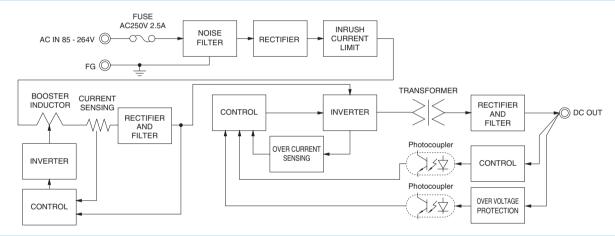
- This is the result of measurement of the testing board with capacitors of 22  $\mu$  F and 0.1  $\mu$  F placed at 150 mm from the output terminals by a 20 MHz oscilloscope or a ripple-noise meter equivalent to Keisoku-Giken RM103.
  - See 1.6 of Instruction Manual for more details.
- \*2 Drift is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

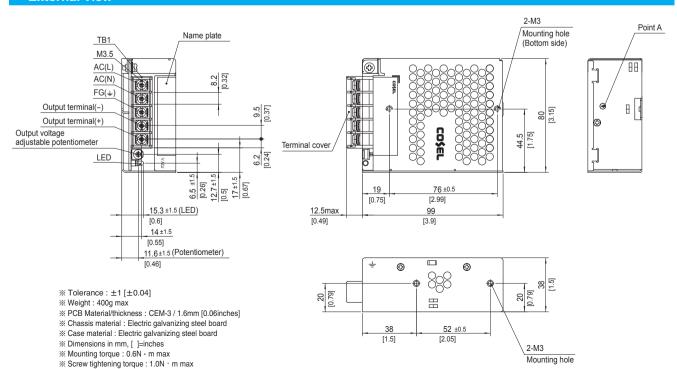
#### **Features**

- · 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



eco







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.

<u> </u>	ICATIONS			100F-5-N" about 5V outp					
	MODEL		PLA100F-12	PLA100F-15	PLA100F-24	PLA100F-36	PLA100F-48		
	VOLTAGE[V]		AC85 - 264 1 φ (Outpu	t derating is required at	AC85V - 115V. See 1.1	and 3.2 in Instruction M	lanual) *3		
	ACIN 100V		1.2typ (lo=90%)						
	CURRENT[A]	ACIN 115V	1.1typ (lo=100%)						
		ACIN 230V	0.6typ (lo=100%)						
	FREQUENCY[Hz]		50 / 60 (47 - 63)						
		ACIN 100V	82typ (lo=90%)	83typ (lo=90%)	85typ (lo=90%)	86typ (Io=90%)	86typ (Io=90%)		
	EFFICIENCY[%]	ACIN 115V	82typ (lo=100%)	83typ (lo=100%)	85typ (lo=100%)	86typ (lo=100%)	86typ (lo=100%)		
INPUT		ACIN 230V	85typ (lo=100%)	86typ (lo=100%)	88typ (lo=100%)	89typ (lo=100%)	89typ (lo=100%)		
		ACIN 100V	0.98typ (lo=90%)	,	,	, , ,	, ,, ,		
	POWER FACTOR	ACIN 115V	0.98typ (lo=100%)						
		ACIN 230V	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Power factor correction is	s stopped at AC250V or	more.			
		ACIN 100V	16typ (Io=90%) Ta=25°		, otoppod dt / to2001 ot				
	INRUSH CURRENT[A]	ACIN 115V	16typ (Io=100%) Ta=25						
	INTOON CONNENT[A]	ACIN 230V	32typ (lo=100%) Ta=25						
	LEAKAGE CURRENT			240V, 60Hz, Io=100%, A	According to IEC62269	1 and DEN ANI)			
	VOLTAGE[V]	[IIIA]	12	15	24	36	48		
	*OLINGL[V]	ACIN 85-115V		ired at ACIN 115V or les		1 7 7	40		
	CURRENT[A]	ACIN 85-115V ACIN 115V-264V	8.4	6.7	ss (refer to instruction m	2.8	2.1		
		ACIN 115V-204V		ired at ACIN 115V or les	1 -		۷.۱		
	WATTAGE[W]			1	T .	<del></del>	1400.0		
	LINE DECLI ATION	ACIN 115V-264V	100.8	100.5	103.2	100.8	100.8		
	LINE REGULATION[n		48max	60max	96max	144max	192max		
	LOAD REGULATION		100max	120max	150max	150max	300max		
	[mV] *4	lo=0 to 30%							
	RIPPLE[mVp-p]	0 to +40°C	120max	120max	120max	150max	150max		
ОИТРИТ	*1	-10 to 0°C	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		
	TEMPERATURE REGULATION[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, Io=100%) Ta=25°C						
	HOLD-UP TIME[ms]		20typ (ACIN 115V, Io=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		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			ting and recovers autom					
PROTECTION	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		
CIRCUIT AND	OPERATING INDICAT		LED (Green)						
OTHERS	REMOTE SENSING		Not provided						
	REMOTE ON/OFF	-	Optional (Required external power source. Option -R)						
	INPUT-OUTPUT • RC	*9	<u> </u>	toff current = 10mA, DC		om temperature)			
	INPUT-FG	***		toff current = 10mA, DC					
SOLATION	OUTPUT • RC-FG	*9		·	· · · · · · · · · · · · · · · · · · ·				
	OUTPUT-RC	*9	7.0000 Timilate, Caten Carrett, 1001111, 20000 Collins Timil (Fit 100111 to 11) Polatica (						
		ALTITUDE *-	AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (At room temperature) -20 to +70°C (Output derating is required), 20 - 90%RH (Non condensing), 3,000m (10,000 feet) max						
	OPERATING TEMP.,HUMID.AND						et) max		
ENVIRONMENT	STORAGE TEMP.,HUMID.AND	ALITIUDE		RH (Non condensing), 9					
	VIBRATION			G), 3minutes period, 60r		and ∠ axes			
	IMPACT		. ,.	s, once each X, Y and Z					
SAFETY AND	AGENCY APPROVAL	S		A60950-1), EN62368-1,		J) Complies with DEN-A	N.		
NOISE REGULATIONS	CONDUCTED NOISE			VCCI-B, CISPR22-B, EN	N55011-B, EN55022-B				
	HARMONIC ATTENUA	ATOD VO	Complies with IEC6100	10-3-2 class 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
	COOLING METHOD	Convection
WARRANTY	WARRANTY	*6 5 years (subject to the operating conditions)

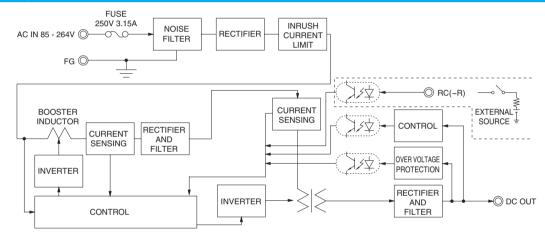
- \*1 This is the result of measurement of the testing board with canacitors of 22 U.F. and 0.1 U.F. placed at 150 mm from the output terminals by a 20 MHz oscilloscope or a ripple-noise meter equivalent to Keisoku-Giken RM103. See 1.6 of Instruction Manual for more details.
  - When the load factor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

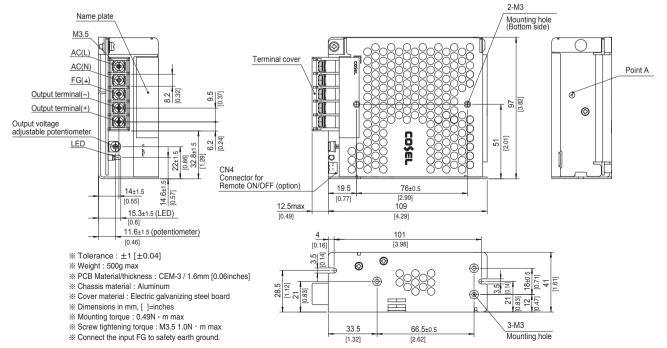
- · Compact design (Depth: 109mm 4.29inches)
- · High efficiency (88%typ PLA100F-24, AC230Vin, 100% load)
- · Low power consumption (1.5W typ AC240Vin, no load at standard model)
- · UL508 approved (Except option -J), and complies with SEMI F47 (see instruction manual 1.1)
- · Various connection interface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

150





### Example recommended EMI/EMC filter NAC-04-472



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
- ®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.

				150F-5-N about 5V out	_	<u> </u>		
	MODEL		PLA150F-12	PLA150F-15	PLA150F-24	PLA150F-36	PLA150F-48	
	VOLTAGE[V]		<u> </u>	t derating is required at	AC85V - 115V. See 1.1	and 3.2 in Instruction M	anual) *3	
		ACIN 100V	1.7typ (Io=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 (Io=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 (Io=100%)	90typ (lo=100%)	90typ (lo=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	s stopped at AC250V or	more.		
		ACIN 100V	16typ (lo=90%) Ta=25°	C at cold start				
	INRUSH CURRENT[A]	ACIN 115V	16typ (lo=100%) Ta=25					
		ACIN 230V	32typ (lo=100%) Ta=25					
	LEAKAGE CURRENT				According to IEC62368-	1 and DEN-AN)		
	VOLTAGE[V]		12	15	24	36	48	
		ACIN 85-115V			ss (refer to instruction m	1 7 7		
	CURRENT[A]	ACIN 115V-264V	12.5	10	6.4	4.2	3.2	
		ACIN 85-115V		J	ss (refer to instruction m			
	WATTAGE[W]	ACIN 115V-264V	150.0	150.0	153.6	151.2	153.6	
ŀ	LINE REGULATION[m		48max	60max	96max	144max	192max	
	LOAD REGULATION	lo=30 to 100%		120max	150max	150max	300max	
	[mV] *4	lo=0 to 30%				Toomax	Joodinax	
		0 to +40°C		120max	120max	150max	150max	
	RIPPLE[mVp-p] *1 lo: load factor	-10 to 0°C	160max	160max	160max	200max	400max	
UTPUT		lo=0 to 30%	500max	500max	500max	500max	500max	
OUIFUI		0 to +40°C		150max	150max	200max	200max	
	RIPPLE NOISE[mVp-p]  *1  lo: load factor	-10 to 0°C	180max	180max	180max	240max	500max	
		lo=0 to 30%		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]	*2	500typ (ACIN 115V, Io=		90IIIax	144IIIdX	T9ZIIIaX	
-	HOLD-UP TIME[ms]							
-		IT DANCEIVE	20typ (ACIN 115V, lo=1	· '	01 00 to 00 10	00 40 to 00 00	40.00 to 50.00	
-	OUTPUT VOLTAGE ADJUSTMEN			13.50 to 16.50 15.00 to 15.60	21.60 to 26.40 24.00 to 24.96	32.40 to 39.60	43.20 to 52.80	
	OUTPUT VOLTAGE SETT  OVERCURRENT PROTE		12.00 to 12.48 Works over 105% of ra			36.00 to 37.44	48.00 to 49.92	
DOTECTION:	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	
ROTECTION   IRCUIT AND	OPERATING INDICAT		LED (Green)	17.20 10 21.00	21.00 10 33.00	41.40 (0 30.40	34.00 (0 67.20	
THERS	REMOTE SENSING	ION						
	REMOTE ON/OFF		Not provided					
	INPUT-OUTPUT • RC	*9	Optional (Required external power source. Option -R)					
-	INPUT-FG	***	9 AC3,000V 1minute, Cutoff current = 10mA, DC500V 50M $\Omega$ min (At room temperature) AC2,000V 1minute, Cutoff current = 10mA, DC500V 50M $\Omega$ min (At room temperature)					
SOLATION	OUTPUT • RC-FG	*9			500V 50M $\Omega$ min (At roo			
-	OUTPUT-RC		AC500V Trillinute, Cuto					
	OPERATING TEMP., HUMID. AND						t) may	
-	,				90%RH (Non condensi		n) max	
NVIRONMENT	STORAGE TEMP., HUMID. AND	ALIIIUDE			9,000m (30,000 feet) ma			
	VIBRATION				minutes each along X, Y	anu ∠ axes		
	IMPACT		196.1m/s² (20G), 11ms	<del></del>		I) OIIial- DEN A	NI.	
SAFETY AND	AGENCY APPROVAL	>			UL508 (Except option -	) Complies with DEN-A	IN	
NOISE	CONDUCTED NOISE		Complies with FCC-B,		N55011-B, EN55022-B			
REGULATIONS	HARMONIC ATTENUA	AIUK *8	Complies with IEC6100	บ-3-2 class A				



OTHERS	CASE SIZE/WEIGHT	41×97×129mm [1.61×3.82×5.08 inches] (Excluding terminal block and screw) (W×H×D) / 600g max
	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℃.

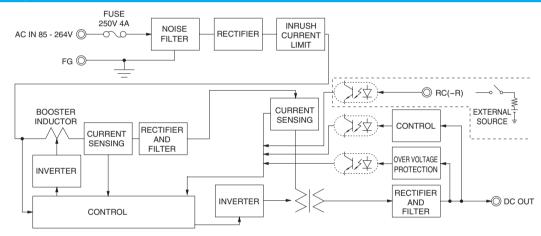
- As for DC input, consult us for advice
- Consult us about dynamic load and input response. Measure the output voltage by using the average mode of the tester to deal with the burst operation at 30% load or less.
- Output power derating is required. See 3.2 in Instruction Manual.
- See 3.3 in Instruction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

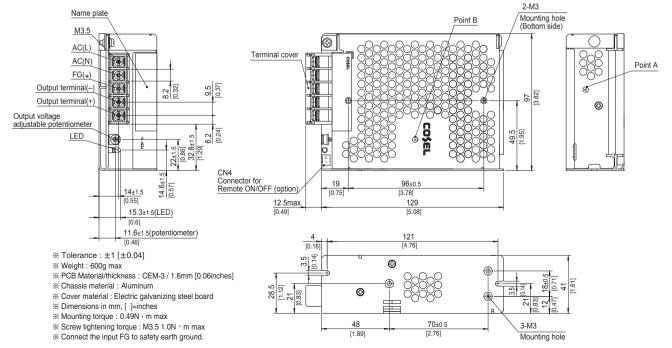
- · Compact design (Depth: 129mm 5.08inches)
- · High efficiency (90%typ PLA150F-24, AC230Vin, 100% load)
- · Low power consumption (1.5W typ AC240Vin, no load at standard model)
- · UL508 approved (Except option -J), and complies with SEMI F47 (see instruction manual 1.1)
- · Various connection interface 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%)	3.0typ (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%)			
INPUT		ACIN 230V	77typ (lo=100%)	81typ (lo=100%)	83typ (lo=100%)	86typ (lo=100%)	86typ (lo=100%)	86typ (lo=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℃ at cold start							
	INRUSH CURRENT[A]	ACIN 115V	20typ (Io=100%) Ta	=25℃ at cold start							
		ACIN 230V	40typ (lo=100%) Ta	=25℃ at cold start							
	LEAKAGE CURRENT	[mA]	0.75max (ACIN 115	5V / 240V, 60Hz, lo=	100%, According to I	EC62368-1 and DE	N-AN)				
	VOLTAGE[V]		5	12	15	24	36	48			
	CURRENT[A]	ACIN 85-115V	Output derating is r	equired at ACIN 115	V or less (refer to ins	struction manual 3.2	)				
	CORNENT[A]	ACIN 115V-264V	50	25	20	12.5	8.4	6.3			
	WATTA CEIMI	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[n	nV] *4	20max	48max	60max	96max	144max	192max			
	LOAD REGULATION	mV] *4	40max	100max	120max	150max	150max	300max			
	RIPPLE[mVp-p]	0 to +50°C	80max	120max	120max	120max	150max	150max			
OUTPUT	*1	-10 to 0°C	140max	160max	160max	160max	160max	400max			
OUIPUI	RIPPLE NOISE[mVp-p]	0 to +50°C	120max	150max	150max	150max	200max	200max			
	*1	-10 to 0°C	160max	180max	180max	180max	240max	500max			
	TEMPERATURE REQUILATIONS AG	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			
	<b>OUTPUT VOLTAGE SETT</b>	ING[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 PROTE	ECTION	Works over 105% of	of rating and recovers	s 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	41.40 to 50.40	55.20 to 67.20			
CIRCUIT AND	OPERATING INDICAT	TION	LED (Green)								
OTHERS	REMOTE SENSING		Not provided								
	REMOTE ON/OFF		Optional (Required	external power sour	ce. Option -R)						
	INPUT-OUTPUT • RC	*10	AC3,000V 1minute	Cutoff current = 10	mA, DC500V 50M $\Omega$	min (At room tempe	rature)				
ISOLATION	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50M $\Omega$ min (At room temperature)								
ISOLATION	OUTPUT • RC-FG	*10	AC500V 1minute, Cutoff current = 100mA, DC500V 50M $\Omega$ min (At room temperature)								
	OUTPUT-RC	*10	AC500V 1minute, Cutoff current = 100mA, DC500V 50M $\Omega$ min (At room temperature)								
	OPERATING TEMP., HUMID. AND	ALTITUDE *5	` '		d), 20 - 90%RH (Nor		m (10,000 feet) max				
ENVIRONMENT	STORAGE TEMP., HUMID. AND	ALTITUDE	-20 to +75°C, 20 - 9	00%RH (Non conder	nsing), 9,000m (30,00	00 feet) max					
LITTIIONWENT	VIBRATION				iod, 60minutes each	along X, Y and Z ax	es				
	IMPACT		196.1m/s <sup>2</sup> (20G), 1	1ms, once each X, Y	and Z axes						
SAFETY AND	AGENCY APPROVAL	s	UL60950-1, C-UL (	CSA60950-1), EN62	368-1 Complies with	DEN-AN					
NOISE	CONDUCTED NOISE		Complies with FCC	-B, VCCI-B, CISPR2	22-B, EN55011-B, EN	N55022-B					
REGULATIONS	HARMONIC ATTENUA	ATOR *9	Complies with IEC6	61000-3-2 class A							



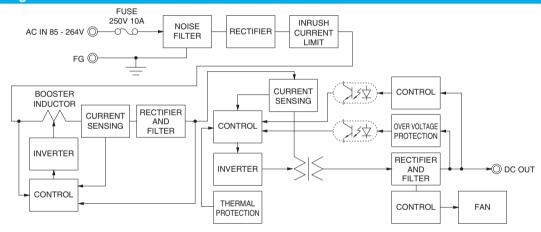
OTHERS	CASE SIZE/WEIGHT	102 X 41 X 190mm [4.02 X 1.61 X 7.48 inches] (Excluding terminal block and screw) (WXHXD) / 1.0kg max
OTHERS	COOLING METHOD *8	Forced cooling (internal fan)
WARRANTY	WARRANTY *6	5 years (subject to the operating conditions)

- \*1 This is the result of measurement of the testing board with capacitors of 22 LIE and 0.1 LIE 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**

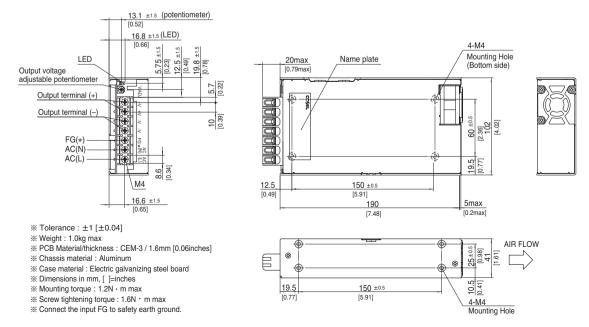
- · Cost-effective
- · Longer life (see Instruction Manual)
- · Low profile (meets 1U height = 41 mm or 1.61 inches)
- ·Wide operating temperature range (-20°C to +70°C see instruction manual)
- · Screw hold type terminal block
- · Slow fan speed at no load
- · Many optional functions
- · Complies with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

PL A 600 F - - -



\*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	
1	VOLTAGE[V]		AC85 - 264 1 φ (Outp	ut derating is required	at AC85V - 115V. See 1.	1 and 3.2 in Instruction M	/lanual) *4	
	ACIN 100V		6.7typ (lo=90%)					
-	CURRENT[A]	ACIN 115V						
		ACIN 230V						
Ī	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 (lo=100%)	85typ (lo=100%)	85typ (lo=100%)	
IPUT		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 (lo=100%)					
	INRUSH CURRENT[A]	ACIN 100V	20/40typ (Io=90%) (Primary inrush current /Secondary inrush current) (More than 3sec to re-start)					
		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)					
Ī	LEAKAGE CURRENT[mA]		1.5max (ACIN 115V / 240V, 60Hz, Io=100%, According to IEC62368-1 and DEN-AN)					
1	VOLTAGE[V]		12	15	24	36	48	
	CURRENTIAL	ACIN 85-115V	Output derating is req	uired at ACIN 115V or	ess (refer to instruction i	manual 3.2)		
'	CURRENT[A]	ACIN 115V-264V	50	40	25	16.7	12.5	
Γ,	WATTACEIWI	ACIN 85-115V	Output derating is req	uired at ACIN 115V or	ess (refer to instruction i	manual 3.2)		
	WATTAGE[W]	ACIN 115V-264V	600	600	600	601.2	600	
Ī	LINE REGULATION[mV] *8		48max	60max	96max	144max	192max	
Ī	LOAD REGULATION[	mV] *8	100max	120max	150max	150max	300max	
Ī	RIPPLE[mVp-p]	0 to +50°C	120max	120max	120max	150max	150max	
UTPUT		-20 to 0°C	160max	160max	160max	160max	400max	
UIPUI I	RIPPLE NOISE[mVp-p] *1	0 to +50°C	150max	150max	150max	200max	200max	
		-20 to 0°C	180max	180max	180max	240max	500max	
Γ,	TEMPERATURE REGULATION[mV]	0 to +50°C	120max	150max	240max	360max	480max	
Ľ		-20 to +50°C	180max	180max	290max	440max	600max	
1	DRIFT[mV] *2		48max	60max	96max	144max	192max	
	START-UP TIME[ms]		300typ (ACIN 115V, Io=100%)					
Ī	HOLD-UP TIME[ms]		20typ (ACIN 115V, lo=	=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	
(	OVERCURRENT PROTECTION		Works over 105% of rating and recovers automatically					
ROTECTION	OVERVOLTAGE PROTE	VERVOLTAGE PROTECTION[V]		17.25 to 21.00	27.60 to 33.60	41.40 to 50.40	55.20 to 67.20	
IRCUIT AND	OPERATING INDICAT	ION	LED (Green)					
THERS	REMOTE SENSING		Optional (Option -W)					
	REMOTE ON/OFF		Optional (Required external power source. Option -R)					
T I	INPUT-OUTPUT • RC *3		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)					
CLATION	OUTPUT • RC-FG *3		AC500V 1minute, Cutoff current = 100mA, DC500V 50M $\Omega$ min (At room temperature)					
	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					
VIRONMENT	STORAGE TEMP., HUMID. AND ALTITUDE		-20 to +75°C, 20 - 90%RH (Non condensing), 9,000m (30,000 feet) max					
AAIUOIAIAIEIAI	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 APPROVALS		UL60950-1, C-UL (CSA60950-1), EN62368-1 Complies with DEN-AN					
OISE	CONDUCTED NOISE		Complies with FCC-B,	, VCCI-B, CISPR22-B,	EN55011-B, EN55022-B			
EGULATIONS I	HARMONIC ATTENUA	ATOR *10	Complies with IEC610	000-3-2 class A			<u> </u>	





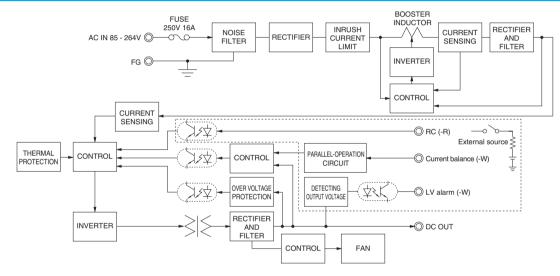
OTHERS	CASE SIZE/WEIGHT	120×61×215mm [4.72×2.40×8.46 inches] (Excluding terminal block and screw) (W×H×D) / 2.0kg max
	COOLING METHOD	*9 Forced cooling (internal fan)
WARRANTY	WARRANTY	*6 5 years (subject to the operating conditions)

- 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**

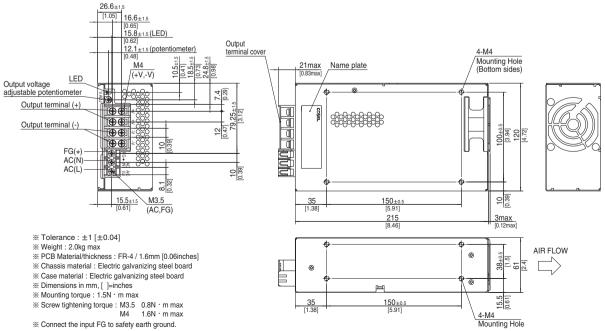
- · Cost-effective
- · Longer life (see Instruction Manual)
- · Low profile (meets 2U height = 61 mm or 2.40 inches)
- · Wide operating temperature range (-20°C to +70°C see instruction manual)
- · Screw hold type terminal block
- · Slow fan speed at no load
- · Many optional functions
- · Complies with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

#### **Block diagram**



#### **External view**

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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### Cosel:

PLA100F-12 PLA100F-15 PLA100F-24 PLA100F-36 PLA100F-48 PLA600F-12 PLA600F-12-C PLA600F-12-G PLA600F-12-U PLA600F-12-V PLA600F-15 PLA600F-15-C PLA600F-15-G PLA600F-15-U PLA600F-15-V PLA600F-24-C PLA600F-24-G PLA600F-24-U PLA600F-24-V PLA600F-36 PLA600F-36-C PLA600F-36-C PLA600F-36-U PLA600F-36-V PLA600F-48 PLA600F-48-C PLA600F-48-G PLA600F-48-U PLA600F-48-V PLA600F-5-C PLA600F-5-G PLA600F-5-U PLA600F-5-V PLA30F-24 PLA15F-24 PLA600F-XX-W PLA30F-15 PLA30F-12 PLA50F-12 PLA50F-24 PLA30F-5 PLA50F-5 PLA50F-15 PLA50F-5 PLA50F-5 PLA50F-15 PLA600F-XX-RW PLA600F-24-W