# 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 de	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	0.4typ (lo=100%)						
		ACIN 230V							
	FREQUENCY[Hz]		50 / 60 (47 - 63)						
NPUT		ACIN 100V	72.5typ (lo=90%)	75.5typ (Io=90%)	77.0typ (lo=90%)	78.0typ (Io=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 (lo=100%)	78.5typ (lo=100%)	79.5typ (lo=100%)	80.0typ (Io=100%)			
		ACIN 100V	16typ (Io=90%) Ta=25℃ at	t cold start					
	INRUSH CURRENT[A]	ACIN 115V	16typ (lo=100%) Ta=25℃ at cold start						
		ACIN 230V	32typ (Io=100%) Ta=25℃ a	at cold start					
	LEAKAGE CURRENT	[mA]	0.30max (ACIN 115V / 240	V, 60Hz, Io=100%, According	g to IEC60950-1 and DEN-AN				
	VOLTAGE[V]		5	12	15	24			
	CURRENT[A]		3	1.3	1	0.7			
	WATTAGE[W]	ACIN 85-115V	Output derating is required	at ACIN 115V or less (refer	to instruction manual 3.2)				
	WATTAGE[W]	ACIN 115V-264V	15.0	15.6	15.0	16.8			
	LINE REGULATION[n	nV] *4	20max	48max	60max	96max			
	LOAD REGULATION[	mV] *4	40max	100max	120max	150max			
		0 to +50°C	80max	120max	120max	120max			
	RIPPLE[mVp-p] *1	-10 to 0℃	140max	160max	160max	160max			
		lo=0 to 35%	160max	240max	240max	280max			
UTPUT	RIPPLE NOISE[mVp-p] *1  TEMPERATURE REGULATION[mV]	0 to +50°C	120max	150max	150max	150max			
		-10 to 0℃	160max	180max	180max	180max			
		lo=0 to 35%	240max	300max	300max	320max			
		0 to +50°C	50max	120max	150max	240max			
	TEMPERATORE REGULATION[IIIV]	-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	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	ECTION	Works over 105% of rating	and recovers automatically					
ROTECTION	OVERVOLTAGE PROTE	CTION[V]	5.75 to 7.00	13.80 to 16.80	17.25 to 21.00	27.60 to 33.60			
IRCUIT AND	OPERATING INDICAT	ION	LED (Green)						
THERS	REMOTE SENSING		Not provided						
	REMOTE ON/OFF		Not provided						
	INPUT-OUTPUT		AC3,000V 1minute, Cutoff current = 10mA, DC500V 50M $\Omega$ min (At room temperature)						
OLATION	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			(Non condensing), 3,000m (	<u> </u>				
NVIRONMENT	STORAGE TEMP., HUMID. AND	ALTITUDE	·	(Non condensing), 9,000m (					
	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	· '		8, UL508 (Except option -J) C	omplies with DEN-AN			
IOISE	CONDUCTED NOISE		•	CI-B, CISPR22-B, EN55011-	B, EN55022-B				
EGULATIONS	HARMONIC ATTENUA	ATOR *8	Complies with IEC61000-3	3-2 class A					



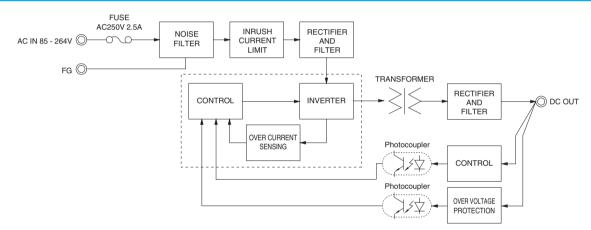
OTHERS	CASE SIZE/WEIGHT	38×80×73mm [1.50×3.15×2.87 inches] (Excluding terminal block and screw) (W×H×D) / 250g max
OTHERS	COOLING METHOD	Convection
WARRANTY	WARRANTY *6	5 years (subject to the operating conditions)

- \*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.
- \*4 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.

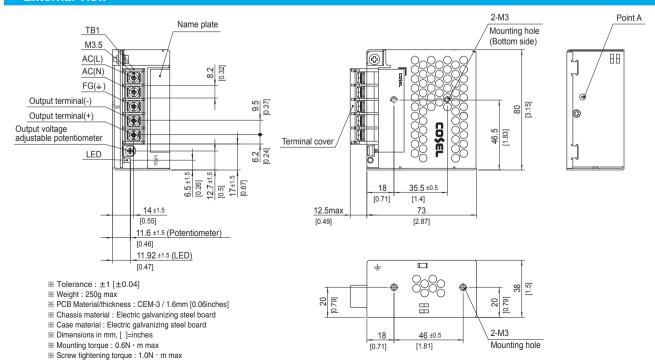
#### **Features**

- · 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 dera	ating is required at AC85V -	115V. See 1.1 and 3.2 in Insti	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)				
NPUT		ACIN 100V	73.0typ (lo=90%)	80.0typ (Io=90%)	81.0typ (lo=90%)	82.5typ (lo=90%)	
NPUI	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 (lo=90%) Ta=25℃ at o	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]	0.65max (ACIN 115V / 240V	, 60Hz, Io=100%, According	to IEC60950-1 and DEN-AN	)	
	VOLTAGE[V]		5	12	15	24	
	CURRENT[A]		6	2.5	2	1.3	
	WATTAGEIWI	ACIN 85-115V	Output derating is required a	at ACIN 115V or less (refer to	o instruction 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	
	DIDDI Elm\/m m1	0 to +50°C	80max	120max	120max	120max	
	RIPPLE[mVp-p] *1	-10 to 0°C	140max	160max	160max	160max	
DUTPUT	RIPPLE NOISE[mVp-p] *1	0 to +50°C	120max	150max	150max	150max	
		-10 to 0°C	160max	180max	180max	180max	
	TEMPERATURE REQUILATIONS AS	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 ADJUSTMENT RANGE[V]		4.50 to 5.50	10.80 to 13.20	13.50 to 16.50	21.60 to 26.40	
	<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	
	OVERCURRENT PROTE	CTION	Works over 105% of rating a	nd 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	ION	LED (Green)			<u> </u>	
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 c	urrent = 10mA, DC500V 50N	MΩ min (At room temperature	e)	
	OUTPUT-FG		AC500V 1minute, Cutoff cur	rent = 25mA, DC500V 50Ms	$\Omega$ min (At room temperature)		
	OPERATING TEMP., HUMID. AND	ALTITUDE *5	-20 to +70°C, 20 - 90%RH (N	Non condensing), 3,000m (1	0,000 feet) max		
NVIRONMENT	STORAGE TEMP., HUMID. AND	ALTITUDE	-20 to +75°C, 20 - 90%RH (N	Non condensing), 9,000m (3	0,000 feet) max		
INVINUINIENI	VIBRATION		10 - 55Hz, 19.6m/s² (2G), 3r	ninutes period, 60minutes e	ach along X, Y and Z axes		
	IMPACT		196.1m/s² (20G), 11ms, onc	e each X, Y and Z axes			
SAFETY AND	AGENCY APPROVAL	s	UL60950-1, C-UL (CSA6095	50-1), EN60950-1, EN50178	3, UL508 (Except option -J) C	omplies with DEN-AN	
NOISE	CONDUCTED NOISE		Complies with FCC-B, VCCI	-B, CISPR22-B, EN55011-B	3, EN55022-B		
REGULATIONS	HARMONIC ATTENUA	ATOR *8	Complies with IEC61000-3-2 class A				





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

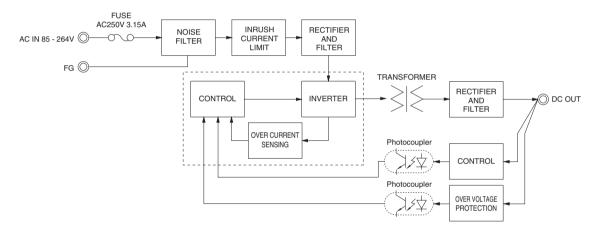
- This is the result of measurement of the testing board with capacitors of 22  $\mu$  F and 0.1  $\mu$  F placed at 150 mm from the output terminals by a 20 MHz oscilloscope or a ripple-noise meter equivalent to Keisoku-Giken RM103.
  - See 1.6 of Instruction Manual for more details.
- \*2 Drift is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

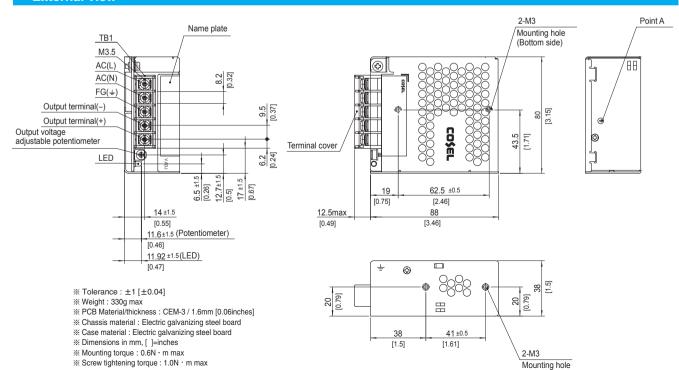
#### **Features**

- · 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.



- 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		PLA50F-5	PLA50F-12	PLA50F-15	PLA50F-24		
	VOLTAGE[V]		AC85 - 264 1 φ (Output dera	ating is required at AC85V -	115V. See 1.1 and 3.2 in Inst	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 (Io=100%)	0.4typ (lo=100%)				
	FREQUENCY[Hz]		50 / 60 (47 - 63)					
		ACIN 100V	74.5typ (lo=90%)	80.0typ (Io=90%)	80.0typ (lo=90%)	81.5typ (Io=90%)		
	EFFICIENCY[%]	ACIN 115V	75.0typ (lo=100%)	80.5typ (lo=100%)	80.5typ (lo=100%)	82.0typ (Io=100%)		
INPUT		ACIN 230V	76.5typ (lo=100%)	82.0typ (lo=100%)	82.0typ (lo=100%)	84.0typ (Io=100%)		
		ACIN 100V	0.97typ (lo=90%)	0.98typ (Io=90%)	1	1		
	POWER FACTOR	ACIN 115V	0.97typ (lo=100%)	0.98typ (Io=100%)				
		ACIN 230V	0.85typ (Io=100%)	0.87typ (Io=100%)				
		ACIN 100V	16typ (Io=90%) Ta=25°C at o	71 \ /				
	INRUSH CURRENT[A]	ACIN 115V	16typ (Io=100%) Ta=25℃ at					
	introdit GottinEnt[A]	ACIN 230V	32typ (lo=100%) Ta=25℃ at					
	LEAKAGE CURRENT		* ' '		to IEC60950-1 and DEN-AN	)		
	VOLTAGE[V]	[IIIA]	5	12	15	24		
	CURRENT[A]		8	4.3	3.5	2.2		
		ACIN 85-115V	Output derating is required a			2.2		
	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	0 to +45℃	80max	120max	120max	120max		
		-10 to 0°C	140max	160max	160max	160max		
OUTPUT		0 to +45℃	120max	150max	150max	150max		
JUIPUI	RIPPLE NOISE[mVp-p] *1	-10 to 0°C	160max	180max	180max	180max		
		0 to +45℃	50max	120max	150max	240max		
	TEMPERATURE REGULATION[mV]	-10 to +45℃						
	DDIETVI	*2	60max 20max	150max	180max	290max		
	DRIFT[mV]	*2		48max	60max	96max		
	START-UP TIME[ms]		350typ (ACIN 115V, Io=100%)					
	HOLD-UP TIME[ms]	IT DANIGED C	20typ (ACIN 115V, Io=100%	,	10.501, 10.50	04.004.0040		
	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	· · · · · · · · · · · · · · · · · · ·	1			
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 current = 10mA, DC500V 50M $\Omega$ min (At room temperature)					
ISOLATION	INPUT-FG				$M\Omega$ min (At room temperature	9)		
	OUTPUT-FG		AC500V 1minute, Cutoff cur					
	OPERATING TEMP.,HUMID.AND		-20 to +70°C, 20 - 90%RH (N		<u>'</u>			
ENVIRONMENT	STORAGE TEMP., HUMID.AND	ALTITUDE	-20 to +75°C, 20 - 90%RH (N	· · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·			
LITTATIONNILIVI	VIBRATION		10 - 55Hz, 19.6m/s² (2G), 3minutes period, 60minutes each along X, Y and Z axes					
	IMPACT		196.1m/s² (20G), 11ms, once each X, Y and Z axes					
SAFETY AND	AGENCY APPROVAL	S	UL60950-1, C-UL (CSA6095	50-1), EN60950-1, EN50178	, UL508 (Except option -J) Co	omplies with DEN-AN		
NOISE	CONDUCTED NOISE		Complies with FCC-B, VCCI	-B, CISPR22-B, EN55011-B	, EN55022-B			
REGULATIONS	HARMONIC ATTENUATOR *8		Complies with IEC61000-3-2	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)

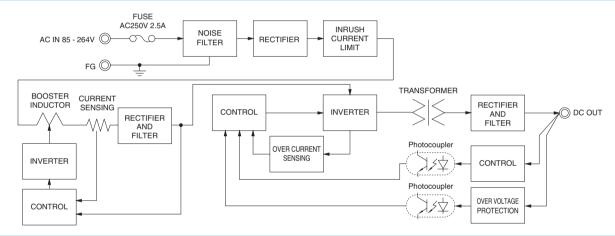
- This is the result of measurement of the testing board with capacitors of 22  $\mu$  F and 0.1  $\mu$  F placed at 150 mm from the output terminals by a 20 MHz oscilloscope or a ripple-noise meter equivalent to Keisoku-Giken RM103.
  - See 1.6 of Instruction Manual for more details.
- \*2 Drift is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

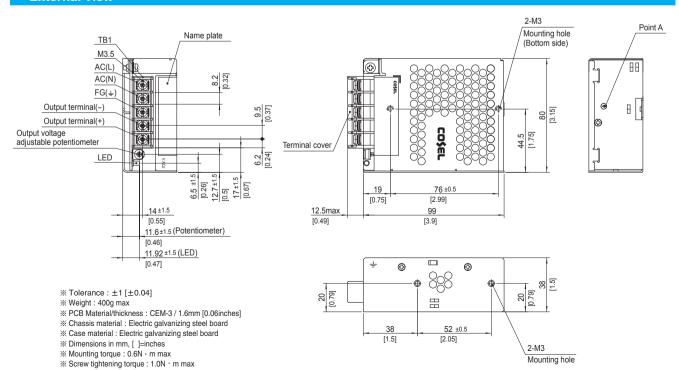
#### **Features**

- · 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









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.

				OUF-5-IN ADOUL 5V OULPL					
	MODEL		PLA100F-12	PLA100F-15	PLA100F-24	PLA100F-36	PLA100F-48		
	VOLTAGE[V]		AC85 - 264 1 φ (Output	derating is required at	AC85V - 115V. See 1.1 a	and 3.2 in Instruction Ma	ınual) *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 (Io=90%)	86typ (lo=90%)	86typ (lo=90%)		
	EFFICIENCY[%]	ACIN 115V	82typ (lo=100%)	83typ (lo=100%)	85typ (Io=100%)	86typ (lo=100%)	86typ (lo=100%)		
NPUT		ACIN 230V	85typ (lo=100%)	86typ (lo=100%)	88typ (Io=100%)	89typ (lo=100%)	89typ (lo=100%)		
		ACIN 100V	0.98typ (lo=90%)						
	POWER FACTOR	ACIN 115V	0.98typ (lo=100%)						
		ACIN 230V	0.95typ (lo=100%) * P	ower factor correction is	stopped at AC250V or	more.			
		ACIN 100V	16typ (lo=90%) Ta=25 ປ						
	INRUSH CURRENT[A]	ACIN 115V	16typ (lo=100%) Ta=25						
		ACIN 230V	32typ (lo=100%) Ta=25						
	LEAKAGE CURRENT				According to IEC60950-1	I and DEN-AN)			
	VOLTAGE[V]	į	12	15	24	36	48		
		ACIN 85-115V			ss (refer to instruction ma	1			
	CURRENT[A]	ACIN 115V-264V	8.4	6.7	4.3	2.8	2.1		
}		ACIN 85-115V			ss (refer to instruction ma				
	WATTAGE[W]	ACIN 115V-264V	100.8	100.5	103.2	100.8	100.8		
ŀ	LINE REGULATION[m		48max	60max	96max	144max	192max		
ŀ	LOAD REGULATION	lo=30 to 100%	100max	120max	150max	150max	300max		
	[mV] *4	lo=0 to 30%	Burst operation (Please			TOUTIAN	Joonnax		
-	RIPPLE[mVp-p] *1 lo: load factor	0 to +40°C	120max	120max	120max	150max	150max		
		-10 to 0°C	160max	160max	160max	200max	400max		
UTPUT			500max	500max	500max	500max	500max		
OUIPUI		0 to +40°C	150max	150max	150max	200max	200max		
	RIPPLE NOISE[mVp-p]	-10 to 0°C				+			
	lo: load factor		180max 600max	180max 600max	180max 600max	240max	500max 600max		
-	io: load factor	10 0 10 00 11		150max	240max	600max			
	TEMPERATURE REGULATION[mV]	0 to +40°C	120max			360max	480max		
-	DDIETIVI	-10 to +40℃	180max	180max	290max	440max	600max		
-	DRIFT[mV]	*2	48max	60max	96max	144max	192max		
	START-UP TIME[ms]		500typ (ACIN 115V, Io=						
	HOLD-UP TIME[ms]	T DAMAERO	20typ (ACIN 115V, Io=1		04.001.0040	00.40.1.00.00	140.00 . 50.00		
	OUTPUT VOLTAGE ADJUSTMEN			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		Works over 105% of rat			11 10 1 50 10	T-4-00		
ROTECTION	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		
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	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)						
OLATION	INPUT-FG				· · · · · · · · · · · · · · · · · · ·				
-	OUTPUT • RC-FG	*9	AC500V 1minute, Cutof						
	OUTPUT-RC	*9			500V 50MΩ min (At roor				
	OPERATING TEMP., HUMID. AND		-20 to +70°C (Output derating is required), 20 - 90%RH (Non condensing), 3,000m (10,000 feet) max						
NVIRONMENT	STORAGE TEMP., HUMID. AND	ALTITUDE			,000m (30,000 feet) max				
	VIBRATION			· · · · · · · · · · · · · · · · · · ·	ninutes each along X, Y	and Z axes			
	IMPACT		196.1m/s² (20G), 11ms				,		
AFETY AND	AGENCY APPROVAL	S				ot option -J) Complies wi	ith DEN-AN		
IOISE	CONDUCTED NOISE		Complies with FCC-B, \		N55011-B, EN55022-B				
EGULATIONS	HARMONIC ATTENUA	ATOR *8	Complies with IEC6100	0-3-2 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)

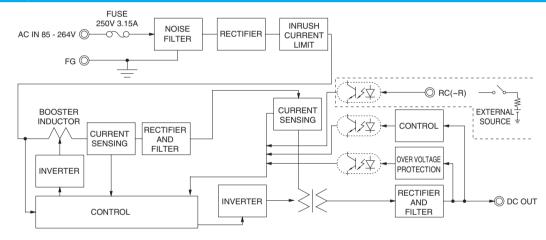
- \*1 This is the result of measurement of the testing board with capacitors of 22 µF and 0.1 µF placed at 150 mm from the output terminals by a 20 MHz oscilloscope or a ripple-noise meter equivalent to Keisoku-Giken RM103. See 1.6 of Instruction Manual for more details.
  - See 1.6 of Instruction Manual 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℃.
- \*3 As for DC input, consult us for advice.
  \*4 Consult us about dynamic load and in
- \*4 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.
- \*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.
- Consult us about other classes.

- \*9 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**

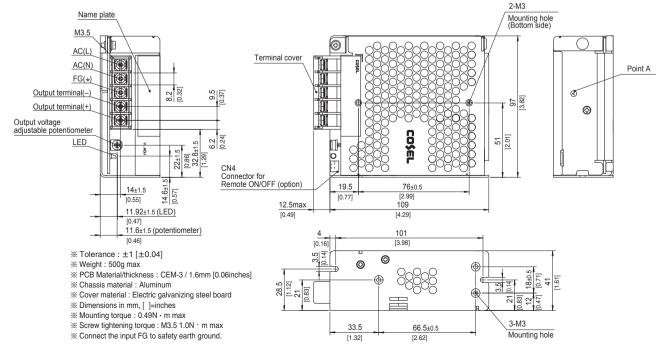
- · Compact design (Depth: 109mm 4.29inches)
- · High efficiency (88%typ PLA100F-24, AC230Vin, 100% load)
- · Low power consumption (1.5W typ AC240Vin, no load at standard model)
- · UL508 approved (Except option -J), and complies with SEMI F47 (see instruction manual 1.1)
- · Various connection interface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









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.

	MODEL			150F-5-N" about 5V outp		DI A4EOE OC	DI ALEGE AC	
	MODEL		PLA150F-12	PLA150F-15	PLA150F-24	PLA150F-36	PLA150F-48	
	VOLTAGE[V]	4001		ut derating is required at	AC85V - 115V. See 1.	1 and 3.2 in Instruction M	ianual) *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)	1				
		ACIN 100V	84typ (lo=90%)	84typ (Io=90%)	87typ (Io=90%)	87typ (Io=90%)	87typ (lo=90%)	
	EFFICIENCY[%]	ACIN 115V	84typ (lo=100%)	84typ (Io=100%)	87typ (lo=100%)	87typ (lo=100%)	87typ (lo=100%)	
NPUT		ACIN 230V	87typ (lo=100%)	87typ (lo=100%)	90typ (lo=100%)	90typ (lo=100%)	90typ (lo=100%)	
		ACIN 100V	0.98typ (Io=90%)					
	POWER FACTOR	ACIN 115V	0.98typ (lo=100%)	,		,		
		ACIN 230V	, , ,	Power factor correction	s stopped at AC250V o	or more.		
		ACIN 100V	16typ (lo=90%) Ta=25			,		
	INRUSH CURRENT[A]	ACIN 115V	16typ (lo=100%) Ta=2					
		ACIN 230V	32typ (lo=100%) Ta=2	5°C at cold start				
	LEAKAGE CURRENT	[mA]	0.75max (ACIN 115V /	240V, 60Hz, Io=100%,	According to IEC60950			
	VOLTAGE[V]		12	15	24	36	48	
	CURRENT[A]	ACIN 85-115V		ired at ACIN 115V or le	_ `	<del></del>		
	OOTHIERT[A]	ACIN 115V-264V	12.5	10	6.4	4.2	3.2	
	WATTAGE[W]	ACIN 85-115V		ired at ACIN 115V or le		manual 3.2)		
	WATTAGE[W]	ACIN 115V-264V	150.0	150.0	153.6	151.2	153.6	
	LINE REGULATION[n	nV] *4	48max	60max	96max	144max	192max	
	LOAD REGULATION	lo=30 to 100%	100max	120max	150max	150max	300max	
	[mV] *4	lo=0 to 30%	Burst operation (Pleas	e contact us about deta	il)			
	RIPPLE[mVp-p]	0 to +40°C	120max	120max	120max	150max	150max	
	*1	-10 to 0°C	160max	160max	160max	200max	400max	
DUTPUT	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	lo=0 to 30%	600max	600max	600max	600max	600max	
	TEMPERATURE REQUILATIONS	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=100%) Ta=25°C					
	HOLD-UP TIME[ms]		20typ (ACIN 115V, Io=100%)					
	OUTPUT VOLTAGE ADJUSTMEN	IT RANGE[V]	71 1	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	OVERCURRENT PROTECTION		ting and recovers autor			•	
ROTECTION	OVERVOLTAGE PROTE			17.25 to 21.00	27.60 to 33.60	41.40 to 50.40	54.00 to 67.20	
IRCUIT AND	OPERATING INDICAT		LED (Green)					
THERS	REMOTE SENSING		Not provided					
	REMOTE ON/OFF		Optional (Required external power source. Option -R)					
	INPUT-OUTPUT • RC	*9	AC3,000V 1minute, Cu	utoff current = 10mA, DO	C500V 50MΩ min (At re	oom temperature)		
OO! AT'O'	INPUT-FG			utoff current = 10mA, DO				
SOLATION	OUTPUT • RC-FG	*9		off current = 100mA, DC	· · · · · · · · · · · · · · · · · · ·			
	OUTPUT-RC	*9		off current = 100mA, DC				
	OPERATING TEMP., HUMID. AND	ALTITUDE *5				sing), 3,000m (10,000 fee	et) max	
	STORAGE TEMP., HUMID. AND		` '	RH (Non condensing),	•	37	-	
NVIRONMENT	VIBRATION			G), 3minutes period, 60				
	IMPACT			s, once each X, Y and Z		<u> </u>		
AFETY AND	AGENCY APPROVAL	S	\ //	<del></del>		ept option -J) Complies	with DEN-AN	
IOISE	CONDUCTED NOISE	-		VCCI-B, CISPR22-B, E		· · · · · · · · · · · · · · · · · · ·		
REGULATIONS	HARMONIC ATTENUA	ATOR *8	Complies with IEC610					
TEGULATIONS								



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℃.

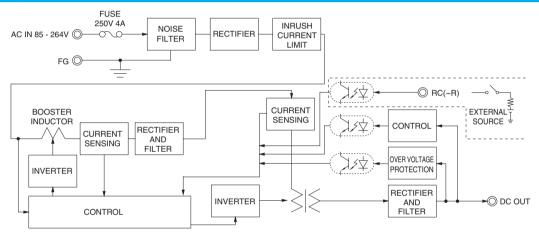
- As for DC input, consult us for advice
- Consult us about dynamic load and input response. Measure the output voltage by using the average mode of the tester to deal with the burst operation at 30% load or less.
- Output power derating is required. See 3.2 in Instruction Manual.
- See 3.3 in Instruction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

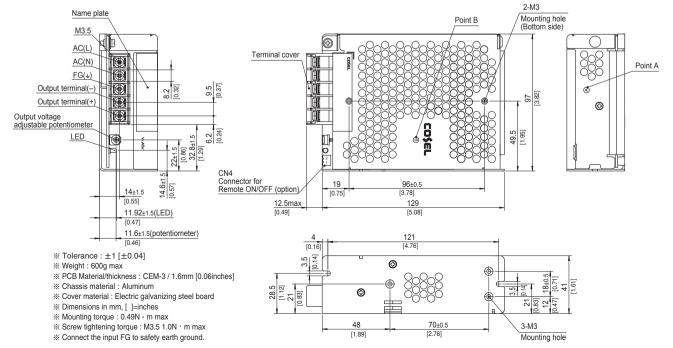
- · Compact design (Depth: 129mm 5.08inches)
- · High efficiency (90%typ PLA150F-24, AC230Vin, 100% load)
- · Low power consumption (1.5W typ AC240Vin, no load at standard model)
- · UL508 approved (Except option -J), and complies with SEMI F47 (see instruction manual 1.1)
- · Various connection interface 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 (O	utput derating is requ	uired at AC85V - 115	V. See 1.1 and 3.2 ir	n Instruction Manual)	*3		
	ACIN 100V		3.1typ (lo=90%)	3.4typ (lo=90%)						
	CURRENT[A]	ACIN 115V	3.0typ (lo=100%) 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 (lo=90%)	81typ (lo=90%)	82typ (lo=90%)		
	EFFICIENCY[%]	ACIN 115V	74typ (lo=100%)	78typ (lo=100%)	80typ (lo=100%)	82typ (lo=100%)	82typ (lo=100%)	83typ (lo=100%		
NPUT		ACIN 230V	77typ (lo=100%)	81typ (lo=100%)	83typ (lo=100%)	86typ (lo=100%)	86typ (Io=100%)	86typ (Io=100%		
		ACIN 100V	0.98typ (lo=90%)		, , , , , , , , , , , , , , , , , , , ,	, , , , , , , , , , , , , , , , , , , ,	, , , , , , , , , , , , , , , , , , , ,			
	POWER FACTOR	ACIN 115V	0.98typ (lo=100%)							
		ACIN 230V	0.95typ (lo=100%)							
		ACIN 100V	20typ (lo=90%) Ta=	=25°C at cold start						
	INRUSH CURRENT[A]	ACIN 115V	20typ (lo=100%) Ta							
		ACIN 230V	40typ (Io=100%) Ta		-					
	LEAKAGE CURRENT		, , ,		100%, According to	EC60950-1 and DE	N-AN)			
	VOLTAGE[V]		5	12	15	24	36	48		
		ACIN 85-115V	Output derating is i	equired at ACIN 115	V or less (refer to ins	struction manual 3.2	)			
	CURRENT[A]	ACIN 115V-264V	50	25	20	12.5	8.4	6.3		
		ACIN 85-115V	Output derating is a	required at ACIN 115	V or less (refer to ins	struction manual 3.2	)			
	WATTAGE[W]	ACIN 115V-264V	250	300	300	300	302.4	302.4		
	LINE REGULATION[mV] *4		20max	48max	60max	96max	144max	192max		
	LOAD REGULATION		40max	100max	120max	150max	150max	300max		
	RIPPLE[mVp-p]	0 to +50℃	80max	120max	120max	120max	150max	150max		
	MIPPLE[IIIVP-P]	-10 to 0°C	140max	160max	160max	160max	160max	400max		
OUTPUT	RIPPLE NOISE[mVp-p] *1  TEMPERATURE REGULATION[mV]	0 to +50°C	120max	150max	150max	150max	200max	200max		
		-10 to 0℃	160max	180max	180max	180max	240max	500max		
		0 to ±50°C	50max	120max	150max	240max	360max	480max		
		-10 to +50°C	75max	180max	180max	290max	440max	600max		
	DRIFT[mV] *2		20max	48max	60max	96max	144max	192max		
	START-UP TIME[ms]			300typ (ACIN 115V, Io=100%)						
	HOLD-UP TIME[ms]			lo=100%)						
	OUTPUT VOLTAGE ADJUSTME	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 PROT			of rating and recover		2 1100 10 2 1100	00.00 10 07	10.00 to 10.02		
PROTECTION	OVERVOLTAGE PROTE		5.75 to 7.00	13.80 to 16.80	17.25 to 21.00	27.60 to 33.60	41.40 to 50.40	55.20 to 67.20		
CIRCUIT AND	OPERATING INDICAT		LED (Green)	1	11.22.12.21.22			1		
OTHERS	REMOTE SENSING		Not provided							
	REMOTE ON/OFF		Optional (Required external power source. Option -R)							
	INPUT-OUTPUT • RC	*10								
	INPUT-FG		AC2,000V Iminute, Cutoff current = 10ffA, DC500V 50M $\Omega$ min (At room temperature)							
SOLATION	OUTPUT • RC-FG	*10	AC500V 1minute, Cutoff current = 100mA, DC500V 50M $\Omega$ min (At room temperature)							
	OUTPUT-RC	*10								
	OPERATING TEMP., HUMID. AND									
	STORAGE TEMP., HUMID.ANI		` '		nsing), 9,000m (30,00		( . 0,000 1001) 1110			
ENVIRONMENT	VIBRATION				iod, 60minutes each		es			
	IMPACT			1ms, once each X, Y						
SAFETY AND	AGENCY APPROVAL	S			0950-1, EN50178 Co	mplies with DFN-4N	<u> </u>			
NOISE	CONDUCTED NOISE				22-B, EN55011-B, EN		•			
REGULATIONS	HARMONIC ATTENU		Complies with IEC		D, LINOJUTT-D, El	100022-0				
	LIAMONIC ATTENU	A.O. **	Complies with IEO							



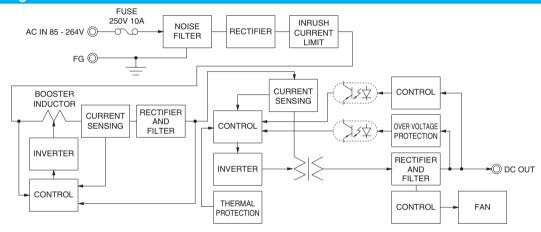
OTHERS	CASE SIZE/WEIGHT	102 X 41 X 190mm [4.02 X 1.61 X 7.48 inches] (Excluding terminal block and screw) (WXHXD) / 1.0kg max
OTHERS	COOLING METHOD *8	Forced cooling (internal fan)
WARRANTY	WARRANTY *6	5 years (subject to the operating conditions)

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

#### **Features**

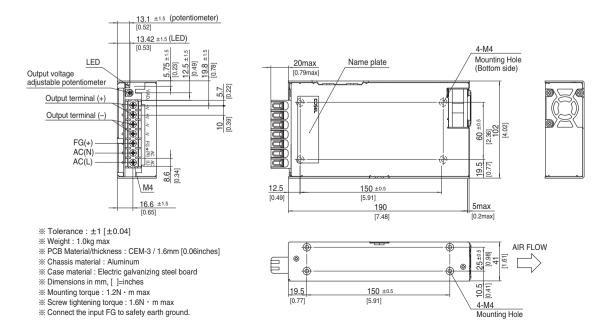
- · Cost-effective
- · Longer life (see Instruction Manual)
- · Low profile (meets 1U height = 41 mm or 1.61 inches)
- ·Wide operating temperature range (-20°C to +70°C see instruction manual)
- · Screw hold type terminal block
- · Slow fan speed at no load
- · Many optional functions
- · Complies with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

#### **Block diagram**



#### **External view**

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



# PLA600F

600



- ①Series name
  ②Single output
  ③Output wattage
  ④Universal input
  ⑤Output voltage
  ⑥Optional \*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	
	VOLTAGE[V]		AC85 - 264 1 ¢ (Outpu	t derating is required at <i>i</i>	AC85V - 115V. See 1.1 a	nd 3.2 in Instruction Man	iual) *4	
INPUT	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 (lo=100%)	85typ (lo=100%)	85typ (Io=100%)	
		ACIN 230V	84typ (lo=100%)	84typ (lo=100%)	88typ (lo=100%)	88typ (lo=100%)	88typ (lo=100%)	
	POWER FACTOR	ACIN 100V	0.98typ (lo=90%)	,	, , ,	, , ,	, , , ,	
		ACIN 115V	0.98typ (lo=100%)					
		ACIN 230V	0.95typ (lo=100%)					
		ACIN 100V	20/40typ (Io=90%) (Primary inrush current /Secondary inrush current) (More than 3sec to re-start)					
	INRUSH CURRENT[A]	ACIN 115V	20/40typ (Io=100%) (Primary inrush current /Secondary inrush current) (More than 3sec to re-start)					
		ACIN 230V	40/40typ (Io=100%) (Primary inrush current /Secondary inrush current) (More than 3sec to re-start)					
	LEAKAGE CURRENT[mA]		1.5max (ACIN 115V / 240V, 60Hz, Io=100%, According to IEC60950-1 and DEN-AN)					
	VOLTAGE[V]		12	15	24	36	48	
ОИТРИТ	CURRENT[A]	ACIN 85-115V	Output derating is requi	ired at ACIN 115V or les	s (refer to instruction ma			
		ACIN 115V-264V	50	40	25	16.7	12.5	
	WATTAGE[W]	ACIN 85-115V		ired at ACIN 115V or les	s (refer to instruction ma		-	
		ACIN 115V-264V	600	600	600	601.2	600	
	LINE REGULATION[mV] *8		48max	60max	96max	144max	192max	
	LOAD REGULATION[mV] *8		100max	120max	150max	150max	300max	
	RIPPLE[mVp-p]	0 to +50°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 rating and recovers automatically					
	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		AC3,000V 1minute, Cutoff current = 10mA, DC500V 50M $\Omega$ min (At room temperature)					
	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50M $\Omega$ min (At room temperature)					
	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)					
ENVIRONMENT	OPERATING TEMP.,HUMID.AND ALTITUDE *5		-20 to +70°C (Output derating is required), 20 - 90%RH (Non condensing), 3,000m (10,000 feet) max					
	STORAGE TEMP., HUMID. AND ALTITUDE		-20 to +75°C, 20 - 90%RH (Non condensing), 9,000m (30,000 feet) max					
	VIBRATION		10 - 55Hz, 19.6m/s² (2G), 3minutes period, 60minutes each along X, Y and Z axes					
	IMPACT		196.1m/s² (20G), 11ms, once each X, Y and Z axes					
SAFETY AND	AGENCY APPROVALS		UL60950-1, C-UL (CSA60950-1), EN60950-1, EN50178 Complies with DEN-AN					
NOISE	CONDUCTED NOISE		Complies with FCC-B, VCCI-B, CISPR22-B, EN55011-B, EN55022-B					
EGULATIONS	HARMONIC ATTENUA	ATOD ***	Complies with IEC61000-3-2 class A					





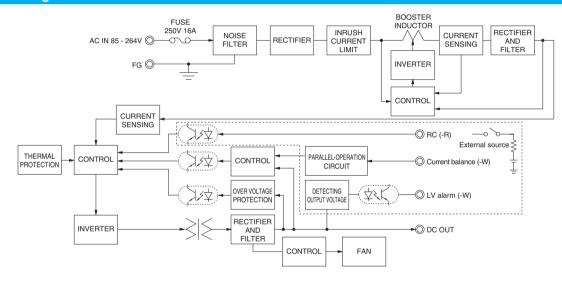
OTHERS	CASE SIZE/WEIGHT	120×61×215mm [4.72×2.40×8.46 inches] (Excluding terminal block and screw) (W×H×D) / 2.0kg max				
	COOLING METHOD *	Forced cooling (internal fan)				
WARRANTY	WARRANTY *	5 years (subject to the operating conditions)				

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

