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











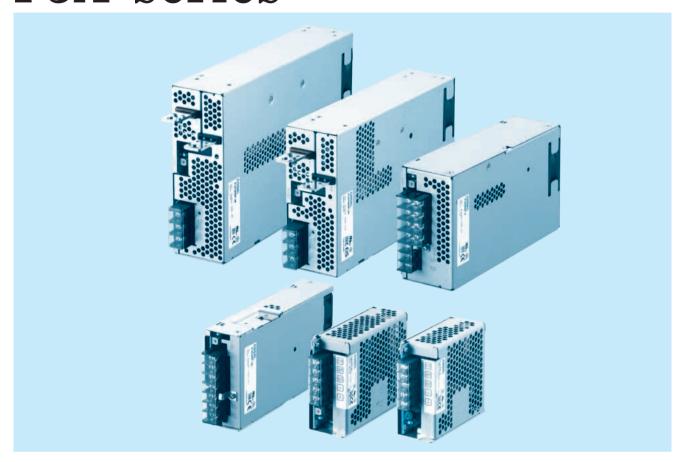








# **PJA-series**



#### Feature

Low Profile (PJA100F, 150F, 300F: 1U size)

(PJA600F, 1000F, 1500F : 2U size)

Wide temperature range (-20°C to +70°C, 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

Complies with SEMI F-47 (PJA1000F, 1500F can meet at 200V input range only)

Many optional functions

### Safety agency approvals

UL62368-1, C-UL (CSA62368-1), EN62368-1 UL508 (PJA100F, 150F) Complies with DEN-AN

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

### CE marking

Low Voltage Directive **RoHS** Directive

### UKCA marking

**Electrical Equipment Safety Regulations RoHS Regulations** 

#### **EMI**

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

(PJA1500F: Class A. In conducted noise, it can meet class B by additional EMI/EMC filter.)

#### **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

Ordering information

# **PJA100F**

100





### 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 \*6
   C: with Coating
   R: Remote on/off (Required external power source)
  - J : EP (Tyco Electronics)
- connector type J1 : VH (J.S.T.) connector type
- T: Vertical terminal block
- N2: with DIN rail

See 6.1 in Instruction Manual.

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

SPECIF	ICATIONS		* Please consider "PE	A100F-5-N" about 5V out	out with case cover.						
	MODEL		PJA100F-12	PJA100F-15	PJA100F-24	PJA100F-36	PJA100F-48				
	VOLTAGE[V]		AC85 - 264 1 φ (Out	out derating is required a	AC85V - 115V. Refer to	"Derating" and instructi	on manual 1.1, 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 100		82typ (lo=90%)	83typ (Io=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 (Io=100%)				
NPUT		ACIN 230V	85typ (Io=100%)	86typ (Io=100%)	88typ (Io=100%)	89typ (Io=100%)	89typ (Io=100%)				
• .		ACIN 100V	, , ,	00typ (10 10070)	co.yp (.c .cc/c)	(10 100 /s)	cotyp (10 10070)				
	POWER FACTOR	ACIN 115V	0.98typ (lo=100%)	98typ (Io=90%) 98tyn (Io=100%)							
	- CWENTACTON	ACIN 230V		Power factor correction	is stonned at AC250V or	more					
		ACIN 100V	16typ (lo=90%) Ta=2		is stopped at AO250 v of	more.					
	INRUSH CURRENT[A]	ACIN 100V	16typ (lo=100%) Ta=								
	INNOSH CONNENT[A]	ACIN 115V	32typ (lo=100%) Ta=								
	LEAVACE CURRENT		, , ,	, 60Hz, Io=100%, Accord	ing to IECC0260 1 and I	DENI ANI)					
	LEAKAGE CURRENT	[mA]	12		24	36	48				
	VOLTAGE[V]	AOIN OF 11FV		15		30	48				
	CURRENT[A]	ACIN 85-115V ACIN 115V-264V		quired at ACIN 115V or le		100	0.4				
			8.4	6.7	4.3	2.8	2.1				
	WATTAGE[W]	ACIN 85-115V	<u> </u>	quired at ACIN 115V or le	1	1,					
		ACIN 115V-264V	100.8	100.5	103.2	100.8	100.8				
	LINE REGULATION[m		48max	60max	96max	144max	192max				
	LOAD REGULATION	lo=30 to 100%	100max	120max	150max	150max	300max				
ОИТРИТ	[mV] *3		' '	se contact us about deta	<u></u>						
	RIPPLE[mVp-p]	0 to +40°C	120max	120max	120max	150max	150max				
	*1	-10 to 0℃	160max	160max	160max	200max	400max				
	lo: load factor	lo=0 to 30%	500max	500max	500max	500max	500max				
	RIPPLE NOISE[mVp-p]	0 to +40°C	150max	150max	150max	200max	200max				
	*1	-10 to 0℃	180max	180max	180max	240max	500max				
	lo: load factor	lo=0 to 30%	600max	600max	600max	600max	600max				
	TEMPERATURE REGULATION[mV]	0 to +40°C	120max	150max	240max	360max	480max				
	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, I	o=100%) Ta=25℃		·	·				
	HOLD-UP TIME[ms]		20typ (ACIN 115V, lo	=100%)							
	OUTPUT VOLTAGE ADJUSTMEN	IT RANGE[V]	10.80 to 13.20	13.50 to 16.50	21.60 to 26.40	32.40 to 39.60	43.20 to 52.80				
	OUTPUT VOLTAGE SETT	ING[V]	12.00 to 12.48	15.00 to 15.60	24.00 to 24.96	36.00 to 37.44	48.00 to 49.92				
	OVERCURRENT PROTE			rating and recovers autor		,					
ROTECTION	OVERVOLTAGE PROTEC		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				
RCUIT AND	OPERATING INDICAT		LED (Green)								
THERS	REMOTE SENSING		Not provided								
	REMOTE ON/OFF			xternal power source. Op	tion -R)						
	INPUT-OUTPUT • RC	*8				om temperature)					
	INPUT-FG		8 AC3,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At room temperature) AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At room temperature)								
OLATION	OUTPUT • RC-FG	*8		toff current = 100mA, DC	,						
	OUTPUT-RC	*8		toff current = 100mA, DC	,						
	OPERATING TEMP., HUMID. AND			o "Derating"), 20 - 90%RI							
	STORAGE TEMP., HUMID. AND		,	%RH (Non condensing),							
IVIRONMENT	VIBRATION	ALITIOUE		2G), 3minutes period, 60							
						and L axes					
A PER 1/ 1115	IMPACT		, ,,	ns, once each X, Y and Z		I II) Complies with D	EN AN				
AFETY AND	AGENCY APPROVAL	<u> </u>		SA62368-1), EN62368-1	· · · · · ·	o, -o i) Complies with D	LIN-AIN				
OISE	CONDUCTED NOISE	TOP :-	<u> </u>	B, VCCI-B, CISPR22-B, E	N00011-B, EN00022-B						
REGULATIONS	HARMONIC ATTENUA	AIOR *7	Complies with IEC61	UUU-3-2 CIASS A							

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

\*1 This is the result of measurement of the testing board with capacitors of 22 HF 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. 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 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.
- 4 Output power derating is required. Refer to "Derating".
- \*5 See 4 in Instruction Manual for more details.
- Consult us about safety agency approvals for the models with optional functions
- 7 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

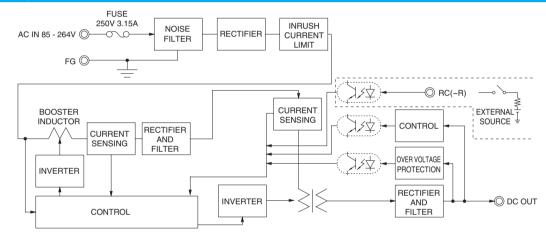
Parallel operation is not possible with this mode.

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

#### **Features**

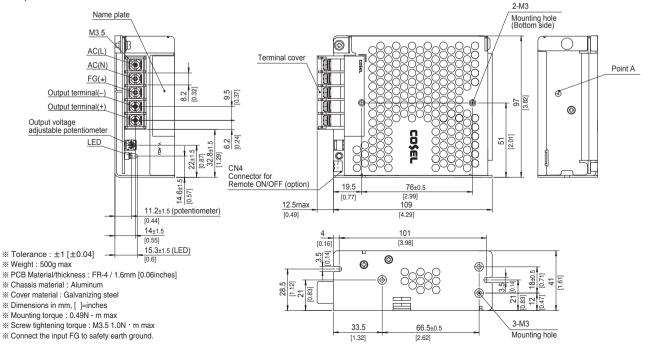
- · Compact design (Depth: 109mm 4.29inches)
- · High efficiency (88%typ PJA100F-24, AC230Vin, 100% load)
- · Low power consumption (1.5W typ AC240Vin, no load at standard model)
- · UL508 approved (Except option -J, -J1), and complies with SEMI F47 (see instruction manual 1.1)
- · Various connection interface options (vertical terminal [-T], AMP connector [-J], [-J1])

#### **Block diagram**



#### **External view**

The external size of –R option, –J option, –J1 option, –N2 option and –T option models is different from the standard model. See "6. Options and Others" in Instruction Manual for more details.



eco

Ordering information

# PJA150F

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 \*6
   C: with Coating
   R: Remote on/off
  - (Required external power source)
  - J : EP (Tyco Electronics)
- connector type J1 : VH (J.S.T.) connector type
- T: Vertical terminal block
- N2: with DIN rail

See 6.1 in Instruction Manual.

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

SPECIF	ICATIONS		* Please consider "PB	A150F-5-N" about 5V outp	ut with case cover.					
	MODEL		PJA150F-12	PJA150F-15	PJA150F-24	PJA150F-36	PJA150F-48			
	VOLTAGE[V]		AC85 - 264 1 φ (Outp	ut derating is required at	AC85V - 115V. Refer to	"Derating" and instructi	on manual 1.1, 3)			
		ACIN 100V	1.7typ (lo=90%)							
	CURRENT[A]	ACIN 115V	1.6typ (lo=100%)							
		ACIN 230V								
	FREQUENCY[Hz]		50 / 60 (47 - 63)							
		ACIN 100V	84typ (lo=90%)	84typ (Io=90%)	87typ (Io=90%)	87typ (Io=90%)	87typ (Io=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 (Io=100%)	90typ (lo=100%)	90typ (lo=100%)	90typ (lo=100%)			
		ACIN 100V	0.98typ (lo=90%)	- 71 (	1	1	1			
	POWER FACTOR	ACIN 115V	0.98typ (lo=100%)							
		ACIN 230V		Power factor correction	s stopped at AC250V or	more.				
		ACIN 100V	16typ (Io=90%) Ta=25							
	INRUSH CURRENT[A]	ACIN 115V	16typ (Io=100%) Ta=2							
	minoon ooninentari	ACIN 230V	32typ (lo=100%) Ta=2							
	LEAKAGE CURRENT		, ,	60Hz, Io=100%, Accord	ing to IEC62368-1 and I	DENI-ΔNI)				
	VOLTAGE[V]	[IIIA]	12	15	24	36	48			
	. JEINGE[V]	ACIN 85-115V		uired at ACIN 115V or le		30	1.0			
	CURRENT[A]	ACIN 05-115V ACIN 115V-264V	12.5	10	6.4	4.2	3.2			
		ACIN 85-115V		uired at ACIN 115V or le	1 -	7.∠	0.2			
	WATTAGE[W]	ACIN 115V-264V	150.0	150.0	153.6	151.2	153.6			
	LINE REGULATION[n		48max	60max	96max	144max	192max			
	LOAD REGULATION	lo=30 to 100%	100max	120max	150max	150max	300max			
				se contact us about deta		Tournax	Souriax			
	[····]		120max	1	<u></u>	150may	150may			
OUTPUT	RIPPLE[mVp-p]	0 to +40°C		120max	120max	150max	150max			
	lo: load factor	-10 to 0℃	160max	160max	160max	200max	400max			
		lo=0 to 30%	500max	500max	500max	500max	500max			
	RIPPLE NOISE[mVp-p]	0 to +40°C	150max	150max	150max	200max	200max			
	lo: load factor	-10 to 0℃	180max	180max	180max	240max	500max			
	io. ioau iacioi	lo=0 to 30%	600max	600max	600max	600max	600max			
	TEMPERATURE REGULATION[mV]	0 to +40°C	120max	150max	240max	360max	480max			
		-10 to +40℃	180max	180max	290max	440max	600max			
	DRIFT[mV]	*2	48max	60max	96max	144max	192max			
	START-UP TIME[ms]		500typ (ACIN 115V, Id							
	HOLD-UP TIME[ms]		20typ (ACIN 115V, lo:		Ta. aa. aa.	T				
	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			ating and recovers autor		T.,	1			
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			ternal power source. Op	· · · · · · · · · · · · · · · · · · ·					
	INPUT-OUTPUT • RC	*8	, , , , , , , , , , , , , , , , , , , ,							
OLATION	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50M $\Omega$ min (At room temperature)							
	OUTPUT • RC-FG	*8	, , , , , , , , , , , , , , , , , , , ,							
	OUTPUT-RC	*8		off current = 100mA, DC	· · · · · · · · · · · · · · · · · · ·					
	OPERATING TEMP., HUMID. AND		V 077 V 077 V							
NVIRONMENT	STORAGE TEMP., HUMID. AND	ALTITUDE		%RH (Non condensing),						
	VIBRATION			2G), 3minutes period, 60		and Z axes				
	IMPACT		. , , .	s, once each X, Y and Z						
AFETY AND	AGENCY APPROVAL	S	UL62368-1, C-UL (CS	SA62368-1), EN62368-1,	UL508 (Except option -	J, -J1) Complies with D	EN-AN			
OISE	CONDUCTED NOISE		Complies with FCC-B	, VCCI-B, CISPR22-B, E	N55011-B, EN55022-B					
EGULATIONS	HARMONIC ATTENUA	ATOD ±7	Complies with IEC610	000-3-2 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
OTHERS	COOLING METHOD	Convection
WARRANTY	WARRANTY *5	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

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

hour warm-up at 25℃.

- \*3 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. Refer to "Derating".
- See 4 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

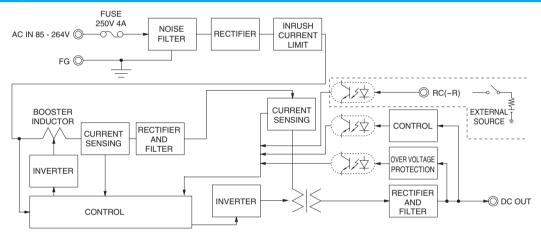
isolated from input, output, and FG.

- Do not use the power supply in overcurrent conditions or in unspecified input voltage ranges. Otherwise the internal components may be
- Parallel operation is not possible with this mode
- Sound noise may be heard from the power supply when used for

#### **Features**

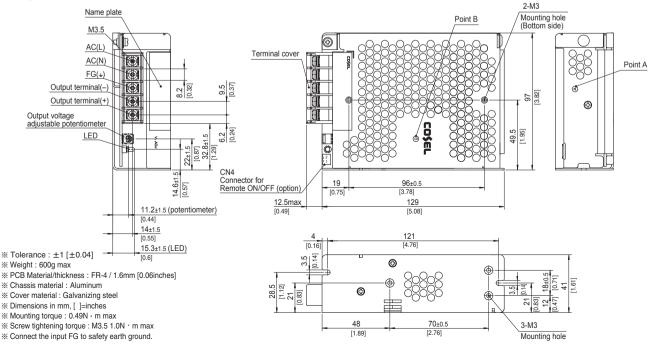
- · Compact design (Depth: 129mm 5.08inches)
- · High efficiency (90%typ PJA150F-24, AC230Vin, 100% load)
- · Low power consumption (1.5W typ AC240Vin, no load at standard model)
- · UL508 approved (Except option -J, -J1), and complies with SEMI F47 (see instruction manual 1.1)
- · Various connection interface options (vertical terminal [-T], AMP connector [-J], [-J1])

#### **Block diagram**



#### **External view**

The external size of -R option, -J option, -J1 option, -N2 option and -T option models is different from the standard model. See "6. Options and Others" in Instruction Manual for more details.



Ordering information

## **PJA300F**

PJ A 300 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.

	MODEL		PJA300F-5	PJA300F-12	PJA300F-15	PJA300F-24	PJA300F-36	PJA300F-48				
	VOLTAGE[V]		AC85 - 264 1 φ (Οι	utput derating is requ	ired at AC85V - 100	V. Refer to "Derating	" and instruction ma	nual 1.1, 3)				
		ACIN 100V	3.5typ (lo=100%)	3.5typ (lo=100%) 3.9typ (lo=100%)								
	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=100%)	79typ (lo=100%)	81typ (lo=100%)	82typ (lo=100%)	83typ (lo=100%)	82typ (lo=100%)				
	EFFICIENCY[%]	ACIN 115V	74typ (lo=100%)	80typ (lo=100%)	82typ (lo=100%)	83typ (lo=100%)	83typ (lo=100%)	83typ (lo=100%)				
INPUT		ACIN 230V	77typ (lo=100%)	82typ (lo=100%)	84typ (lo=100%)	86typ (lo=100%)	87typ (lo=100%)	86typ (lo=100%)				
		ACIN 100V	0.99typ (lo=100%)									
	POWER FACTOR	ACIN 115V	0.98typ (lo=100%)									
		ACIN 230V	0.95typ (lo=100%)									
		ACIN 100V	20typ (lo=100%) Ta	=25℃ at cold start								
	INRUSH CURRENT[A]	ACIN 115V	20typ (lo=100%) Ta	=25℃ at cold start								
		ACIN 230V	40typ (Io=100%) Ta	40typ (Io=100%) Ta=25°C at cold start								
	LEAKAGE CURRENT	[mA]	0.75max (ACIN 240	OV, 60Hz, Io=100%,	According to IEC623	68-1 and DEN-AN)						
	VOLTAGE[V]		5	12	15	24	36	48				
	OUDDENITIAL	ACIN 85-100V	Output derating is r	equired at ACIN 100	V or less (Refer to "I	Derating")	•	•				
	CURRENT[A]	ACIN 100V-264V	50	25	20	12.5	8.4	6.3				
	MATTA OF DAD	ACIN 85-100V	Output derating is r	equired at ACIN 100	V or less (Refer to "I	Derating")	•	•				
	WATTAGE[W]	ACIN 100V-264V	250	300	300	300	302.4	302.4				
	LINE REGULATION[n	nV] *3	20max	48max	60max	96max	144max	192max				
	LOAD REGULATION	mV] *3	40max	100max	120max	150max	150max	300max				
	RIPPLE[mVp-p]	0 to +50°C	80max	120max	120max	120max	150max	150max				
		-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°C	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 100V	, lo=100%)								
	HOLD-UP TIME[ms]		20typ (ACIN 100V,	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				
ĺ	OVERCURRENT PROTE	CTION	Works over 105% of	of rating and recover	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	*9	AC3,000V 1minute	Cutoff current = 10	mA, DC500V 50M $\Omega$	min (At room tempe	erature)					
ISOLATION	INPUT-FG		AC2,000V 1minute	Cutoff current = 10	mA, DC500V 50M $\Omega$	min (At room tempe	erature)					
IOOLATION	OUTPUT • RC-FG	*9			nA, DC500V 50M $\Omega$ i	<u>.</u>						
	OUTPUT-RC	*9	AC500V 1minute, 0	Cutoff current = 100r	nA, DC500V 50M $\Omega$ i	min (At room temper	rature)					
	OPERATING TEMP., HUMID. AND	ALTITUDE *4	,		90%RH (Non conder		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						
LITTIIONWLINI	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	UL62368-1, C-UL (	CSA62368-1), 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		Complies with IEC61000-3-2 class A									

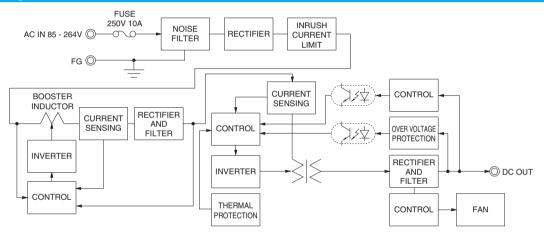


OTHERS	CASE SIZE/WEIGHT	102×41×190mm [4.02×1.61×7.48 inches] (Excluding terminal block and screw) (W×H×D) / 1.0kg max							
OTHERS	COOLING METHOD *7	Forced co	Forced cooling (internal fan)						
WARRANTY	WARRANTY *5	5 years (si	ears (subject to the operating conditions)						
*1 This is the r	*1 This is the result of measurement of the testing board with capacitors of *3 Consult us about dynamic load and input response. isolated from input, output, and FG.								
22 µ F and	0.1 µF placed at 150 mm from the output termin	als by a 20	*4 Output power derating is required. Refer to "Derating".	*	Do not use the power supply in overcurrent conditions or in unspecified				
MHz oscillo	scope or a ripple-noise meter equivalent to Keis	oku-Giken	*5 See 4 in Instruction Manual for more details.		input voltage ranges. Otherwise the internal components may be				
RM103.		:	*6 Consult us about safety agency approvals for the models with optional functions.		damaged.				
See 1.6 of I	nstruction Manual for more details.		*7 The fan speed slows down at no load.	*	Parallel operation is not possible with this mode.				
*2 Drift is the o	change in DC output for an eight hour period after	a half-hour *8 Consult us about other classes.			Sound noise may be heard from the power supply when used for				
warm-up at	25℃.	:	*9 The RC terminal is added to option –R models. The RC terminal is		pulse load.				

#### **Features**

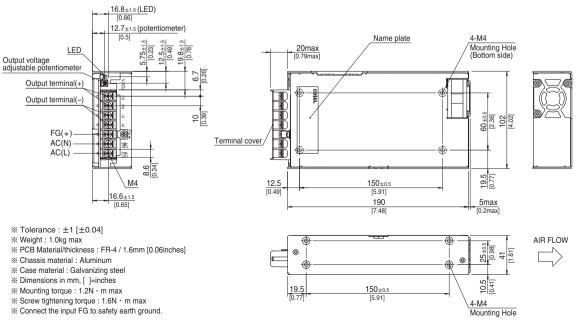
- · Cost-effective
- · Longer life (see Instruction Manual)
- · Low profile (meets 1U height = 41 mm or 1.61 inches)
- · Wide operating temperature range (-20°C to +70°C Refer to "Derating")
- · Slow fan speed at no load
- · Complies with SEMI F-47
- · Many optional functions

#### **Block diagram**



#### **External view**

The external size of -V option and -R option models is different from the standard model. See "6. Options and Others" in Instruction Manual for more details.



# PJA600F

600



Example recommended EMI/EMC filter NAC-16-472



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.

- ① Series name
  ② Single output
  ③ Output wattage
  ④ Universal input
  ⑤ Output voltage
  ⑥ Optional \*6
  C : with Coating
  G : Low leakage current
  V : External potentiometer for output voltage adjustment
  W: Parallel operation,
  LV a

See 6.1 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		PJA600F-5	PJA600F-12	PJA600F-15	PJA600F-24	PJA600F-36	PJA600F-48			
	VOLTAGE[V]		AC85 - 264 1 φ (O	utput derating is req	uired at AC85V - 100	V. Refer to "Derating	and instruction ma	nual 1.1, 3)			
		ACIN 100V	6.7typ (lo=100%)	7.5typ (lo=100%)		<u>~</u>		•			
	CURRENT[A]	ACIN 115V	5.7typ (lo=100%)	6.5typ (lo=100%)							
		ACIN 230V	2.8typ (lo=100%)	3.2typ (lo=100%)							
	FREQUENCY[Hz]	1	50 / 60 (47 - 63)								
		ACIN 100V	76typ (lo=100%)	81typ (lo=100%)	82typ (lo=100%)	84typ (lo=100%)	85typ (lo=100%)	85typ (lo=100%)			
	EFFICIENCY[%]	ACIN 115V	77typ (lo=100%)	82typ (lo=100%)	82typ (lo=100%)	85typ (lo=100%)	86typ (lo=100%)	85typ (lo=100%)			
NPUT		ACIN 230V	79typ (lo=100%)	84typ (lo=100%)	85typ (lo=100%)	88typ (lo=100%)	88typ (lo=100%)	88typ (lo=100%)			
		ACIN 100V	0.99typ (lo=100%)	1 - 31 (	1 31 (	1 31 (	1 31 (	1 31 (			
	POWER FACTOR	ACIN 115V	0.98typ (lo=100%)								
		ACIN 230V	0.95typ (lo=100%)								
		ACIN 100V	71 \ /	) (Primary inrush cu	rrent /Secondary inru	ish current) (More t	han 3sec to re-start)				
	INRUSH CURRENT[A]	ACIN 115V	, , ,	, , ,	rrent /Secondary inru						
		ACIN 230V		, , ,	rrent /Secondary inru						
	LEAKAGE CURRENT		, , ,	, , ,	according to IEC6236		nan ooo to ro otarty				
	VOLTAGE[V]	[]	5	12	15	24	36	48			
		ACIN 85-100V	-		OV or less (Refer to "I	<u>  = :                                  </u>	100	10			
	CURRENT[A]	ACIN 100V-264V	100	50	40	25	16.7	12.5			
		ACIN 85-100V			OV or less (Refer to "I		10.7	12.0			
	WATTAGE[W]	ACIN 100V-264V	500	600	600	600	601.2	600			
	LINE REGULATION[n		20max	48max	60max	96max	144max	192max			
	LOAD REGULATION[mV]		40max	100max	120max	150max	150max	300max			
		[mV] *7 0 to +50℃	80max	120max	120max	120max	150max	150max			
	RIPPLE[mVp-p]	-20 to 0°C	140max	160max	160max	160max	160max	400max			
DUTPUT	DIDDLE MOIOEL W. 1			150max	+		+	-			
	RIPPLE NOISE[mVp-p]	0 to +50°C -20 to 0°C	120max 160max	180max	150max 180max	150max 180max	200max 240max	200max 500max			
	*1	_			+		+				
	TEMPERATURE REGULATION[mV]	0 to +50°C	50max	120max	150max	240max	360max	480max			
	DDIETE VA	-20 to +50°C	75max	180max	180max	290max	440max	600max			
	DRIFT[mV]	*2	20max	48max	60max	96max	144max	192max			
	START-UP TIME[ms]		300typ (ACIN 100)	· · · · · · · · · · · · · · · · · · ·							
	HOLD-UP TIME[ms]	UT DANGERG	20typ (ACIN 100V,		40.50 +- 40.50	04 00 +- 00 40	00.40.400.00	40.00 +- 50.00			
	OUTPUT VOLTAGE ADJUSTMEN		4.50 to 5.50	10.80 to 13.20	13.50 to 16.50	21.60 to 26.40	32.40 to 39.60	43.20 to 52.80			
	OUTPUT VOLTAGE SETT		5.00 to 5.15	12.00 to 12.48	15.00 to 15.60	24.00 to 24.96	36.00 to 37.44	48.00 to 49.92			
	OVERCURRENT PROTE			of rating and recover			T.,	T			
PROTECTION	OVERVOLTAGE PROTE		5.75 to 7.00	13.80 to 16.80	17.25 to 21.00	27.60 to 33.60	41.40 to 50.40	55.20 to 67.20			
CIRCUIT AND	OPERATING INDICAT	IION	LED (Green)	10							
JI II ENS	REMOTE SENSING		Optional (Option -W)								
	REMOTE ON/OFF		Optional (Required external power source. Option -R)  AC3,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At room temperature)								
	INPUT-OUTPUT • RC	*3									
SOLATION	INPUT-FG				mA, DC500V 50MΩ						
	OUTPUT • RC-FG				mA, DC500V 50MΩ						
	OUTPUT-RC	*3			mA, DC500V 50MΩ						
	OPERATING TEMP.,HUMID.AND		,		90%RH (Non conder		iuu teet) max				
ENVIRONMENT	STORAGE TEMP., HUMID.AND	ALTITUDE			nsing), 9,000m (30,00						
•	VIBRATION				riod, 60minutes each	along X, Y and Z ax	es				
	IMPACT			1ms, once each X, Y							
SAFETY AND	AGENCY APPROVAL				2368-1 Complies with						
NOISE	CONDUCTED NOISE		· ·		22-B, EN55011-B, EN	N55022-B					
REGULATIONS	HARMONIC ATTENU	ATOR *9	Complies with IEC	61000-3-2 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
OTHERS	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.
- Output power derating is required. Refer to "Derating". See 4 in Instruction Manual for more details
- Consult us about safety agency approvals for the models with optional functions.
- Consult us about dynamic load and input response.
- \*8 The fan speed slows down at no load.

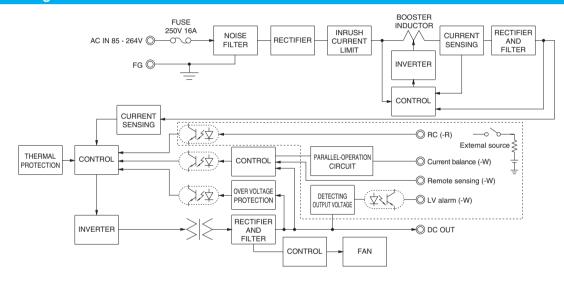
- Consult us about other classes
- Do not use the power supply in overcurrent conditions or in unspecified input voltage ranges. Otherwise the internal components may be damaged.
- Parallel operation is allowed for PLA600FA models with the -W option only
- Sound noise may be heard from the power supply 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 Refer to
- "Derating")

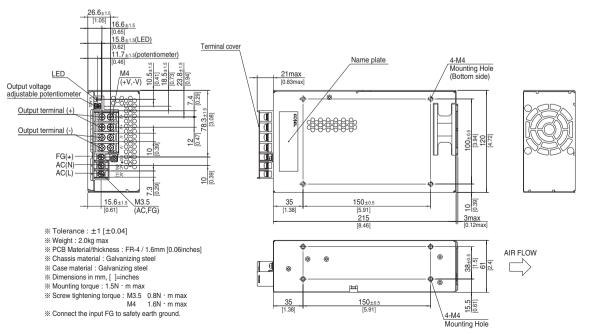
- · Slow fan speed at no load
- · Complies with SEMI F-47
- · Many optional functions

#### **Block diagram**



#### **External view**

The external size of -V option, -W option and -R option models is different from the standard model. See "6. Options and Others" in Instruction Manual for more details.



# **PJA1000F**

1000



- ①Series name ②Single output ③Output wattage ④Universal input ⑤Output voltage ⑥Optional \*8

- C: with Coating
- G: Low leakage current
- V : External potentiometer for output voltage adjustment
- W: Parallel operation, LV alarm and Remote sensing
- R: Remote on/off
- (Required external power source)

See 6.1 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		PJA1000F-12	PJA1000F-15	PJA1000F-24	PJA1000F-36	PJA1000F-48				
	VOLTAGE[V]	VOLTAGE[V]		it derating is required at	AC85V - 115V. Refer to	'Derating" and instruction	n manual 1.1, 3)				
		ACIN 100V	12.5typ (lo=90%)								
	CURRENT[A]	ACIN 115V	11.0typ (lo=100%)								
		ACIN 230V	5.5typ (lo=100%)								
	FREQUENCY[Hz]		50 / 60 (47 - 63)								
		ACIN 100V	81typ (lo=90%)	82typ (lo=90%)	84typ (lo=90%)	84typ (lo=90%)	84typ (lo=90%)				
	EFFICIENCY[%]	ACIN 115V	82typ (lo=100%)	82typ (lo=100%)	85typ (lo=100%)	85typ (lo=100%)	85typ (lo=100%)				
NPUT		ACIN 230V	85typ (lo=100%)	85typ (lo=100%)	88typ (lo=100%)	88typ (lo=100%)	88typ (lo=100%)				
		ACIN 100V	0.98typ (lo=90%)	, , ,	, , ,	,	, , ,				
	POWER FACTOR	ACIN 115V	0.98typ (lo=100%)								
		ACIN 230V	0.95typ (lo=100%)								
		ACIN 100V	71 \	mary inrush current /Se	condary inrush current)	(More than 10sec to re-s	start)				
	INRUSH CURRENT[A]	ACIN 115V	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			<u>`</u>					
		ACIN 230V	, , , , , , , , , , , , , , , , , , ,	15/30typ (Io=100%) (Primary inrush current /Secondary inrush current) (More than 10sec to re-start) 30/30typ (Io=100%) (Primary inrush current /Secondary inrush current) (More than 10sec to re-start)							
	LEAKAGE CURRENT	1	*		ng to IEC62368-1 and DE						
	VOLTAGE[V]	£J	12	15	24	36	48				
		ACIN 85-115V		ired at ACIN 115V or le	1=:						
	CURRENT[A]	ACIN 115V-264V	84	67	42	28	21				
		ACIN 85-115V		ired at ACIN 115V or le			]				
	WATTAGE[W]	ACIN 115V-264V	1008	1005	1008	1008	1008				
	LINE REGULATION[n		48max	60max	96max	144max	192max				
	LOAD REGULATION[mV] *2		100max	120max	150max	150max	300max				
		· -	180max	180max	120max	150max	200max				
OUTPUT	RIPPLE[mVp-p]		240max	240max	160max	200max	500max				
		0 to +50°C		210max	150max	200max	300max				
	RIPPLE NOISE[mVp-p]		270max	270max	180max	240max	600max				
		0 to +50°C	120max	150max	240max	360max	480max				
	TEMPERATURE REGULATION[mV]	-20 to +50°C		180max	290max	440max	600max				
	DRIFT[mV]	*3	48max	60max	96max	144max	192max				
	START-UP TIME[ms]		800typ (ACIN 115V, Io:	1	Joinax	144IIIAX	132IIIdX				
	HOLD-UP TIME[ms]		20typ (ACIN 115V, Io=								
	OUTPUT VOLTAGE ADJUSTMEN	IT DANCEIVI	71 \	13.50 to 17.30	20.40 to 28.50	30.60 to 40.80	40.80 to 55.20				
	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				
						36.00 10 37.44	46.00 10 49.92				
DOTEOTICS	OVERCURRENT PROTE OVERVOLTAGE PROTE		14.40 to 17.40	ting and recovers auton	28.80 to 34.80	43.20 to 52.20	57.00 to 67.20				
ROTECTION IRCUIT AND	OPERATING INDICAT		LED (Green)	10.00 10 21.00	20.00 10 34.00	7J.ZU IU JZ.ZU	37.00 10 07.20				
THERS	REMOTE SENSING	ION	Optional (Option -W)								
	REMOTE SENSING			ernal power source. Op	tion D)						
	INPUT-OUTPUT		_ \		$000 - H) \Omega$ min (At roo	m tomporatura)					
OL ATION				· · · · · · · · · · · · · · · · · · ·	,						
SOLATION	INPUT-FG				$0.500V 50M\Omega$ min (At roo						
	OUTPUT-FG	ALTITUDE			500V 50MΩ min (At room						
	OPERATING TEMP., HUMID. AND		,		(Non condensing), 3,00						
NVIRONMENT	STORAGE TEMP., HUMID.AND	ALIIIUDE	· ·		9,000m (30,000 feet) ma:						
	VIBRATION				minutes each along X, Y	and ∠ axes					
	IMPACT			s, once each X, Y and Z		ı					
SAFETY AND	AGENCY APPROVAL		, ,	A62368-1), EN62368-1							
IOISE	CONDUCTED NOISE			VCCI-B, CISPR22-B, E	N55011-B, EN55022-B						
REGULATIONS	HARMONIC ATTENU	ATOR *5	Complies with IEC61000-3-2 class A								



OTHERS	CASE SIZE/WEIGHT		150×61×240mm [5.91×2.40×9.45 inches] (Excluding terminal block and screw) (W×H×D) / 2.8kg max
OTHERS	COOLING METHOD	*6	Forced cooling (internal fan)
WARRANTY	WARRANTY	*7	5 years (subject to the operating conditions)

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

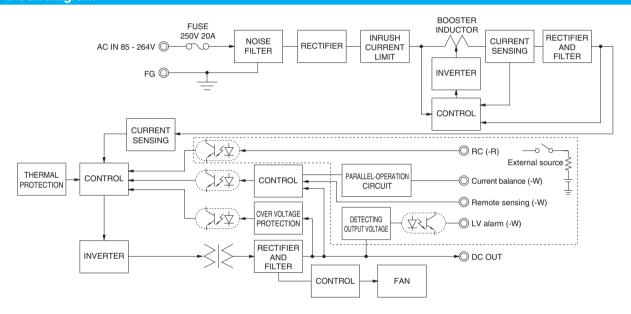
- This is the result of measurement of the testing board with capacitors of 22  $\mu$  F and 0.1  $\mu$  F placed at 150 mm from the output terminals by a 20 MHz oscilloscope or a ripple-noise meter equivalent to Keisoku-Giken RM103
- warm-up at 25℃ Output power derating is required. Refer to "Derating".
- Consult us about safety agency approvals for the models with optional functions.

- See 1.6 of Instruction Manual for more details.
- 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.

- Consult us about dynamic load and input response
- The fan speed slows down or stops at no load. See 4 in Instruction Manual for more details.
- - Audible noise may be heard from the power supply when used for pulse load.

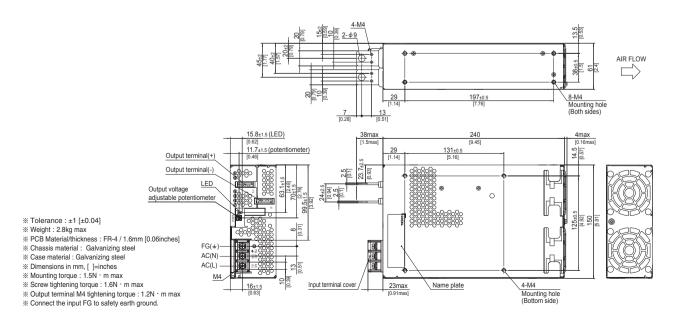
- **Features** 
  - · Cost-effective
  - · Longer life (see Instruction Manual)
  - · Low profile (meets 2U height = 61 mm or 2.4 inches)
- · Wide operating temperature range (-20°C to +70°C Refer to
- "Derating")
- · Stop or slow fan speed at no load

#### **Block diagram**



#### **External view**

The external size of -V option, -W option and -R option models is different from the standard model. See "6. Options and Others" in Instruction Manual for more details.



#### Ordering information

# **PJA1500F**

1500



- ①Series name ②Single output ③Output wattage ④Universal input ⑤Output voltage ⑥Optional \*8

- C: with Coating
- G: Low leakage current
- V : External potentiometer for output voltage adjustment
- W: Parallel operation, LV alarm and Remote sensing
- R : Remote on/off
- (Required external power source)

See 6.1 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		PJA1500F-12	PJA1500F-15	PJA1500F-24	PJA1500F-36	PJA1500F-48					
	VOLTAGE[V]		AC85 - 264 1 φ (Outpu	it derating is required at	AC85V - 115V. Refer to	"Derating" and instructi	on manual 1.1, 3)					
		ACIN 100V	18typ (Io=90%)									
	CURRENT[A]	ACIN 115V	16typ (lo=100%)									
		ACIN 230V	8typ (Io=100%)									
	FREQUENCY[Hz]		50 / 60 (47 - 63)									
Γ		ACIN 100V	81typ (lo=90%)	82typ (lo=90%)	84typ (lo=90%)	84typ (lo=90%)	84typ (lo=90%)					
	EFFICIENCY[%]	ACIN 115V	82typ (lo=100%)	82typ (lo=100%)	85typ (lo=100%)	85typ (lo=100%)	84typ (lo=100%)					
NPUT		ACIN 230V	85typ (lo=100%)	85typ (lo=100%)	88typ (lo=100%)	88typ (lo=100%)	87typ (lo=100%)					
		ACIN 100V	0.98typ (lo=90%)	•	•		,					
	POWER FACTOR	ACIN 115V	0.98typ (lo=100%)									
		ACIN 230V	0.95typ (lo=100%)			-						
Γ		ACIN 100V	15/30typ (Io=90%) (Pri	mary inrush current /Se	condary inrush current)	(More than 10sec to re	-start)					
	INRUSH CURRENT[A]	ACIN 115V	15/30typ (Io=100%) (P	rimary inrush current /S	econdary inrush current	) (More than 10sec to r	e-start)					
		ACIN 230V	30/30typ (Io=100%) (P	30/30typ (Io=100%) (Primary inrush current /Secondary inrush current) (More than 10sec to re-start)								
	LEAKAGE CURRENT	[mA]	1.5max (ACIN 240V, 6	0Hz, Io=100%, Accordir	g to IEC62368-1 and DI	EN-AN)						
	VOLTAGE[V]		12	15	24	36	48					
	CUDDENT	ACIN 85-115V	Output derating is requ	ired at ACIN 115V or le	ss (Refer to "Derating")							
	CURRENT[A]	ACIN 115V-264V	125	100	64	42	32					
Γ.		ACIN 85-115V	Output derating is requ	ired at ACIN 115V or le	ss (Refer to "Derating")							
	WATTAGE[W]	ACIN 115V-264V	1500	1500	1536	1512	1536					
	LINE REGULATION[mV] *2		48max	60max	96max	144max	192max					
	LOAD REGULATION[mV] *2		100max	120max	150max	150max	300max					
	RIPPLE[mVp-p]	0 to +50°C	180max	180max	120max	150max	200max					
	*1	-20 to 0°C	240max	240max	160max	200max	500max					
DUTPUT	RIPPLE NOISE[mVp-p]	0 to +50°C	210max	210max	150max	200max	300max					
	*1	-20 to 0°C	270max	270max	270max	240max	600max					
Γ.	TEMPERATURE REGULATION[mV]	0 to +50°C	120max	150max	240max	360max	480max					
		-20 to +50°C	180max	180max	290max	440max	600max					
	DRIFT[mV]	*3	48max	60max	96max	144max	192max					
	START-UP TIME[ms]		800typ (ACIN 115V, Io:	=100%)	1		'					
	HOLD-UP TIME[ms]		20typ (ACIN 115V, lo=	100%)								
	OUTPUT VOLTAGE ADJUSTMEN	IT RANGE[V]	10.80 to 13.50	13.50 to 17.30	20.40 to 28.50	30.60 to 40.80	40.80 to 55.20					
	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		Works over 105% of ra	ting and recovers auton	natically	·	•					
PROTECTION	OVERVOLTAGE PROTE	CTION[V]	14.40 to 17.40	18.00 to 21.80	28.80 to 34.80	43.20 to 52.20	57.00 to 67.20					
CIRCUIT AND	OPERATING INDICAT	ION	LED (Green)									
OTHERS	REMOTE SENSING		Optional (Option -W)									
	REMOTE ON/OFF		Optional (Required external power source. Option -R)									
	INPUT-OUTPUT		AC3,000V 1minute, Cutoff current = $25mA$ , DC500V $50M\Omega$ min (At room temperature)									
SOLATION	INPUT-FG		AC2,000V 1minute, Cu	itoff current = 25mA, DC	500V 50MΩ min (At ro	om temperature)						
<u> </u>	OUTPUT-FG				500V 50MΩ min (At roc							
1	OPERATING TEMP., HUMID. AND	ALTITUDE *4	-20 to +70°C (Refer to	"Derating"), 20 - 90%Rh	(Non condensing), 3,00	00m (10,000 feet) max						
NUIDON:	STORAGE TEMP., HUMID. AND	ALTITUDE	-20 to +75°C, 20 - 90%	RH (Non condensing),	9,000m (30,000 feet) ma	ıx						
ENVIRONMENT	VIBRATION	,			minutes each along X, Y							
H	IMPACT			s, once each X, Y and Z								
SAFETY AND	AGENCY APPROVAL	s	` '	<del></del>	Complies with DEN-AN	1						
	CONDUCTED NOISE		, ,		5011-A, EN55022-A, addi		equired for meeting cla					
NOISE												



OTHERS	CASE SIZE/WEIGHT		178×61×268mm [7.01×2.40×10.55 inches] (Excluding terminal block and screw) (W×H×D) / 3.5kg max
OTHERS	COOLING METHOD	*6	Forced cooling (internal fan)
WARRANTY	WARRANTY	*7	5 years (subject to the operating conditions)

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

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.

Consult us about dynamic load and input response

- warm-up at 25℃ Output power derating is required. Refer to "Derating". Consult us about other classes
- Consult us about safety agency approvals for the models with optional functions.

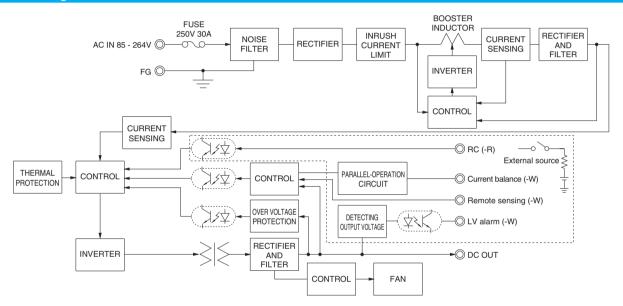
- Do not use the power supply in overcurrent conditions or in unspecified input voltage ranges. Otherwise the internal components may be damaged.
- The fan speed slows down or stops at no load. See 4 in Instruction Manual for more details.
- Parallel operation is not possible with this mode. Audible noise may be heard from the power supply when used for pulse load.



#### **Features**

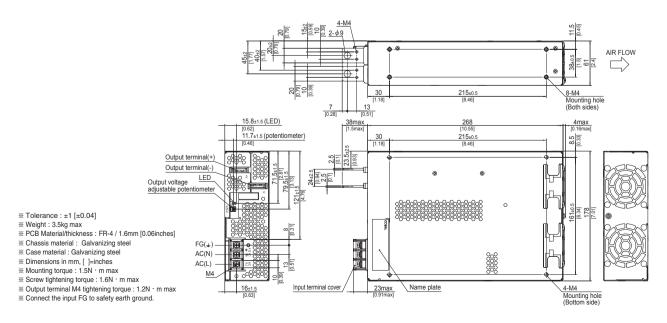
- · Cost-effective
- · Longer life (see Instruction Manual)
- · Low profile (meets 2U height = 61 mm or 2.4 inches)
- · Wide operating temperature range (-20°C to +70°C Refer to
- "Derating")
- · Stop or slow fan speed at no load

#### **Block diagram**



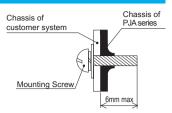
#### **External view**

The external size of -V option, -W option and -R option models is different from the standard model. See "6. Options and Others" in Instruction Manual for more details.

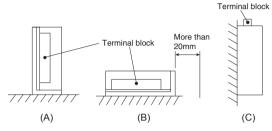


#### **Assembling and Installation Method**

■Do not insert a screw more than 6mm from the outside of a power supply to keep enough insulation distance between the screw and internal components.

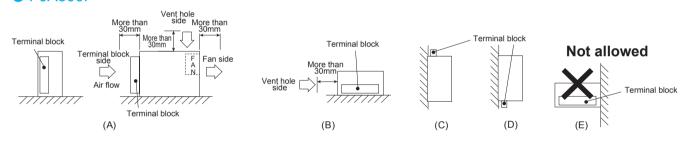


#### PJA100F, PJA150F

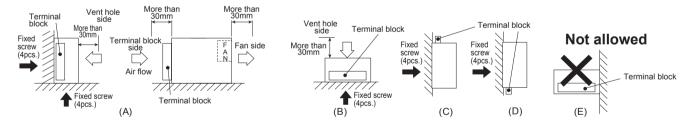


- ■If you use two or more power supplies side by side, please keep a sufficient distance between them to allow enough air ventilation.
- ■Ambient temperature around each power supply should not exceed the temperature range shown in "derating".

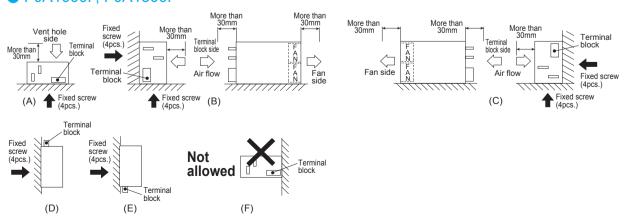
#### PJA300F



#### PJA600F



#### PJA1000F, PJA1500F



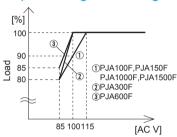


#### **Assembling and Installation Method**

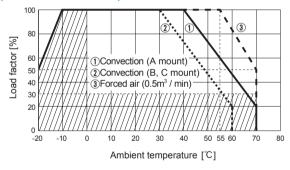
- ■When mounting the power supply with screws, it is recommended that this be done as shown above . If other methods are used, be sure the weight of the power supply is taken into account.
- ■Avoid the not allowed installation method as it gives excessive stress to the mounting holes.
- ■Do not block air flow of the built-in fan (terminal block and ventilation hole).
- If the power supply is used in a dusty environment, use an airfilter. Make sure air flow is not blocked.
- ■If the built-in fan stops, thermal protection will work and the outputwill stop.
- ■The life expectancy (R(t)=90%) of the built-in fan varies depending on the operating condition.

#### **Derating**

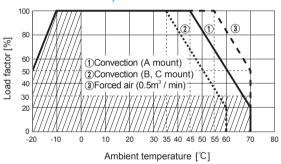
#### Input voltage Derating Curve



#### PJA100F/150F-12.15 Ambient temperature Derating Curve (Reference value)

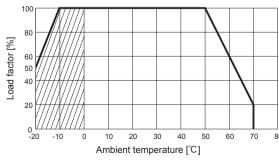


#### PJA100F/150F-24,36,48 Ambient temperature Derating Curve (Reference value)

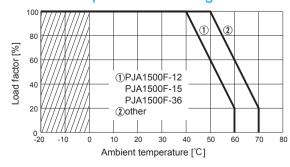


- ■In the hatched area, the specification of Ripple, Ripple Noise is different from other area.
- ■The ambient temperature should be measured 5 to 10 cm away from the power supply so that it won't be influenced by the heat from the power supply. Please consult us for more details.
- ■Make sure the temperature at point A and point B is less than the temperatures shown in Instruction Manual 3.

### PJA300F Ambient temperature Derating Curve



### PJA600F/1000F/1500F Ambient temperature Derating Curve



■The ambient temperature is defined as the temperature of the air (at the terminal block side) that the built-in cooling fan blows into the power supply. Please pay attention to the heat generated by the input and output wires. Please consult us for more details.



#### **Instruction Manual**

♦It is neccessary to read the "Instruction Manual" and "Before using our product" before you use our product.

Instruction Manual https://www.cosel.co.jp/redirect/catalog/en/PJA/ Before using our product https://en.cosel.co.jp/technical/caution/index.html





#### **Basic Characteristics Data**

Model	Circuit method	Switching frequency [kHz]	Input current [A]	Rated input fuse	Inrush current protection circuit	PCB/Pattern			Series/Parallel operation availability	
						Material	Single sided	Double sided	Series operation	Parallel operation
PJA100F	Active filter	40 to 160	1.2 *1	250V 3.15A	Thermistor	FR-4		Yes	Yes	No
	Flyback converter	20 to 150 *2								
PJA150F	Active filter	40 to 160	1.7 *1	250V 4A	Thermistor	FR-4		Yes	Yes	No
	Flyback converter	20 to 150 *2								
PJA300F	Active filler	60	3.9 *3	250V 10A	Thermistor	FR-4		Yes	Yes	No
	Forward converter	140						res		
PJA600F	Active filler	60	7.5 *3	250V 16A	SCR	FR-4	Ye	Vaa	Yes	*4
	Forward converter	220						res		
PJA1000F	Active filter	65	12.5 *1	250V 20A	TRIAC	FR-4		Yes	Yes	*4
	Forward converter	210								
PJA1500F	Active filter	65	18.0 *1	250V 30A	TRIAC	FR-4		Yes	Yes	*4
	Forward converter	210								

- \*1 The input current shown is at ACIN 100V and 90% load.
  \*2 The burst mode frequency varies according to the operating conditions. Consult us for more details.
  \*3 The input current shown is at ACIN 100V and 100% load.
- \*4 Parallal operation is possible with -W option. see "6.Option and Other" is Instruction Manual.