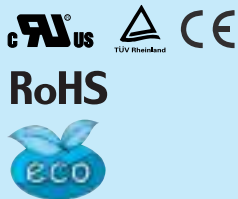


PLA100F

PL A 100 F -□ -□

① ② ③ ④ ⑤ ⑥



Recommended EMI/EMC Filter
NAC-04-472



High voltage pulse noise type : NAP series
Low leakage current type : NAM series
*The EMI/EMC Filter is recommended to connect with several devices.

- ① Series name
- ② Single output
- ③ Output wattage
- ④ Universal input
- ⑤ Output voltage
- ⑥ Optional *7
- C : with Coating
- R : Remote on/off (Required external power source)
- J : Connector interface
- T : Vertical terminal block
- L : Lower power consumption (0.5W max at AC240Vin, no load, ErP-compliant)

Refer to instruction manual 5.1 about optional.

SPECIFICATIONS

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

MODEL	PLA100F-12	PLA100F-15	PLA100F-24	PLA100F-36	PLA100F-48	
INPUT	AC85 - 264 1 φ (Output derating is required at AC85V - 115V. Refer to instruction manual 1.1 and 3.2) *3 (DC input *3)					
CURRENT[A]	ACIN 100V	1.2typ (Io=90%)				
	ACIN 115V	1.1typ (Io=100%)				
	ACIN 230V	0.6yp (Io=100%)				
FREQUENCY[Hz]	50 / 60 (47 - 63) (DC input and 440Hz *3)					
EFFICIENCY[%]	ACIN 100V	82typ (Io=90%)	83typ (Io=90%)	85typ (Io=90%)	86typ (Io=90%)	86typ (Io=90%)
	ACIN 115V	82typ (Io=100%)	83typ (Io=100%)	85typ (Io=100%)	86typ (Io=100%)	86typ (Io=100%)
	ACIN 230V	85typ (Io=100%)	86typ (Io=100%)	88typ (Io=100%)	89typ (Io=100%)	89typ (Io=100%)
POWER FACTOR	ACIN 100V	0.98typ (Io=90%)				
	ACIN 115V	0.98typ (Io=100%)				
	ACIN 230V	0.95typ (Io=100%) * Power factor correction is stopped at AC250V or more.				
INRUSH CURRENT[A]	ACIN 100V	16typ (Io=90%) Ta=25°C at cold start				
	ACIN 115V	16typ (Io=100%) Ta=25°C at cold start				
	ACIN 230V	32typ (Io=100%) Ta=25°C at cold start				
LEAKAGE CURRENT[ma]	0.75max (ACIN 115V / 240V, 60Hz, Io=100%, According to IEC60950-1 and DEN-AN)					
OUTPUT	VOLTAGE[V]	12	15	24	36	48
CURRENT[A]	ACIN 85-115V	Output derating is required at ACIN 115V or less (refer to instruction manual 3.2)				
	ACIN 115V-264V	8.4	6.7	4.3	2.8	2.1
WATTAGE[W]	ACIN 85-115V	Output derating is required at ACIN 115V or less (refer to instruction manual 3.2)				
	ACIN 115V-264V	100.8	100.5	103.2	100.8	100.8
LINE REGULATION[mV]	*4	48max	60max	96max	144max	192max
LOAD REGULATION [mV]	Io=30 to 100%	100max	120max	150max	150max	300max
	Io=0 to 30%	Burst operation (Please contact us about detail)				
RIPPLE[mVp-p]	0 to +40°C	120max	120max	120max	150max	150max
	-10 to 0°C	160max	160max	160max	200max	400max
	Io: load factor	Io=0 to 30%	500max	500max	500max	500max
RIPPLE NOISE[mVp-p]	0 to +40°C	150max	150max	150max	200max	200max
	-10 to 0°C	180max	180max	180max	240max	500max
	Io: load factor	Io=0 to 30%	600max	600max	600max	600max
TEMPERATURE REGULATION[mV]	0 to +40°C	120max	150max	240max	360max	480max
	-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 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	54.00 to 67.20	
OPERATING INDICATION	LED (Green)					
REMOTE SENSING	Not provided					
REMOTE ON/OFF	Optional (Required external power source. Option -R)					
ISOLATION	INPUT-OUTPUT • RC	*9 AC3,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At room temperature)				
INPUT-FG	AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At room temperature)					
OUTPUT • RC-FG	*9 AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (At room temperature)					
OUTPUT-RC	*9 AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ 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/s ² (2G), 3minutes period, 60minutes each along X, Y and Z axes					
IMPACT	196.1m/s ² (20G), 11ms, once each X, Y and Z axes					
SAFETY AND NOISE REGULATIONS	AGENCY APPROVALS	UL60950-1, C-UL (CSA60950-1), EN60950-1, EN50178, UL508 (Except option -J) Complies with DEN-AN				
CONDUCTED NOISE	Complies with FCC-B, VCCI-B, CISPR22-B, EN55011-B, EN55022-B					
HARMONIC ATTENUATOR *8	Complies with IEC61000-3-2 class A					

SPECIFICATIONS

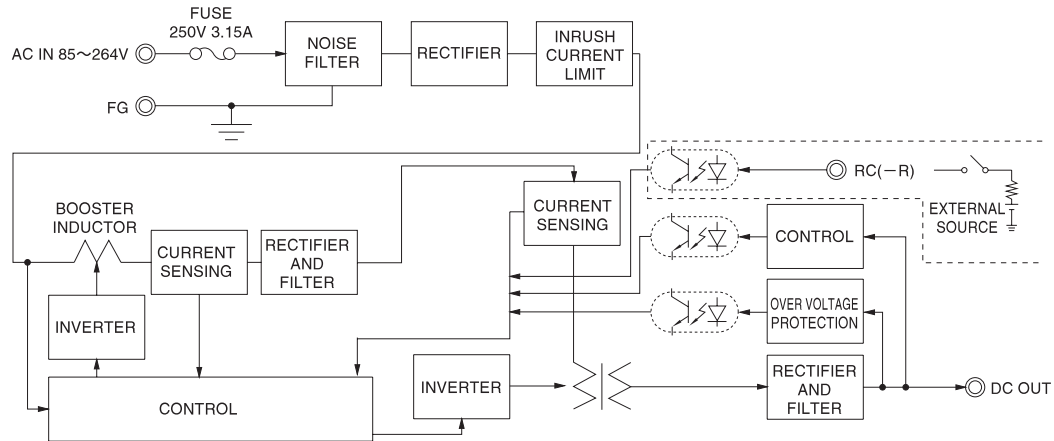
OTHERS	CASE SIZE/WEIGHT	41 X 97 X 109mm [1.61 X 3.82 X 4.29 inches] (Excluding terminal block and screw) (W X H X D) / 500g max
	COOLING METHOD	Convection
WARRANTY	WARRANTY	*6 5-year (Depends on the used condition)

- *1 This is the value that measured on measuring board with capacitor of 22 μ F and 0.1 μ F at 150mm from output terminal. Measured by 20MHz oscilloscope or Ripple-Noise meter (Equivalent to KEISOKU-GIKEN: RM103). Please refer to the instruction manual 1.6. Ripple and ripple noise spec is change at $I_o=0 \sim 30\%$ by low power mode.
- *2 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C.
- *3 Derating is required. As for DC input, please contact us.
- *4 Please contact us about dynamic load and input response. Also, please measure output voltage in average mode because of burst operation at 30% load or less.
- *5 Derating is required. Please refer to instruction manual 3.2.
- *6 As for detail condition, please refer to instruction manual 3.3.
- *7 Please contact us about safety approvals for the model with option.
- *8 Please contact us about other class.
- *9 RC terminal is applied at option -R. And RC terminal is isolated from input, output and FG.
- * To meet the specifications, do not operate over-loaded condition.
- * Parallel operation is not possible.
- * A sound may occur from power supply at peak loading.

Features

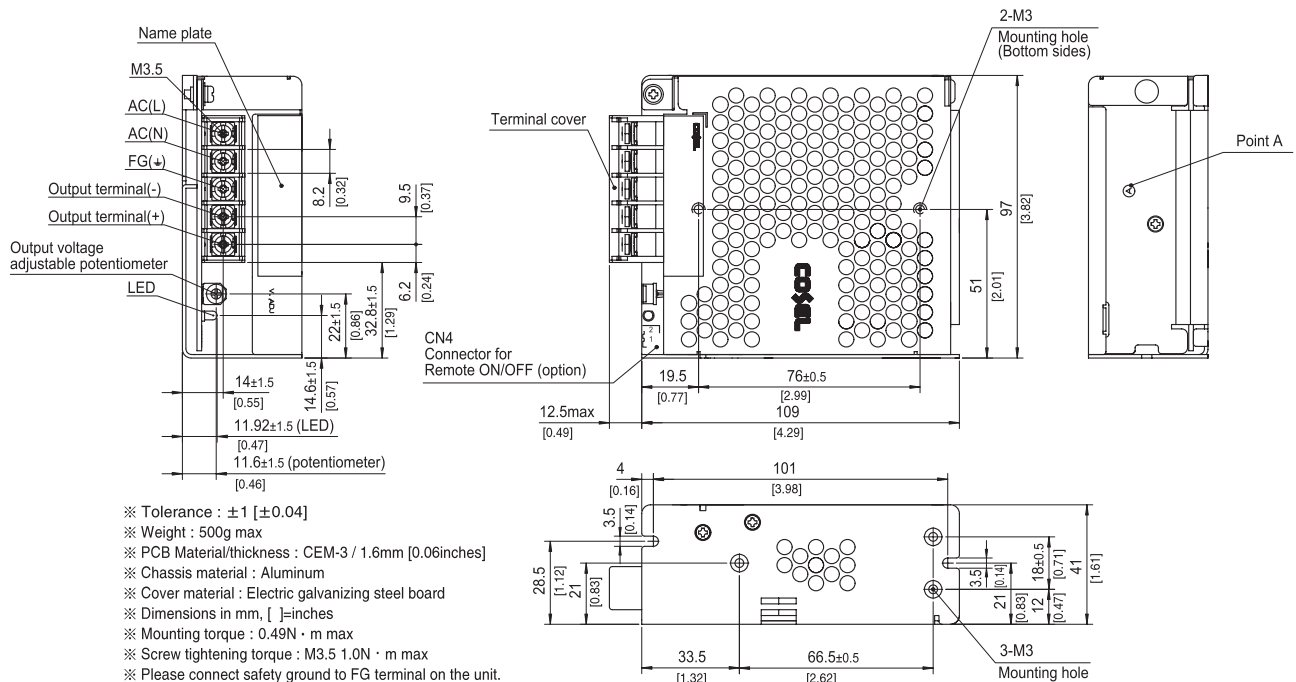
- Compact design (Depth: 109mm 4.29inches)
- High efficiency (88%typ PLA100F-24, AC230Vin, 100% load)
- Low power consumption (1.5W typ AC240Vin, no load at standard model)
- Lower power consumption (0.5Wmax AC240Vin, no load at option -L: refer to instruction manual)
- UL508 approved, and complies with SEMI F-47 (Depends on the used condition)
- Various option (Optional connectors : Vertical terminal block, Connector wiring)

Block diagram



External view

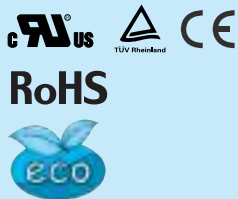
External size of option R, J and T is different from standard model, and refer to "5 Option and others" of instruction manual for detail.



PLA150F

PL A 150 F -□ -□

① ② ③ ④ ⑤ ⑥



Recommended EMI/EMC Filter
NAC-04-472



High voltage pulse noise type : NAP series
Low leakage current type : NAM series
*The EMI/EMC Filter is recommended to connect with several devices.

- ① Series name
- ② Single output
- ③ Output wattage
- ④ Universal input
- ⑤ Output voltage
- ⑥ Optional *7
- C : with Coating
- R : Remote on/off (Required external power source)
- J : Connector interface
- T : Vertical terminal block
- L : Lower power consumption (0.5W max at AC240Vin, no load, ErP-compliant)

Refer to instruction manual 5.1 about optional.

SPECIFICATIONS

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

MODEL	PLA150F-12	PLA150F-15	PLA150F-24	PLA150F-36	PLA150F-48	
INPUT	AC85 - 264 1 φ (Output derating is required at AC85V - 115V. Refer to instruction manual 1.1 and 3.2) *3 (DC input *3)					
VOLTAGE[V]						
	ACIN 100V	1.7typ (Io=90%)				
	ACIN 115V	1.6typ (Io=100%)				
CURRENT[A]	ACIN 230V	0.8typ (Io=100%)				
	FREQUENCY[Hz] 50 / 60 (47 - 63) (DC input and 440Hz *3)					
	EFFICIENCY[%]	ACIN 100V	84typ (Io=90%)	84typ (Io=90%)	87typ (Io=90%)	87typ (Io=90%)
ACIN 115V		84typ (Io=100%)	84typ (Io=100%)	87typ (Io=100%)	87typ (Io=100%)	87typ (Io=100%)
ACIN 230V		87typ (Io=100%)	87typ (Io=100%)	90typ (Io=100%)	90typ (Io=100%)	90typ (Io=100%)
POWER FACTOR	ACIN 100V	0.98typ (Io=90%)				
	ACIN 115V	0.98typ (Io=100%)				
	ACIN 230V	0.95typ (Io=100%) * Power factor correction is stopped at AC250V or more.				
INRUSH CURRENT[A]	ACIN 100V	16typ (Io=90%) Ta=25°C at cold start				
	ACIN 115V	16typ (Io=100%) Ta=25°C at cold start				
	ACIN 230V	32typ (Io=100%) Ta=25°C at cold start				
LEAKAGE CURRENT[ma]	0.75max (ACIN 115V / 240V, 60Hz, Io=100%, According to IEC60950-1 and DEN-AN)					
OUTPUT	VOLTAGE[V]	12	15	24	36	48
CURRENT[A]	ACIN 85-115V	Output derating is required at ACIN 115V or less (refer to instruction manual 3.2)				
	ACIN 115V-264V	12.5	10	6.4	4.2	3.2
WATTAGE[W]	ACIN 85-115V	Output derating is required at ACIN 115V or less (refer to instruction manual 3.2)				
	ACIN 115V-264V	150.0	150.0	153.6	151.2	153.6
LINE REGULATION[mV]	*4	48max	60max	96max	144max	192max
LOAD REGULATION [mV]	Io=30 to 100%	100max	120max	150max	150max	300max
	Io=0 to 30%	Burst operation (Please contact us about detail)				
RIPPLE[mVp-p]	0 to +40°C	120max	120max	120max	150max	150max
	-10 to 0°C	160max	160max	160max	200max	400max
	Io: load factor	Io=0 to 30%	500max	500max	500max	500max
RIPPLE NOISE[mVp-p]	0 to +40°C	150max	150max	150max	200max	200max
	-10 to 0°C	180max	180max	180max	240max	500max
	Io: load factor	Io=0 to 30%	600max	600max	600max	600max
TEMPERATURE REGULATION[mV]	0 to +40°C	120max	150max	240max	360max	480max
	-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 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	54.00 to 67.20	
OPERATING INDICATION	LED (Green)					
REMOTE SENSING	Not provided					
REMOTE ON/OFF	Optional (Required external power source. Option -R)					
ISOLATION	INPUT-OUTPUT • RC	*9 AC3,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At room temperature)				
INPUT-FG	AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At room temperature)					
OUTPUT • RC-FG	*9 AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (At room temperature)					
OUTPUT-RC	*9 AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ 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/s ² (2G), 3minutes period, 60minutes each along X, Y and Z axes					
IMPACT	196.1m/s ² (20G), 11ms, once each X, Y and Z axes					
SAFETY AND NOISE REGULATIONS	AGENCY APPROVALS	UL60950-1, C-UL (CSA60950-1), EN60950-1, EN50178, UL508 (Except option -J) Complies with DEN-AN				
CONDUCTED NOISE	Complies with FCC-B, VCCI-B, CISPR22-B, EN55011-B, EN55022-B					
HARMONIC ATTENUATOR	*8	Complies with IEC61000-3-2 class A				

SPECIFICATIONS

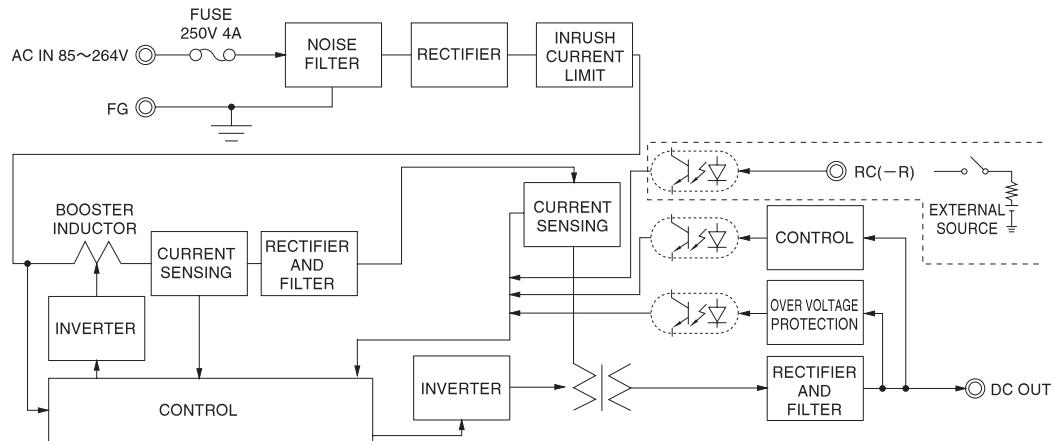
OTHERS	CASE SIZE/WEIGHT	41 X 97 X 129mm [1.61 X 3.82 X 5.08 inches] (Excluding terminal block and screw) (W X H X D) / 600g max
	COOLING METHOD	Convection
WARRANTY	WARRANTY	*6 5-year (Depends on the used condition)

- *1 This is the value that measured on measuring board with capacitor of 22 μ F and 0.1 μ F at 150mm from output terminal. Measured by 20MHz oscilloscope or Ripple-Noise meter (Equivalent to KEISOKU-GIKEN: RM103). Please refer to the instruction manual 1.6. Ripple and ripple noise spec is change at $I_o=0 \sim 30\%$ by low power mode.
- *2 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C.
- *3 Derating is required. As for DC input, please contact us.
- *4 Please contact us about dynamic load and input response. Also, please measure output voltage in average mode because of burst operation at 30% load or less.
- *5 Derating is required. Please refer to instruction manual 3.2.
- *6 As for detail condition, please refer to instruction manual 3.3.
- *7 Please contact us about safety approvals for the model with option.
- *8 Please contact us about other class.
- *9 RC terminal is applied at option -R. And RC terminal is isolated from input, output and FG.
- * To meet the specifications, do not operate over-loaded condition.
- * Parallel operation is not possible.
- * A sound may occur from power supply at peak loading.

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)
- Lower power consumption (0.5Wmax AC240Vin, no load at option -L: refer to instruction manual)
- UL508 approved, and complies with SEMI F-47 (Depends on the used condition)
- Various option (Optional connectors : Vertical terminal block, Connector wiring)

Block diagram



External view

External size of option R, J and T is different from standard model, and refer to "5 Option and others" of instruction manual for detail.

