PPWA150B Power Supply Series (150W)

Features:

- Compact Size 2" x 4" x 1.02"
- Wide-range Input 90-264 VAC
- Level B Emissions
- RoHS Compliant
- U Channel and Open Frame Options
- Built-in Active PFC
- High Power Density 18.75W/in^3

Description:

The PPWA150 series of compact, open-framed AC-DC switching power supplies offers a high power density to fit in a small space. This dense 2" x 4" platform offers up to 150W of continuous power across a wide range of operating temperatures, all while maintaining a low emissions profile. All models meet FCC, EN55011, and CISPR11 class B emission limits, and comply with CE, IEC, and more.

Model Number	Output Voltage	Minimum Load	Maximum Load with Convection Cooling	Maximum Load with 12CFM or Fan Option	Output Watts	O/P Regulation	Ripple & Noise (Vp-p)
PPWA150B-12	12V	0A	8.33A	12.5A	150W	3%	150mV
PPWA150B-13	15V	0A	6.67A	10A	150W	3%	150mV
PPWA150B-13-2	19V	0A	5.26A	7.89A	150W	3%	190mV
PPWA150B-14	24V	0A	4.16A	6.25A	150W	3%	240mV
PPWA150B-15	28V	0A	3.57A	5.35A	150W	3%	280mV
PPWA150B-18	48V	0A	2.08A	3.12A	150W	3%	300mV

Notes:
1. At 25°C including initial tolerance, line voltage, load currents and output voltages adjusted to factory settings.
2. Peak-to-peak with 20MHz bandwidth with a tantalum 10uF in parallel with a 0.1uF ceramic capacitor.
3. For U-Channel version, add suffix "B" to part number. Example PPWA150B-12B.

General Note
All data sheets are subject to change without notice.

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Specifications

Input

Input Voltage	90-264VAC
Input Frequency	47-63Hz
Input Current	2.0A (rms) for 100VAC 1.0A (rms) for 240VAC
Inrush Current	90A @ 230 VAC, at 25°C cold start
Earth Leakage Current	440 µA max. @ 264 VAC, 60 Hz
No Load Input Power	<0.3 watts
Power Factor	>0.9

Output

Output Voltage/Current	See Rating Chart
Maximum Output Power	See Rating Chart
Hold Up Time	16ms minimum at 115 VAC
Line Regulation	±0.5% maximum at full load
Efficiency	85% typical
Switching Frequency	65 KHz
Minimum Load	No Minimum Load

Protection Features

Overvoltage Protection	Set at 105-140% of its nominal output voltage
Overcurrent Protection	All outputs protected to short circuit conditions. Auto recovery.
Temperature Coefficient	All outputs ±0.04% /°C maximum
Transient Response	Maximum excursion of 5% or better on all models, recovering to 1% of final value within 500 us after a 50% step load change.

Environmental

Operating Temperature	0°C to +70°C
Low Temperature Startup	-25°C. Some operating parameters may be exceeded for the initial 20 minutes of warm-up
Storage Temperature	-25°C to +85°C
Relative Humidity	5% to 95% non-condensing
Derating	Derate linearly from 150W at 50°C to 75W at 70°C with 12 CFM airflow. Derate linearly from 100W at 40°C to 50W at 60°C with convection cooling.

General Specifications

Dimensions	4"(101.6mm) x 2"(50.8mm) x 1.02"(29mm)
MTBF	100,000 hours at full load at 25ºCambient calculated per MIL-HDBK-217F

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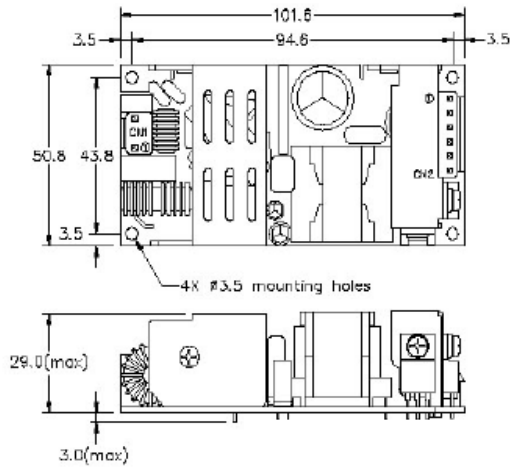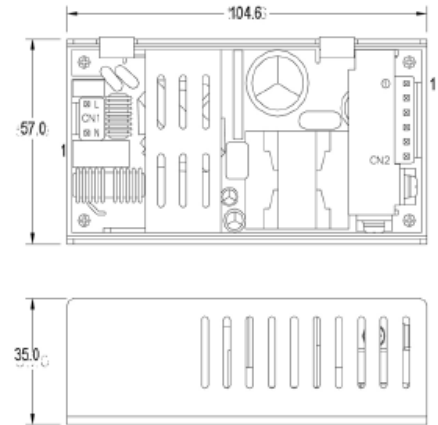| Specifications Continued	
Safety	
Approvals USA/Canada	UL60950-1 CSA C22.2 No. 60950-1
Approvals Europe	Nemko EN60950-1 CB IEC 60950-1
Isolation	3000 VAC from input to output 1500 VAC from input to ground 500 VAC from output to ground
*Consult with TT Electronics for information on additional country safety approvals	
EMC	
EN55022 FCC	Class B conducted Class B conducted
Harmonic Currents Voltage Flicker Electrostatic Discharge Radiated Immunity EFT/Burst Surge Immunity Conducted Immunity Magnetic Field Dips/Interruptions	IEC 61000-3-2: Class D IEC 61000-3-3 IEC 61000-4-2: ±8kV Air, ±4kV contact IEC 61000-4-3: 3V/m IEC 61000-4-4: ±1kV IEC 61000-4-5: 1kV diff, 2kV com IEC 61000-4-6: 3Vrms IEC 61000-4-8: 1A/m IEC 61000-4-11: Voltage dip immunity, 30% reduction for 500ms, >95% reduction for 10ms

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Open Frame

4X ⌀3.5 mounting holes

U-Channel

MATING CONNECTORS

CN1 = AC Input JST B3P-VH-B or Equivalent, mates with
JST VHR-3N or Equivalent
CN2 = DC Output JST B6P-VH-B or Equivalent, mates with
JST VHR-6N or Equivalent

2X M3 P0.5 for mounting

Pin #	Signal
1	AC Neutral
2	AC Line

Pin #	Signal
1	GND
2	GND
3	GND
4	+Vo
5	+Vo
6	+Vo

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