

Features:

- Compact Size 1.5" x 3.0" x 0.94"
- Single Outputs
- Wide-range Input 90-264 VAC
- Level B Emissions
- RoHS Compliant
- CEC Level V Compliant
- LPS Compliant



Description:

The PPWA40 series of compact, open-framed AC-DC switching power supplies offers a high power density to fit in a small space. This dense 1.5" x 3" platform offers up to 40W 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	Nominal Voltage	Tolerance	Output Current			Power		Efficiency	Ripple & Noise
			Min	Max	Peak	Max	Peak		
PPWA40-10	5V	±5%	0A	5A	7A	25W	35W	84%	100mV
PPWA40-12	12V	±5%	0A	3.34A	4.17A	40W	50W	87%	120mV
PPWA40-13	15V	±5%	0A	2.67A	3.34A	40W	50W	89%	150mV
PPWA40-13-1	18V	±5%	0A	2.23A	2.78A	40W	50W	89%	180mV
PPWA40-14	24V	±5%	0A	1.67A	2.09A	40W	50W	90%	240mV
PPWA40-17	36V	±5%	0A	1.12A	1.39A	40W	50W	90%	240mV
PPWA40-18	48V	±5%	0A	0.84A	1.05A	40W	50W	91%	240mV

Specifications	
Input	
Input Voltage	90-264VAC
Input Frequency	47-63Hz
Input Current	1.1A (rms) for 100VAC 0.5A (rms) for 240VAC
Inrush Current	80A @ 230 VAC, at 25°C cold start
Earth Leakage Current	400 μ A max. @ 264 VAC, 60 Hz
No Load Input Power	<0.3 watts
Output	
Output Voltage/Current	See Rating Chart
Maximum Output Power	See Rating Chart
Hold Up Time	6ms minimum at 115 VAC
Line Regulation	$\pm 0.5\%$ maximum at full load
Efficiency	Up to 91%, see rating chart
Switching Frequency	60-70 KHz
Minimum Load	No Minimum Load
Protection Features	
Overvoltage Protection	Set at 110-130% of its nominal output voltage
Overcurrent Protection	All outputs protected to short circuit conditions. Auto recovery.
Temperature Coefficient	All outputs $\pm 0.04\%$ /°C maximum
Transient Response	Maximum excursion of 5% or better on all models, recovering to 1% of final value within 500 μ s after a 50% step load change.
Environmental	
Operating Temperature	0°C to +70°C
Storage Temperature	-40°C to +85°C
Relative Humidity	5% to 95% non-condensing
Derating	Derate from 100% to +50°C linearly to 50% at +70°C
General Specifications	
Dimensions	3" x 1.5" x 1"
MTBF	150,000 hours at full load at 25°C ambient calculated per MIL-HDBK -217F
LPS	All models, except PPWA40-10

Specifications Continued

Safety

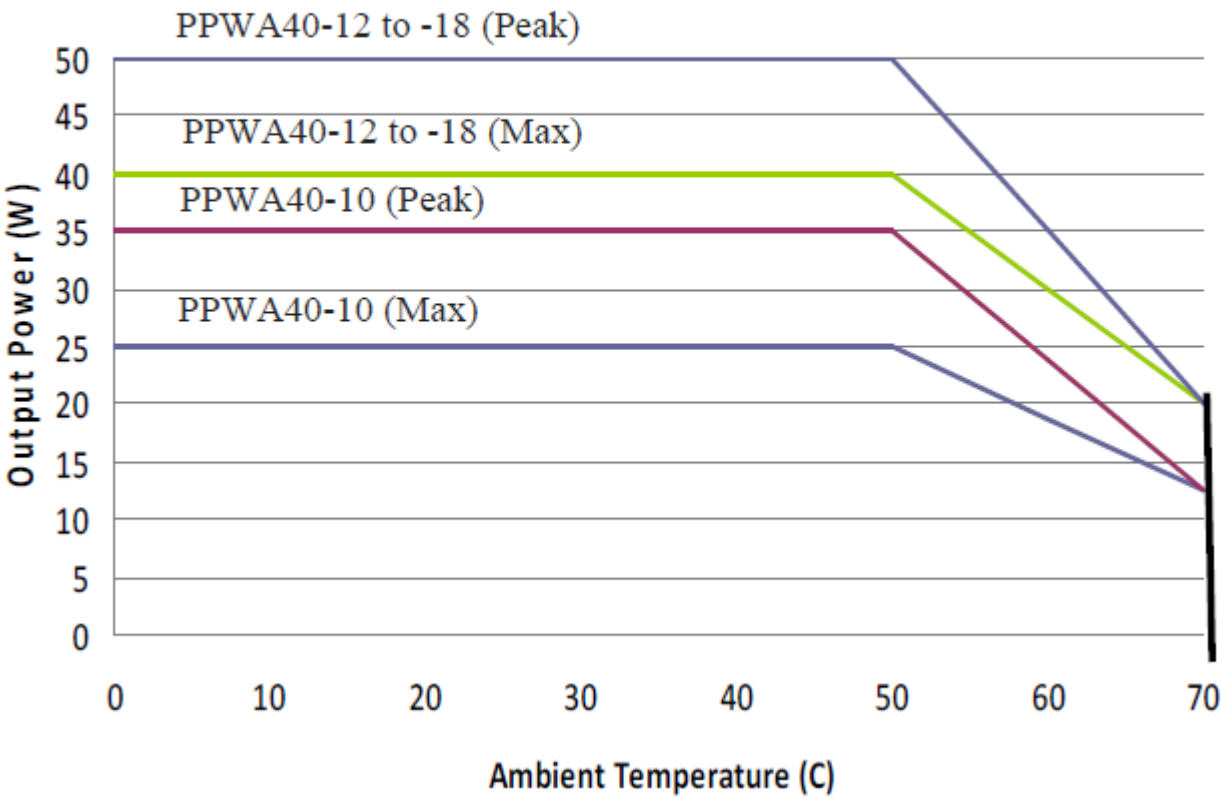
Approvals USA/Canada	UL60950-1 CSA C22.2 No. 60950-1
Approvals Europe	Nemko EN60950-1 CB IEC 60950-1
Isolation	3000 VAC from input to output 1500 VAC from input to ground 500 VAC from output to ground

*Consult with TT Electronics for information on additional country safety approvals

EMC

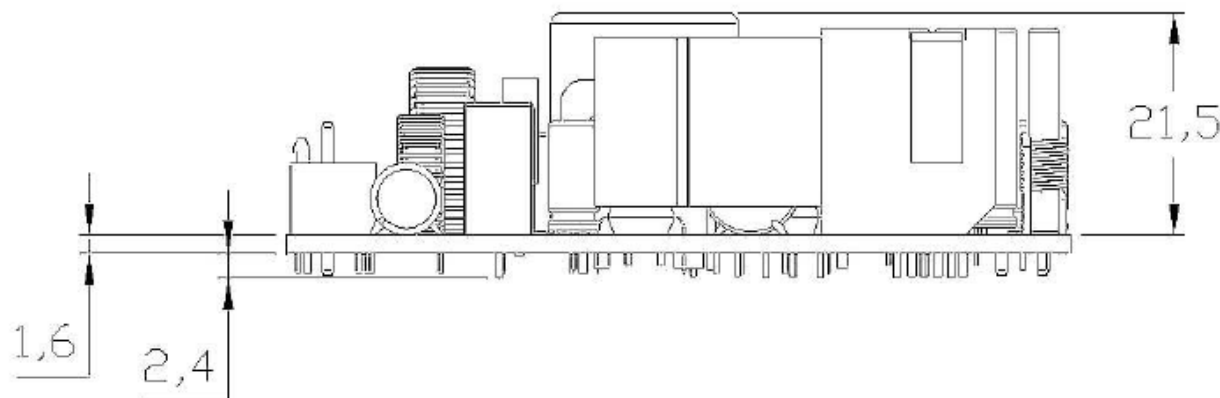
EN55022 FCC VCCI	Class B conducted, class B radiated Class B conducted, class B radiated Class B conducted, class B radiated
Harmonic Currents Voltage Flicker Electrostatic Discharge Radiated Immunity EFT/Burst Surge Immunity Conducted Immunity Magnetic Field Dips/Interruptions	IEC 61000-3-2: Class A IEC 61000-3-3 IEC 61000-4-2: $\pm 8\text{kV}$ Air, $\pm 4\text{kV}$ contact IEC 61000-4-3: 3V/m IEC 61000-4-4: $\pm 1\text{kV}$ 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

Output Power Derating Curve



Mechanical Outline & Pin Connections

PPWA40-1X Models



PPWA40-xx Models

Dimensions: L76.2xW38.1xH25.5mm (3" x 1.5" x 1.0")

Connectors and Pin Assignment

Connector Information:

CN1: Input Connector

JST B3P-VH-B pitch: 7.92mm or equivalent,
mates with JST VHR-3N or equivalent

Pin #	Signal
1	AC Neutral
2	AC Line

CN2: Output Connector

JST B2P-VH-B pitch: 3.96mm or equivalent,
mates with JST VHR-2N or equivalent

Pin #	Signal
1	GND
2	+Vo

