Power Block Micro-Miniature 12 Watt Switching Power Supplies — PWC12



- ☑ 12 Watts Output Power
- ☑ 3.3 VDC to 48 VDC Single Outputs
- ☑ Universal 90-264 VAC Input, 50/60/440 Hz
- ☑ 3,000 VAC Input to Output Isolation
- ☑ EN55022 Class B EMI
- ☑ -25 to +65°C Ambient Operating Temperature
- ☑ IEC 62368-1 and IEC 60950-1 Safety

PRODUCT MODELS

Model	Output Voltage	Output Current	Output Power	Size (inches)	Typical Efficiency
SIP Style Open Frame					
PWC12-3.3S	3.3 VDC	3.01 A	10 W	1.12 x 2.0 x 0.83	72%
PWC12-5S	5 VDC	2.4 A	12 W	1.12 x 2.0 x 0.83	75%
PWC12-9S	9 VDC	1.34 A	12 W	1.12 x 2.0 x 0.83	78%
PWC12-12S	12 VDC	1.0 A	12 W	1.12 x 2.0 x 0.83	80%
PWC12-15S	15 VDC	0.8 A	12 W	1.12 x 2.0 x 0.83	80%
PWC12-24S	24 VDC	0.5 A	12 W	1.12 x 2.0 x 0.83	82%
PWC12-48S	48 VDC	0.25 A	12 W	1.12 x 2.0 x 0.83	82%
SIP Style Encapsulated					
PWC12-3.3SE	3.3 VDC	3.01 A	10 W	1.24 x 2.11 x 0.92	72%
PWC12-5SE	5 VDC	2.4 A	12 W	1.24x 2.11 x 0.92	75%
PWC12-9SE	9 VDC	1.34 A	12 W	1.24 x 2.11 x 0.92	78%
PWC12-12SE	12 VDC	1.0 A	12 W	1.24 x 2.11 x 0.92	80%
PWC12-15SE	15 VDC	0.8 A	12 W	1.24 x 2.11 x 0.92	80%
PWC12-24SE	24 VDC	0.5 A	12 W	1.24 x 2.11 x 0.92	82%
PWC12-48SE	48 VDC	0.25 A	12 W	1.24 x 2.11 x 0.92	82%

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Model	Output Voltage	Output Current	Output Power	Size (inches)	Typical Efficiency
DIP Style Open Frame					
PWC12-3.3	3.3 VDC	3.01 A	10 W	1.0 x 2.0 x 0.9	72%
PWC12-5	5 VDC	2.4 A	12 W	1.0 x 2.0 x 0.9	75%
PWC12-9	9 VDC	1.34 A	12 W	1.0 x 2.0 x 0.9	78%
PWC12-12	12 VDC	1.0 A	12 W	1.0 x 2.0 x 0.9	80%
PWC12-15	15 VDC	0.8 A	12 W	1.0 x 2.0 x 0.9	80%
PWC12-24	24 VDC	0.5 A	12 W	1.0 x 2.0 x 0.9	82%
PWC12-48	48 VDC	0.25 A	12 W	1.0 x 2.0 x 0.9	82%
DIP Style Encapsulated					
PWC12-3.3E	3.3 VDC	3.01 A	10 W	1.07 x 2.06 x 0.91	72%
PWC12-5E	5 VDC	2.4 A	12 W	1.07 x 2.06 x 0.91	75%
PWC12-9E	9 VDC	1.34 A	12 W	1.07 x 2.06 x 0.91	78%
PWC12-12E	12 VDC	1.0 A	12 W	1.07 x 2.06 x 0.91	80%
PWC12-15E	15 VDC	0.8 A	12 W	1.07 x 2.06 x 0.91	80%
PWC12-24E	24 VDC	0.5 A	12 W	1.07 x 2.06 x 0.91	82%
PWC12-48E	48 VDC	0.25 A	12 W	1.07 x 2.06 x 0.91	82%

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INPUT SPECIFICATIONS

Input Voltage Range	90-264VAC
Input Frequency	47-440 Hz (50-60 Hz nom.)
Inrush Current	20A typ at 115VAC 40A typ at 230VAC

MAIN OUTPUT SPECIFICATIONS

Output Voltage	See model selection table
Output Power	See model selection table
Preset Accuracy (Note 8)	±1.5% typ, Vout = 3.3V ±1% typ, Vout = 5~48V
Load Regulation (Note 6)	±1% max
Line Regulation (Note 7)	±0.5% max
Efficiency	See model selection table
Temperature Coefficient	±0.03%/°C (0~50°C, typ.)
Ripple/Noise (20MHz BW)	150mV pk-pk max (Notes 1, 2 &9)
Hold-up Time, full load	16ms typ
Over Voltage Protection*	Clamp
Short Circuit Protection*	Latching, Recovering
Over Temp Protection *	Latching, Recovering

GENERAL SPECIFICATIONS

Input to Output Isolation	3000VAC (Note 3)
Switching Frequency	132 kHz fixed, typ

MECHANICAL SPECIFICATIONS

Size	See model selection table
Package Types	Open Frame, Encapsulated

SAFETY AND COMPLIANCE CERTIFICATIONS

Safety Approvals	IEC 62368-1 and IEC 60950-1, cURus, UL-EU, CSA C22.2, CB, CE
Conducted and Radiated Emissions	EN 55022 (CISPR22), Class B

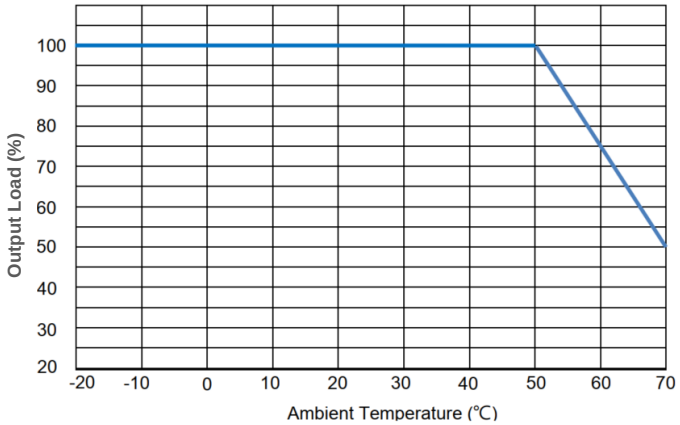
All Specifications are typical at nominal input, full load, 25°C unless specified otherwise.

** These are stress ratings. Exposure of the devices to any of these conditions may adversely affect long term reliability. Operation under conditions other than the standard operating conditions is neither warrantied nor implied.*

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature (Note 4)	-20 to +50°C at Full Load, up to +70°C with Derating* See derating chart
Cooling	Free Air Convection
Storage Temperature*	-40 to +85°C
Operating Humidity	0% to 95%, non-condensing
MTBF (MIL-HDBK-217F)	466,553 hrs

THERMAL DERATING



Notes:

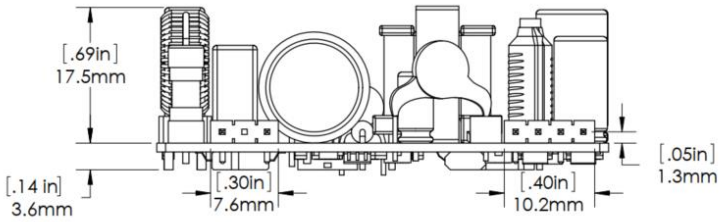
1. All measurements should be made directly at the terminals of the power supply
2. Ripple and noise dependent upon output voltage as specified per particular model.
3. Isolation for up to 1 minute duration.
4. Specified for free air convection cooling.
5. Minimum load is not required for proper operation.
6. Load Regulation is measured from 5% to Full Load.
7. Line Regulation measured from High Line to Low Line.
8. Preset Accuracy measured at nominal load, 120VAC input.
9. O/P Noise measured directly at the pins/ terminals at nominal load, 0.1uF bypass and 47uF electrolytic, pk-pk @ 20MHz bandwidth.
10. 100% Production Tested

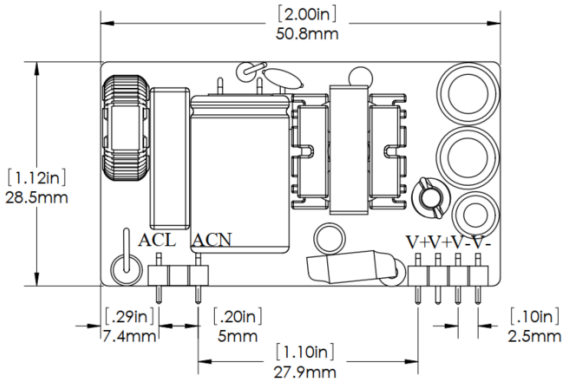
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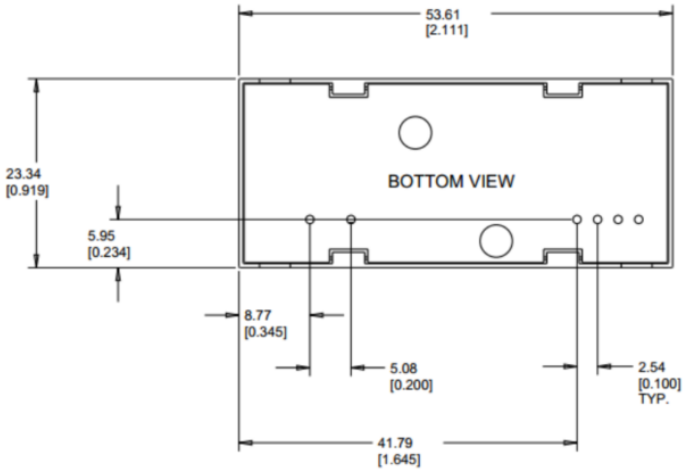
OUTLINE DRAWINGS

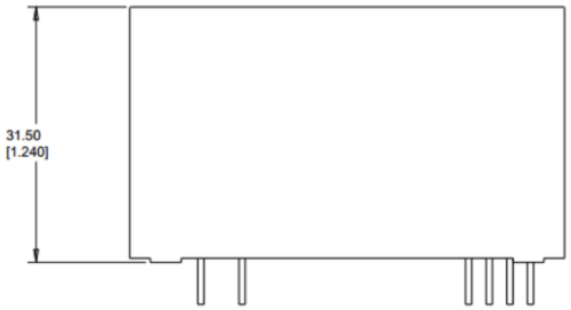
SIP Style Open Frame





SIP Style Encapsulated

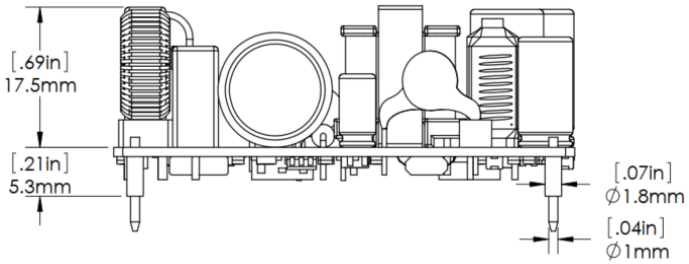


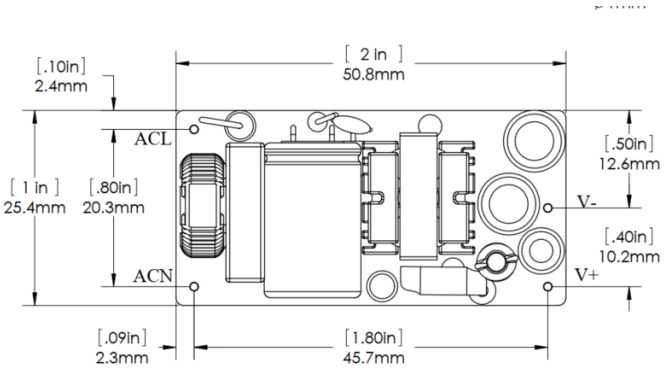


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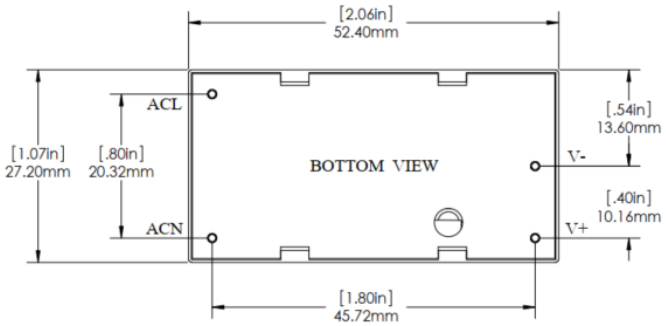
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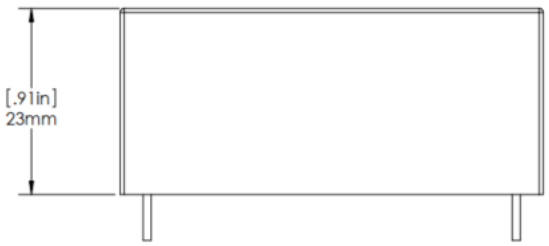
DIP Style Open Frame





DIP Style Encapsulated





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