

## Power Block Micro-Miniature 5 Watt Switching Power Supplies

**PWC**



- ✓ 5 Watts Output Power
- ✓ 3.3 VDC to 24 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 |
|-------------------------------|----------------|----------------|--------------|--------------------|--------------------|
| <b>SIP Style Open Frame</b>   |                |                |              |                    |                    |
| PWC-3.3S                      | 3.3 VDC        | 1.25 A         | 4.1 W        | 1.12 x 1.93 x 0.51 | 65%                |
| PWC-5S                        | 5 VDC          | 1.0 A          | 5 W          | 1.12 x 1.93 x 0.51 | 72%                |
| PWC-12S                       | 12 VDC         | 0.42 A         | 5 W          | 1.12 x 1.93 x 0.51 | 73%                |
| PWC-15S                       | 15 VDC         | 0.34 A         | 5 W          | 1.12 x 1.93 x 0.51 | 75%                |
| PWC-24S                       | 24 VDC         | 0.23 A         | 5 W          | 1.12 x 1.93 x 0.51 | 76%                |
| <b>SIP Style Encapsulated</b> |                |                |              |                    |                    |
| PWC-3.3SE                     | 3.3 VDC        | 1.25 A         | 4.1 W        | 2.05 x 1.24 x 0.63 | 65%                |
| PWC-5SE                       | 5 VDC          | 1.0 A          | 5 W          | 2.05 x 1.24 x 0.63 | 72%                |
| PWC-12SE                      | 12 VDC         | 0.42 A         | 5 W          | 2.05 x 1.24 x 0.63 | 73%                |
| PWC-15SE                      | 15 VDC         | 0.34 A         | 5 W          | 2.05 x 1.24 x 0.63 | 75%                |
| PWC-24SE                      | 24 VDC         | 0.23 A         | 5 W          | 2.05 x 1.24 x 0.63 | 76%                |
| <b>DIP Style Encapsulated</b> |                |                |              |                    |                    |
| PWC-3.3E                      | 3.3 VDC        | 1.25 A         | 4.1 W        | 2.0 x 1.0 x 0.6    | 65%                |
| PWC-5E                        | 5 VDC          | 1.0 A          | 5 W          | 2.0 x 1.0 x 0.6    | 72%                |
| PWC-12E                       | 12 VDC         | 0.42 A         | 5 W          | 2.0 x 1.0 x 0.6    | 73%                |
| PWC-15E                       | 15 VDC         | 0.34 A         | 5 W          | 2.0 x 1.0 x 0.6    | 75%                |
| PWC-24E                       | 24 VDC         | 0.23 A         | 5 W          | 2.0 x 1.0 x 0.6    | 76%                |

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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<br>40A typ at 230VAC |

### MAIN OUTPUT SPECIFICATIONS

|                           |                                                       |
|---------------------------|-------------------------------------------------------|
| Output Voltage            | See model selection table                             |
| Output Power              | See model selection table                             |
| Preset Accuracy (Note 8)  | ±1% typ                                               |
| Load Regulation (Note 6)  | ±1% max, Vout=3.3 & 5V<br>±0.5% max, Vout=12,15 & 24V |
| Line Regulation (Note 7)  | ±1% max, Vout=3.3 & 5V<br>±0.5% max, Vout=12,15 & 24V |
| Efficiency                | See model selection table                             |
| Temperature Coefficient   | ±0.03%/°C (0~50°C, typ.)                              |
| Ripple/Noise (20MHz BW)   | 150mV pk-pk max<br>(Notes 1, 2 & 9)                   |
| Hold-up Time, full load   | 10ms typ                                              |
| Over Voltage Protection*  | Clamp                                                 |
| Short Circuit Protection* | Auto-recovery                                         |
| Over Temp Protection *    | Auto-recovery                                         |

### 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,<br>cURus, UL-EU, CSA C22.2, CB, CE |
| Conducted and Radiated Emissions | EN 55022 (CISPR22), Class B                                     |

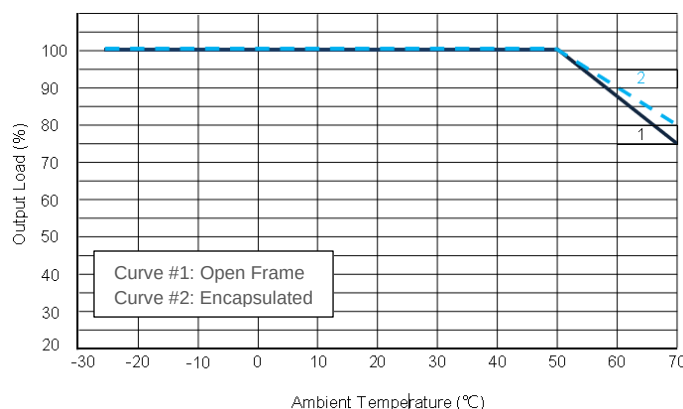
All Specifications are typical at nominal input, full load, 25°C unless specified otherwise.

### ENVIRONMENTAL SPECIFICATIONS

|                                |                                                                                |
|--------------------------------|--------------------------------------------------------------------------------|
| Operating Temperature (Note 4) | -20 to +50°C at Full Load,<br>up to +70°C with Derating*<br>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                                                                    |

\* 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 warranted nor implied.

### THERMAL DERATING

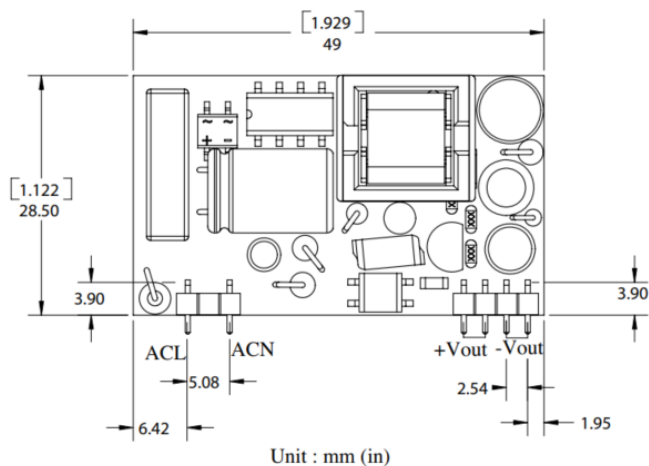
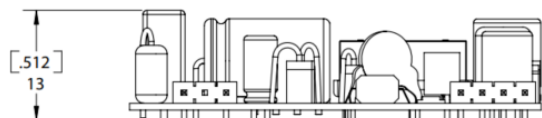


#### Notes:

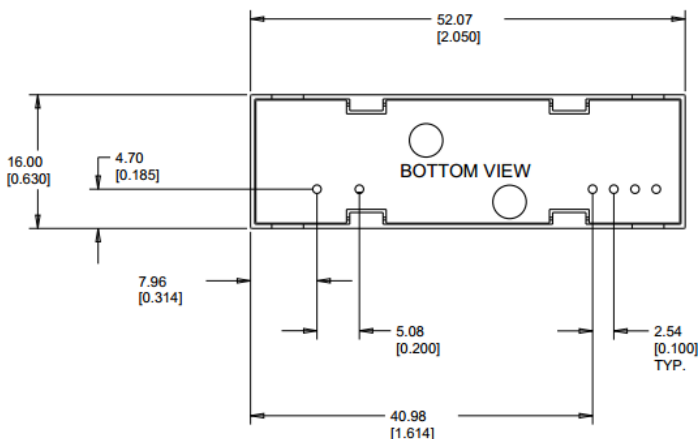
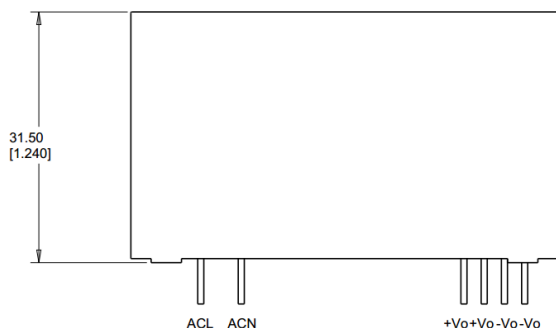
1. All measurements should be made directly at the terminals of the power supply
2. Ripple and noise dependent upon output voltage as specified per particular model.
3. Isolation for up to 1 minute duration.
4. Specified for free air convection cooling.
5. Minimum load is not required for proper operation.
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

## OUTLINE DRAWINGS

### SIP Style Open Frame



### SIP Style Encapsulated



### DIP Style Encapsulated

