EO2801

VME Power Converter Card

(Document Rev A04 09/17/15)

Features

- 28Vdc per MIL-STD-704F *
- 3 Output Voltages, 336W
- MIL-STD-810E Environment *
- MIL-STD-461E EMI *
- Single Slot VME Power Card

* Designed to meet portions of the standard. Contact Aegis Power for details.

Table 1: Maximum Ratings

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Rating</th>
<th>Unit</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vin max range</td>
<td>22 to 29 Vdc</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temperature</td>
<td>–40 to +75 °C</td>
<td></td>
<td>336W @ Baseplate Wedgelocks</td>
</tr>
<tr>
<td>Temperature</td>
<td>–40 to +85 °C</td>
<td></td>
<td>225W @ Baseplate Wedgelocks</td>
</tr>
<tr>
<td>Combined output power</td>
<td>336     W</td>
<td></td>
<td>+75°C @ Baseplate Wedgelocks</td>
</tr>
<tr>
<td>Input power</td>
<td>395     W</td>
<td></td>
<td>@ 336W out @ 28VDC input</td>
</tr>
<tr>
<td>Max +5Vdc power (#1)</td>
<td>112     W</td>
<td></td>
<td>+75°C @ Baseplate Wedgelocks</td>
</tr>
<tr>
<td>Max +5Vdc power (#2)</td>
<td>112     W</td>
<td></td>
<td>+75°C @ Baseplate Wedgelocks</td>
</tr>
<tr>
<td>Max +12Vdc power</td>
<td>112     W</td>
<td></td>
<td>+75°C @ Baseplate Wedgelocks</td>
</tr>
</tbody>
</table>

Product Highlights

The EO2801 single slot 4HP wide 150.5mm high filtered 28Vdc input VME dc-dc power converter card has three outputs (two +5Vdc and one +12Vdc) at 336W maximum combined output. This dc-dc power converter card is a military Mil-COTS solution designed to meet portions of MIL-STD-810E vibration and shock requirements and MIL-STD-461E EMI requirements. When compared to VME power supplies using conventional technology, the single-slot EO2801 VME dc-dc power converter card provides users with higher efficiency (85% minimum), lower weight (2 lbs. max.), and higher power (up to 336W).

AEGIS Power Systems, Inc. specializes in the front end design, development, and manufacture of Rapid Response Custom AC-DC Switching Power Supplies and DC-DC Power Converters for defense, military, industrial, telecommunication, aircraft, shipboard and electric powered vehicle applications. Contact Aegis Power Systems for details on Mil-Specs that this product is designed to meet.

EO2801 Spec Sheet
1 of 4
SPECIFICATIONS

(Typical at 25°C, nominal line and 100% load, unless otherwise specified.)

DC input voltage: Designed to meet Mil-Std-704F Normal Range of 22Vdc to 29Vdc, 28Vdc nominal. 50Vdc 12.5msec transient (shut down longer, automatic restart). Shuts down for abnormal range (automatic restart).

DC input line current: 12.0A Max @ 22Vdc input (225W Output). 9.3A Typical @ 28Vdc input (225W Output). 18.0A Max @ 22Vdc input (336W Output). 13.8A Typical @ 28Vdc input (336W Output).


Output power: 225W to 336W Maximum (all outputs combined). 336W up to 75°C, 225W up to 85°C (baseplate temperature at wedgelocks).

Output voltages: See table 2.
+5Vdc (#1) 15A, 75W.
+5Vdc (#2) 15A, 75W.
+12Vdc 6.25A, 75W.

Efficiency: 85% minimum.

Start up time: 500 millisecond maximum.

Voltage set point: +/- 1%.

Line Regulation: +/- 0.1%.

Load regulation: +/- 1.5%.

Temperature regulation: +/- 0.01% / °C.

Output ripple: +5Vdc max 50mV, +12Vdc max 100mV (pk-pk with 20MHz BW).

Current Limit: Short circuit protected with automatic recovery.

Temperature: -40°C to +75°C (336W) operating baseplate @ Wedgelocks. -40°C to +85°C (225W) operating baseplate @ Wedgelocks. -55°C to +100°C Non-operating.

Cooling: Conduction through wedgelocks attached to customer rack.

Package: Pluggable slide in card.

Dimension: 150.5mm x 4HP x 160mm (see mechanical drawing page).

Weight: 2 lb. maximum.

Connector: 1ea Positronics PCIH47M400A1 or equivalent (see pin assignments page).

Shock/Vibration: Designed to meet MIL-STD-810E, ground mobile equipment (Call for details).

Humidity: 0 – 95% non-condensing.

EMI: Designed to meet MIL-STD-461E (CE102 and CS101).

Specifications subject to change without notice.
Table 2: Voltage Outputs

<table>
<thead>
<tr>
<th>Maximum individual DC outputs*</th>
<th>V1</th>
<th>V2</th>
<th>V3</th>
</tr>
</thead>
<tbody>
<tr>
<td>+5Vdc</td>
<td>+5Vdc</td>
<td>+12Vdc</td>
<td></td>
</tr>
<tr>
<td>15A</td>
<td>15A</td>
<td>6.25A</td>
<td></td>
</tr>
<tr>
<td>85°C baseplate temperature at wedgelocks</td>
<td>75W</td>
<td>75W</td>
<td>75W</td>
</tr>
<tr>
<td>22.4A</td>
<td>22.4A</td>
<td>9.3A</td>
<td></td>
</tr>
<tr>
<td>75°C baseplate temperature at wedgelocks</td>
<td>112W</td>
<td>112W</td>
<td>112W</td>
</tr>
</tbody>
</table>

* Maximum total output power is 336W, all DC outputs combined, at 75°C baseplate temp. Contact AEGIS sales for details.

Connector Pin Out Assignment

47 Pin Positronic Connector
P/N PCIH47M400A1 or Equivalent

Pins 1, 2, 3, V1 Return (+5Vdc RTN #1)
Pins 4, 5, 6, V1 OUT (+5 Vdc #1)
Pins 7, 8, 9 V2 Return (+5V RTN #2)
Pins 10, 11, 12 V2 Out (+5 Vdc #2)
Pins 13, 14 NC

Pins 15, 16, 17 V3 Return (+12 Vdc RTN)
Pins 18, 19, 20 V3 Out (+12Vdc)
Pins 21 - 31 NC

Pin 32 V1 Power OK (Collector)
Pins 33, 34 NC
Pin 35 V1 Power OK RTN (Emitter)
Pins 36, 37 NC

Pin 38 V2 Power OK (Collector)
Pin 39 Inhibit (Connected to Neg Input = Disabled)
Pin 40 NC

Pin 41 V2 Power OK RTN (Emitter)
Pin 42 NC

Pin 43 V3 Power OK RTN (Emitter)
Pin 44 V3 Power OK (Collector)

Pin 45 Chassis Ground
Pin 46 Positive Input
Pin 47 Negative Input