BG2802

DC-DC Power Converter

(Document Rev A09, 2/18/19)

28Vdc Input
Single Output, 218W Max Total

Market: Military Cots
Application: Aircraft Electronic Equipment

Features

- 28Vdc per MIL-STD-704A/E/F *
- MIL-STD-1275A/B/D*
- Single Output, 218W
- MIL-STD-810F Environmental *
- MIL-STD-461E EMI *
- Enclosed Case Power Converter

* Designed to meet portions of the standard. Contact Aegis Power Systems 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>20 to 36</td>
<td>Vdc</td>
<td></td>
</tr>
<tr>
<td>Temperature</td>
<td>–55 to +85 °C</td>
<td>91°C for 30 minutes</td>
<td></td>
</tr>
<tr>
<td>Output Power</td>
<td>218</td>
<td>W</td>
<td>See Table 2</td>
</tr>
<tr>
<td>Input power</td>
<td>268</td>
<td>W</td>
<td></td>
</tr>
</tbody>
</table>

Product Highlights

The BG2802 is an enclosed dc-dc power converter with a single 28Vdc output. This military Mil-COTS solution is designed to meet portions of Mil-Std-704A/E/F input requirements, portions of MIL-STD-810F vibration and shock requirements and portions of the MIL-STD-461E EMI requirements. Contact Aegis Power Systems for details concerning military specifications. When compared to power supplies using conventional technology, this enclosed case conduction cooled dc-dc power converter provides users with higher efficiency (80%), lower weight (3 lbs), and higher power (290W surge).

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


DC input line current: 13.4A Typical @ 20Vdc input. 9.6A Typical @ 28Vdc input.

Input power: 268W typical.

Output power: See Table 2.

Output voltages: See Table 2.

Output ripple: See Table 2.

Current Limit: Short circuit protected with automatic recovery.

Efficiency: 80% Typical.

Start up time: 500msec Maximum.

Voltage set point: +/-0.5%.

Line regulation: +/- 0.15%.

Load regulation: +/- 1.5%.

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

Temperature: -55°C to +85°C Operating baseplate. 30 minute at 91°C Operating baseplate. -55°C to +100°C Non-operating.

Cooling: Conduction cooling through baseplate.

Package: Enclosed covered attached to baseplate.

Dimensions: 3” x 4” x 8.2” (see mechanical drawing).

Weight: 3.0 lb. Max

Connector: 1ea Input: D3899/24WD5PN, Output: D38999/24WC4SN

Fusing: Not fused. Device is reverse voltage protected with customer provided fuse.

Vibration: Mil-Std-810F Aircraft. (Contact Aegis on specific specs designed to meet.)

Shock: Mil-Std-810F Aircraft. (Contact Aegis on specific specs designed to meet.)

Explosive Atmosphere: Mil-Std-810F Aircraft. (Contact Aegis on specific specs designed to meet.)

Altitude: 50,000 ft Operating.

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>Part Number</th>
<th>Vdc out</th>
<th>Watts out</th>
<th>Amps out</th>
<th>Ripple (20MHz BW)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BG2802</td>
<td>+14.5V</td>
<td>218W</td>
<td>15A*</td>
<td>160mVp-p</td>
</tr>
<tr>
<td>BG2802-01</td>
<td>+5V</td>
<td>75W</td>
<td>15A*</td>
<td>100mVp-p</td>
</tr>
</tbody>
</table>

*Current is limited to 13Amps per pin on D38999/24WC4SN