### Features
- Completely self contained Thick Film Hybrid DC-DC Converter
- For MIL-STD-704/1275 applications
- Built-in EMI input filter meets MIL-STD-461C requirements CE01, CE03, CS01, CS02 and CS06
- "Inhibit-not" function
- Short circuit protection
- Fully isolated, input to output
- Single, dual or triple outputs
- 200 kHz operation for low ripple and fast response time
- No external filter caps required
- Full hermetic package

### Specifications
**Input:** 28 VDC nominal
Range: 16 to 50 VDC continuous
18 to 50 VDC full power
Survives 80 V transients/MIL-STD-704A

**Isolation:**
- Input to case: 500 VDC
- Input to output: 500 VDC
- Output to case: 100 VDC

**Environment:**
- Storage temperature: -55°C to +150°C
- Shock: 50 G’s
- Acceleration: 50 G’s
- Vibration: 30 G’s

**Grade M:**
- Full Power Output at T_{case} = +85°C
- Linearly derates to zero at T_{case} = +115°C

**Grade E:**
- Full Power Output at T_{case} = +125°C
- Linearly derates to zero at T_{case} = +135°C

**Weight:** 65 grams typical

### Case Dimensions
**Units:** inches | millimeters

<table>
<thead>
<tr>
<th>Case Style</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>1.950</td>
<td>49.530</td>
<td>1.350</td>
<td>34.290</td>
<td>0.495</td>
<td>12.573</td>
<td>1.000</td>
</tr>
<tr>
<td>3</td>
<td>1.950</td>
<td>49.530</td>
<td>1.350</td>
<td>34.290</td>
<td>0.495</td>
<td>12.573</td>
<td>1.000</td>
</tr>
<tr>
<td>10</td>
<td>1.950</td>
<td>49.530</td>
<td>1.350</td>
<td>34.290</td>
<td>0.495</td>
<td>12.573</td>
<td>1.000</td>
</tr>
<tr>
<td>13</td>
<td>1.950</td>
<td>49.530</td>
<td>1.350</td>
<td>34.290</td>
<td>0.495</td>
<td>12.573</td>
<td>1.000</td>
</tr>
</tbody>
</table>

**Tolerances:** All dimensions ±0.01 except F = MAX, C = ±0.01/0.02; drawings in inches.
### DC-DC Converters Series 3001

#### Dual Output Devices

<table>
<thead>
<tr>
<th>Parameter Condition</th>
<th>3001-D05 (30W)</th>
<th>3001-D12 (30W)</th>
<th>3001-D15 (30W)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output voltage $I_{+} - I_{-}$</td>
<td>+4.9 +5.0 +5.1</td>
<td>+11.9 +12.0 +12.1</td>
<td>+14.9 +15.0 +15.1</td>
</tr>
<tr>
<td>$V_{+} - V_{-}$ max $V_{+} - V_{-}$ min</td>
<td>±150mA — ±3A</td>
<td>±95mA — ±1.25A</td>
<td>±76mA — ±1A</td>
</tr>
<tr>
<td>Efficiency $P_{\text{out}} = \text{max rated load}$</td>
<td>79% 77% —</td>
<td>80% 84% —</td>
<td>— ±10mV ±50mV</td>
</tr>
<tr>
<td>Line regulation $P_{\text{reg}} = \text{max rated load}$</td>
<td>— ±10mV ±50mV</td>
<td>— ±20mV ±100mV</td>
<td>— ±25mV ±125mV</td>
</tr>
<tr>
<td>Load regulation $P_{\text{reg}} = 10%$ to FL.</td>
<td>— ±10mV ±50mV</td>
<td>— ±20mV ±100mV</td>
<td>— ±25mV ±125mV</td>
</tr>
<tr>
<td>Output ripple F.L. BW 2 MHz mVpp</td>
<td>— 40 85 — 60 150 — 75 180</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Triple Output Devices

<table>
<thead>
<tr>
<th>Parameter Condition</th>
<th>3001-T05 (12.5W)</th>
<th>3001-T12 (17.5W)</th>
<th>3001-T15 (17.5W)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output voltage $I_{+} - I_{-}$</td>
<td>+4.9 +5.0 +5.1</td>
<td>+11.9 +12.0 +12.1</td>
<td>+14.9 +15.0 +15.1</td>
</tr>
<tr>
<td>$V_{+} - V_{-}$ max $V_{+} - V_{-}$ min</td>
<td>±95mA — ±1.25A</td>
<td>±76mA — ±1.0A</td>
<td>±90mA — ±2.5A</td>
</tr>
<tr>
<td>Efficiency $P_{\text{out}} = \text{max rated load}$</td>
<td>80% 79% —</td>
<td>84% 83% —</td>
<td>— ±25mV ±125mV</td>
</tr>
<tr>
<td>Line regulation $P_{\text{reg}} = \text{max rated load}$</td>
<td>— ±40mA — ±250mA</td>
<td>— ±10mA ±500mV</td>
<td>— ±32mA — ±250mA</td>
</tr>
<tr>
<td>Load regulation $P_{\text{reg}} = 10%$ to FL.</td>
<td>— ±10mA ±500mV</td>
<td>— ±20mA ±100mV</td>
<td>— ±25mA ±125mV</td>
</tr>
<tr>
<td>Output ripple F.L. BW 2 MHz mVpp</td>
<td>— 40 85 — 60 150 — 75 180</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes: *Up to 90% full power available from either output if rated output power is not exceeded; †balanced load conditions.

#### Pin Configuration

- **3001-SXX output <24 VDC**
  - Pin 1 + inhibit
  - Pin 2 inhibit not
  - Pin 3 - remote sense
  - Pin 4 main out ret
  - Pin 5 main output
  - Pin 6 + remote sense

- **3001-SXX output ≥ 24 VDC**
  - Pin 1 + inhibit
  - Pin 2 inhibit not
  - Pin 3 main output
  - Pin 4 main out ret
  - Pin 5 main output
  - Pin 6 + remote sense

- **3001-DXX**
  - Pin 1 + input
  - Pin 2 inhibit not
  - Pin 3 main output
  - Pin 4 dual out ret
  - Pin 5 main output
  - Pin 6 N/C

- **3001-TXX**
  - Pin 1 + inhibit
  - Pin 2 inhibit not
  - Pin 3 output return
  - Pin 4 dual out ret
  - Pin 5 main output
  - Pin 6 N/C

Please specify GRADE LEVEL for your application. Industrial grade units will be shipped if no option is specified.

M +85°C military
E +125°C military