### Features
- Specifically designed for redundant or individual military or aerospace applications
- Completely self contained Thick Film Hybrid DC-DC Converter
- No external filter caps required
- Fully isolated design
- "Inhibit-not" function
- Power on soft start
- 300 kHz operation for low ripple and fast response time
- Built-in EMI input filter meets MIL-STD-461C requirements CE01, CE03, CS01, CS02 and CS06
- Short circuit and overvoltage protection
- Capability of external sync for switching frequencies
- Built-in test capability

### 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: 500 G's
- Vibration: 30 G's

**GRADE:**
- Full Power Output at Tcase = +85°C  
  Linearly derates to zero at Tcase = +115°C
- Grade E:  
  Full Power Output at Tcase = +125°C  
  Linearly derates to zero at Tcase = +135°C

**WEIGHT:** 60 grams typical

### Note
Series 6107 is recommended over 3107 for new designs ("Inhibit not" function yields a higher level of noise immunity).

### 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>2.130</td>
<td>54.102</td>
<td>1.120</td>
<td>28.448</td>
<td>0.495</td>
<td>12.573</td>
<td>0.800</td>
</tr>
<tr>
<td>3</td>
<td>2.130</td>
<td>54.102</td>
<td>1.120</td>
<td>28.448</td>
<td>0.495</td>
<td>12.573</td>
<td>0.800</td>
</tr>
<tr>
<td>5</td>
<td>2.130</td>
<td>54.102</td>
<td>1.120</td>
<td>28.448</td>
<td>0.495</td>
<td>12.573</td>
<td>0.800</td>
</tr>
<tr>
<td>6</td>
<td>2.130</td>
<td>54.102</td>
<td>1.120</td>
<td>28.448</td>
<td>0.495</td>
<td>12.573</td>
<td>0.800</td>
</tr>
<tr>
<td>8</td>
<td>2.160</td>
<td>54.864</td>
<td>1.510</td>
<td>38.354</td>
<td>0.495</td>
<td>12.573</td>
<td>—</td>
</tr>
</tbody>
</table>

**TOLERANCES:** ALL DIMENSIONS ±0.01 EXCEPT F = MAX, C = ±0.01/-0.02; DRAWINGS IN INCHES.

---

12 PIN BOTTOM VIEW

**Input to case: 500 VDC**

**Input to output: 500 VDC**

**Output to case: 100 VDC**

**Survives 80 V transients/MIL-STD-704A**

**Limits:** 28 VDC nominal  
18 to 50 VDC full power

**Efficiency:**
- Pout = max rated load
- 55% 58% 60% 63% 65% 68% 70% 73% 75% 78% 80% 82% 85% 87% 90% 92% 95% 97%

**Output ripple F.L. BW 2 MHz:**
- 30 mV 30 mV 30 mV 30 mV 30 mV 30 mV 30 mV 30 mV 30 mV 30 mV 30 mV 30 mV 30 mV 30 mV 30 mV 30 mV 30 mV

---

**Models and Mounting:**

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Case Style</th>
<th>Pin Count</th>
<th>Mounting</th>
</tr>
</thead>
<tbody>
<tr>
<td>6107</td>
<td>2</td>
<td>12</td>
<td>Solder Sealed Flangeless PCB Mount</td>
</tr>
<tr>
<td>6107</td>
<td>F</td>
<td>12</td>
<td>Solder Sealed PCB Mount with Flange</td>
</tr>
<tr>
<td>6107</td>
<td>H</td>
<td>12</td>
<td>Seam Weld Flangeless PCB Mount</td>
</tr>
<tr>
<td>6107</td>
<td>HF</td>
<td>12</td>
<td>Seam Weld PCB Mount with Flange</td>
</tr>
<tr>
<td>6107</td>
<td>VF</td>
<td>12</td>
<td>Seam Weld Chassis Mount with Flange</td>
</tr>
</tbody>
</table>

---

**Performance Data:**

**Single Output Devices:**

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Case Style</th>
<th>Pin Count</th>
<th>Mounting</th>
</tr>
</thead>
<tbody>
<tr>
<td>6107-S02 (20W)</td>
<td>6107-S02.5 (10W)</td>
<td>6107-S03 (13.2W)</td>
<td>6107-S05 (20W)</td>
</tr>
</tbody>
</table>

**Specifications:**

- **Input:** 28 VDC nominal  
- **Range:** 16 to 50 VDC continuous  
- **18 to 50 VDC full power**

**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:** 500 G’s  
- **Vibration:** 30 G’s

**GRADE:**
- **Full Power Output at Tcase = +85°C**  
  Linearly derates to zero at Tcase = +115°C
- **Grade E:**  
  **Full Power Output at Tcase = +125°C**  
  Linearly derates to zero at Tcase = +135°C

**WEIGHT:** 60 grams typical

**Series 6107 is recommended over 3107 for new designs ("Inhibit not" function yields a higher level of noise immunity).**

---

**Modular Devices, Inc. • One Roned Road • Shirley, New York 11967 • www.mdipower.com • Fax 631.345.3106 • Tel 631.345.3100**
### DC-DC CONVERTERS

**FULL FEATURE SERIES 6107**

#### 28 VDC

**6107-D3/5 (11.6W)**  
**6107-D05 (20W)**  
**6107-D12 (20W)**  
**6107-D15 (20W)**

<table>
<thead>
<tr>
<th>PARAMETER</th>
<th>CONDITION</th>
<th>MIN</th>
<th>TYP</th>
<th>MAX</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output voltage</td>
<td>$V_{out} = V_{in}$</td>
<td>+3.2</td>
<td>+3.3</td>
<td>+3.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>+4.9</td>
<td>+5.0</td>
<td>+5.1</td>
</tr>
<tr>
<td>Output current*</td>
<td>$I_{max}$</td>
<td>200mA</td>
<td>2A</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>100mA</td>
<td>1A</td>
<td></td>
</tr>
<tr>
<td>Efficiency</td>
<td>$P_{out}$</td>
<td>62%</td>
<td>66%</td>
<td>72%</td>
</tr>
<tr>
<td>Line regulation</td>
<td>$V_{out} = V_{in}$</td>
<td>+10mA</td>
<td>±300mV</td>
<td>—</td>
</tr>
<tr>
<td>Load regulation</td>
<td>$P_{out}$</td>
<td>65%</td>
<td>—</td>
<td>68%</td>
</tr>
<tr>
<td>Output ripple</td>
<td>TYP FL, BW 2 MHz</td>
<td>—</td>
<td>±0.1%</td>
<td>±0.2%</td>
</tr>
</tbody>
</table>

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

#### 6107-T3/5 (7.5W)  
**6107-T3/3 (10W)**  
**6107-T3/13 (15W)**  
**6107-T05 (7.5W)**  
**6107-T12 (10W)**  
**6107-T15 (10W)**

<table>
<thead>
<tr>
<th>PARAMETER</th>
<th>CONDITION</th>
<th>MIN</th>
<th>TYP</th>
<th>MAX</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output voltage</td>
<td>$V_{out} = V_{in}$</td>
<td>+3.2</td>
<td>+3.3</td>
<td>+3.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>+4.9</td>
<td>+5.0</td>
<td>+5.1</td>
</tr>
<tr>
<td>Output current</td>
<td>$I_{max}$</td>
<td>150mA</td>
<td>1.5A</td>
<td></td>
</tr>
<tr>
<td>Efficiency</td>
<td>$P_{out}$</td>
<td>65%</td>
<td>—</td>
<td>68%</td>
</tr>
<tr>
<td>Line regulation</td>
<td>$V_{out} = V_{in}$</td>
<td>±15mA</td>
<td>±25mA</td>
<td>±15mA</td>
</tr>
<tr>
<td>Load regulation</td>
<td>$P_{out}$</td>
<td>±125mA</td>
<td>±250mA</td>
<td>±125mA</td>
</tr>
<tr>
<td>Output ripple</td>
<td>FL, BW 2 MHz</td>
<td>—</td>
<td>±0.1%</td>
<td>±0.2%</td>
</tr>
</tbody>
</table>

#### 6107-SXX output <24 VDC  
**6107-SXX output ≥24 VDC**  
**6107-DXX**  
**6107-TXX**

**Pin 1**  
**Pin 2**  
**Pin 3**  
**Pin 4**  
**Pin 5**  
**Pin 6**

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