12.5-30 Watt Hybrid

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" function
- Power on soft start
- 200 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 M:
Full Power Output at $T_{case} = +85°C$
Linearily derates to zero at $T_{case} = +115°C$
Grade E:
Full Power Output at $T_{case} = +125°C$
Linearily derates to zero at $T_{case} = +135°C$
WEIGHT: 75 grams typical

Model No. Case Style Pin Count Mounting
2680 2 12 Solder Sealed Flangeless PCB Mount
2680 F 3 12 Solder Sealed PCB Mount with Flange
2680 I 5 12 Seam Weld Flangeless PCB Mount
2680 IF 6 12 Seam Weld PCB Mount with Flange
2680 WF 8 12 Seam Weld Chassis Mount with Flange
2680 PB 10 12 Solder Sealed Flangeless PCB Stud Mount
2680 PE 12 12 Solder Weld Flangeless PCB Stud Mount

 Roller 681 • Fax 631.345.3106 • Tel 631.345.3100
 Modular Devices, Inc • One Roned Road • Shirley, New York 11967 • www.mdipower.com • Fax 631.345.3106 • Tel 631.345.3100

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

2680

FULL FEATURE SERIES

28 VDC

DUAL OUTPUT DEVICES

<table>
<thead>
<tr>
<th>PARAMETER</th>
<th>CONDITION</th>
<th>2680-005 (30W)</th>
<th>2680-D12 (30W)</th>
<th>2680-D15 (30W)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output voltage</td>
<td>$V_{out}$ - $V_{out}$</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>Output current* $V_{out}$ - $V_{out}$</td>
<td>±150mA - ±3A</td>
<td>±95mA - ±1.25A</td>
<td>±76mA - ±1A</td>
<td></td>
</tr>
<tr>
<td>Efficiency $P_{out}$ = max rated load</td>
<td>75% 77% — 79% 83% — 80% 84% —</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Line regulation $V_{out}$ - $V_{out}$</td>
<td>−±10mA ±50mV</td>
<td>−±20mV ±100mV</td>
<td>−±25mV ±125mV</td>
<td></td>
</tr>
<tr>
<td>Load regulation $P_{out}$ = 10% to FL</td>
<td>−±10mA ±50mV</td>
<td>−±20mV ±100mV</td>
<td>−±25mV ±125mV</td>
<td></td>
</tr>
<tr>
<td>Output ripple F.L. BW 2 MHz</td>
<td>mVpp</td>
<td>40 85</td>
<td>60 150</td>
<td>75 180</td>
</tr>
</tbody>
</table>

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

TRIPLE OUTPUT DEVICES

<table>
<thead>
<tr>
<th>PARAMETER</th>
<th>CONDITION</th>
<th>2680-T3.3/5 (12.5W)</th>
<th>2680-T3.3/15 (17.5W)</th>
<th>2680-T05 (12.5W)</th>
<th>2680-T12 (17.5W)</th>
<th>2680-T15 (17.5W)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output voltage</td>
<td>$V_{out}$ - $V_{out}$</td>
<td>+3.2 - +3.3 - +3.4</td>
<td>+11.9 - +12.0 - +12.1</td>
<td>+14.9 - +15.0 - +15.1</td>
<td>+11.9 - +12.0 - +12.1</td>
<td>+14.9 - +15.0 - +15.1</td>
</tr>
<tr>
<td>Output current $V_{out}$ - $V_{out}$</td>
<td>±300mA - ±3A</td>
<td>±300mA - ±3A</td>
<td>300mA - 3A</td>
<td>90mA - 2A</td>
<td>90mA - 2A</td>
<td></td>
</tr>
<tr>
<td>Efficiency $P_{out}$ = max rated load</td>
<td>67% 70% — 67% 70% — 67% 70% — 67% 70% — 72% 75% — 72% 75% —</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Line regulation $V_{out}$ - $V_{out}$</td>
<td>−±10mA ±50mV</td>
<td>−±25mV ±125mV</td>
<td>−±25mV ±125mV</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Load regulation $P_{out}$ = 10% to FL</td>
<td>−±10mA ±50mV</td>
<td>−±25mV ±125mV</td>
<td>−±25mV ±125mV</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Output ripple F.L. BW 2 MHz</td>
<td>mVpp</td>
<td>30 65</td>
<td>30 65</td>
<td>30 65</td>
<td>40 85</td>
<td>40 85</td>
</tr>
</tbody>
</table>

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