12-20 WATT HYBRID
POINT OF LOAD DC-DC REGULATORS

Features
- Rad Hard: TID > 100kRad(Si)
- 2:1 margin: Operates beyond 200kRad TID
- No SEE:LET > 82MeV*cm²/mg
- Proton Resistant: No optocouplers used
- Synchronous rectification for high efficiency
- Non-isolated for intermediate bus applications
- Adjustable output voltage trim
- Thick Film Hybrid DC-DC Regulator
- Inhibit function
- 100kHz operation
- Sync input 1:1, 95-105 kHz
- Full hermetic package, solder seal and seam welded; PC and Chassis mount options

Specifications
INPUT: 12 VDC nominal
Range: 11 to 16 VDC continuous
ISOLATION: Input-Output: Non-Isolated
Input and Output to case: 100 VDC
OUTPUT:
External capacitance recommended for specified performance

ENVIRONMENT:
Storage temperature: -55°C to +150°C
Shock: 50 G’s
Acceleration: 500 G’s
Vibration: 30 G’s
Grades EU, R & S:
  Full Output Power at Tcase = +85°C
  Linearly derates to zero at Tcase = +115°C
Grades RE & SE:
  Full Power Output at Tcase = +125°C
  Linearly derates to zero at Tcase = +135°C
WEIGHT: 50 grams typical

POSITIVE OUTPUT CONVERTERS

<table>
<thead>
<tr>
<th>Series 5082</th>
<th>5082-P01.8 (20W)</th>
<th>5082-P02.0 (20W)</th>
<th>5082-P02.5 (20W)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PARAMETER</td>
<td>CONDITION</td>
<td>MIN TYP MAX</td>
<td>MIN TYP MAX</td>
</tr>
<tr>
<td>Voltage</td>
<td>+1.7 +1.8 +1.9</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Current</td>
<td>11A</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Efficiency</td>
<td>82%</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Line Regulation</td>
<td>10mV 50mV</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Ripple</td>
<td>F.L. BW 2 MHz</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Capacitor</td>
<td>1000 — 4000</td>
<td>1000 — 4000</td>
<td>1000 — 4000</td>
</tr>
</tbody>
</table>

Model No. Case Style Pin Count Mounting
5082 F 3 12 Solder Sealed Flangeless PCB Mount
5082 G 5 12 Seam Weld Flangeless PCB Mount
5082 GF 6 12 Seam Weld PCB Mount with Flange
5082 UF 8 12 Seam Weld Chassis Mount with Flange
Pin 1  Positive Input  Pin 7  V ref
Pin 2  Input/Output Common  Pin 8  Adjust
Pin 3  Input/Output Common  Pin 9  I out
Pin 4  Output  Pin 10  Sync Input
Pin 5  Output  Pin 11  BIT
Pin 6  Case Ground  Pin 12  Inhibit

Specifications subject to change.

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

EU  Engineering Units  S  100 K+™, +85°C space
R  100 K+™, +85°C military/aerospace  SE  100 K+™, +125°C space
RE  100 K+™, +125°C military/aerospace

Modular Devices, Inc • One Roned Road • Shirley, New York 11967 • E-mail sales@mdipower.com • Fax 631.345.3106 • Tel 631.345.3100

Revised 2016-01-15