Notes
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High IP3 Voltage Variable Attenuator

MVA-1000+

Maximum Ratings
- Operating Temperature: -55°C to 85°C
- Storage Temperature: -55°C to 85°C
- Absolute Max. Supply Voltage(V+): 7V
- Absolute Max. Control Voltage(Vctrl): 6V
- Absolute Max. RF Input Level: +20 dBm

Permanent damage may occur if any of these limits are exceeded.

Pin Connections
- RF IN: 6
- RF OUT: 2
- V CONTROL: 4
- V+: 8
- GROUND: 1,3,5,7

Outline Drawing

Electrical Specifications (T_{AMB} = 25°C)

<table>
<thead>
<tr>
<th>FREQ. (MHz)</th>
<th>MIN. INSERTION LOSS, dB (+5V)</th>
<th>MAX. ATTENUATION, dB (0V)</th>
<th>INPUT POWER, dBm</th>
<th>CONTROL Voltage Current (mA)</th>
<th>IP3, dBm</th>
<th>RETURN LOSS (dB)</th>
<th>POWER SUPPLY Voltage (V)</th>
<th>POWER SUPPLY Current (mA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 - 1000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.6</td>
<td>4.7</td>
<td>13.0</td>
<td>11.5</td>
<td>+20</td>
<td>0 - 5</td>
<td>15</td>
<td>52</td>
<td>20</td>
</tr>
</tbody>
</table>

Notes:
- Rise/Fall time: 20 µSec/60 µSec Typ.
- Switching Time, turn on/off: 50 µSec Typ.

Features
- Frequency range, 50-1000 MHz
- High linearity, 3 dB/V typ. at Vcont from 1V to 5V
- High IP3, +52 dBm typ.
- Small phase deviation over attenuation range
- No external bias and RF matching network required
- Shielded case
- Aqueous washable

Applications
- CATV
- Power level control
- Feed forward amplifiers
- Public safety radio

Outline Dimensions (inch mm)

<table>
<thead>
<tr>
<th>A</th>
<th>.350</th>
<th>B</th>
<th>.350</th>
<th>C</th>
<th>.150</th>
<th>D</th>
<th>.175</th>
<th>E</th>
<th>.075</th>
<th>F</th>
<th>.100</th>
<th>G</th>
<th>.110</th>
<th>H</th>
<th>.040</th>
<th>J</th>
<th>.080</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.89</td>
<td>8.89</td>
<td>3.81</td>
<td>4.45</td>
<td>1.93</td>
<td>2.54</td>
<td>2.79</td>
<td>1.02</td>
<td>2.03</td>
<td></td>
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</tr>
</tbody>
</table>

| K | .050 | L | .040 | M | .195 | N | .390 | P | .120 | Q | .390 | R | .070 | wt. | 1.27 | 1.02 | 4.95 | 9.91 | 3.05 | 9.91 | 1.78 | 0.50 |

Demo Board MCL P/N: TB-286
Suggested PCB Layout (PL-154)

Notes:
- Trace Width is shown for FR4 with dielectric thickness .025" ± .002", Copper: 1/2 oz. Each side.
- For other materials, Trace Width may need to be modified.
- Bottom side of the PCB is continuous ground plane.
- Based on SMDPC (Solder Mask Over Bare Copper) and COPPER LAND PATTERN FREE OF SOLDER MASK.
- Notes:
  1. Trace Width is shown for FR4 with dielectric thickness .025" ± .002", Copper: 1/2 oz. Each side.
  2. Bottom side of the PCB is continuous ground plane.
  3. For other materials, Trace Width may need to be modified.

www.minicircuits.com P.O. Box 350166, Brooklyn, NY 11235-0003 (718) 934-4500 sales@minicircuits.com

REV. A
M151108
EDR-8292F1
MVA-1000+
NAV
161211
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Performance Charts

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