**Voltage Variable Attenuator**  
RVA-6000+  
50Ω  2000 to 6000 MHz

**The Big Deal**
- Broad band, 2000 to 6000 MHz
- IP3 +43 dBm typ.
- Well matched in/out ports, return loss 20 dB typ.
- Minimal phase deviation over attenuation range
- Drop-in, no external matching circuits required

**Product Overview**
The RVA-6000+ is a Voltage Variable 50Ω matched Attenuator built into a shielded (0.5" x 0.5" x 0.195") case. The model utilizes well matched PIN diodes, carefully biased in order to enable over 30 dB attenuation range control while maintaining very good input & output port matching.

**Key Features**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Advantages</th>
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</thead>
<tbody>
<tr>
<td>IP3 +40 dBm typ.</td>
<td>Low distortion enabling improved system performance.</td>
</tr>
<tr>
<td>Minimal phase deviation over attenuation range</td>
<td>Can provide low signal distortion over attenuation range</td>
</tr>
</tbody>
</table>

Notes
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**Surface Mount**

**Voltage Variable Attenuator**

**RVA-6000+**

**50Ω  2000 to 6000 MHz**

**Maximum Ratings**
- Operating Temperature: -55°C to 85°C
- Storage Temperature: -55°C to 85°C
- Absolute Max. Supply Voltage (V+) = 6V
- Absolute Max. Control Voltage (Vctrl) = 14V
- Absolute Max. RF Input Level: +20dBm

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**Pin Connections**
- RF IN: 2
- RF OUT: 10
- V CONTROL: 6
- V+: 14
- GROUND: 1, 3, 4, 5, 7, 8, 9, 11, 12, 13, 15, 16

**Outline Drawing**

**Outline Dimensions**

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<th>A</th>
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<th>C</th>
<th>D</th>
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**Demo Board MCL P/N: TB-686**

**Suggested PCB Layout (PL-374)**

**Features**
- Broadband, 2000-6000 MHz
- Good VSWR at IN/OUT ports over attenuation range
- Fast Rising/Fall Time, 6.8mSec/3.5mSec Typ.
- Minimal phase deviation over attenuation range
- No external bias and RF matching network required
- Shielded case
- Aqueous washable

**Applications**
- Power level control
- Feed forward amplifier

**Electrical Specifications**

<table>
<thead>
<tr>
<th>FREQ. (MHz)</th>
<th>MIN. INSERTION LOSS, dB (+12V)</th>
<th>MAX. ATENN. (dB) (0V)</th>
<th>INPUT POWER (dBm)</th>
<th>CONTROL Voltage (mA)</th>
<th>IP3* (dBm)</th>
<th>RETURN LOSS (dB)</th>
<th>POWER SUPPLY Voltage (V)</th>
<th>POWER SUPPLY Current (mA)</th>
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<tbody>
<tr>
<td>2000-4000</td>
<td>3.3</td>
<td>4.0</td>
<td>37.7</td>
<td>30</td>
<td>+20</td>
<td>0 - 12</td>
<td>10</td>
<td>41</td>
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<td>4000-6000</td>
<td>3.5</td>
<td>4.5</td>
<td>32.7</td>
<td>25</td>
<td>+20</td>
<td>0 - 12</td>
<td>10</td>
<td>43</td>
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Notes:
- Rise/Fall Time: 6.8 / 3.8 µSec Typ.
- Switching Time & turn on/off time: 8.8 / 3.8 µSec. Typ.
- * Typical IP3 @ Vc = 5V

**Equivalent Schematic**

**Notes:**
- Rise/Fall time: 6.8 / 3.8 µSec Typ.
- Switching Time & turn on/off time: 8.8 / 3.8 µSec. Typ.
- * Typical IP3 @ Vc = 5V

**RVA-6000+ TYPICAL ATTENUATION AT 4000 MHz**

**Equivalent Schematic**

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