**Features**

- High Dynamic Range: 42dB Typical
- Flat Attenuation vs. Frequency
- High P1dB Compression
- Operates on a Single +5V Supply:
- 50 Ohm Nominal Impedance
- Lead-Free SOW-16 Package
- 100% Matte Tin Plating over Copper
- Halogen-Free “Green” Mold Compound
- 260°C Reflow Compatible
- RoHS* Compliant Version of AT10-0019

**Description**

M/A-COM’s MAAV-007088-000100 is a Voltage Controlled PIN diode based π attenuator packaged in a low cost, 16 lead wide body plastic SMT package. The PIN diode design makes this part well suited for applications where low distortion or high linear operating power levels are required. These attenuators are ideal for gain control in multi-channel digital communications systems.

**Ordering Information**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAAV-007088-000100</td>
<td>Bulk Packaging</td>
</tr>
<tr>
<td>MAAV-007088-0001TR</td>
<td>1000 piece reel</td>
</tr>
<tr>
<td>MAAV-007088-0001TB</td>
<td>Sample Test Board</td>
</tr>
</tbody>
</table>

Note: Reference Application Note M513 for reel size information.

**Pin Configuration**

<table>
<thead>
<tr>
<th>Pin No.</th>
<th>Function</th>
<th>Pin No.</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>GND</td>
<td>9</td>
<td>GND</td>
</tr>
<tr>
<td>2</td>
<td>RF IN</td>
<td>10</td>
<td>V CONTROL</td>
</tr>
<tr>
<td>3</td>
<td>GND</td>
<td>11</td>
<td>GND</td>
</tr>
<tr>
<td>4</td>
<td>GND</td>
<td>12</td>
<td>GND</td>
</tr>
<tr>
<td>5</td>
<td>GND</td>
<td>13</td>
<td>GND</td>
</tr>
<tr>
<td>6</td>
<td>GND</td>
<td>14</td>
<td>GND</td>
</tr>
<tr>
<td>7</td>
<td>V SUPPLY</td>
<td>15</td>
<td>RF OUT</td>
</tr>
<tr>
<td>8</td>
<td>GND</td>
<td>16</td>
<td>GND</td>
</tr>
</tbody>
</table>

PIN Diode Based Variable Attenuator, 50 - 1000 MHz

Electrical Specifications:  \( T_A = 25^\circ C, \ Z_0 = 50\Omega \)

1. Unit requires external .01 \( \mu \)F DC Blocks on RF lines.

Absolute Maximum Ratings

2. Exceeding any one or combination of these limits may cause permanent damage to this device.

3. M/A-COM does not recommend sustained operation near these survivability limits.

Handling Procedures

Please observe the following precautions to avoid damage:

Static Sensitivity

Gallium Arsenide Integrated Circuits are sensitive to electrostatic discharge (ESD) and can be damaged by static electricity. Proper ESD control techniques should be used when handling these devices.

PAD LAYOUT

Dimensions are in inches
All undefined pins are connected to ground

For further information and support please visit:

www.macom.com
PIN Diode Based Variable Attenuator, 50 - 1000 MHz

Typical Performance Curves

**Attenuation vs. Frequency @ Control Voltage = 0V**

![Graph showing Attenuation vs. Frequency @ Control Voltage = 0V]

**Attenuation vs. Control Voltage @ 500 MHz**

![Graph showing Attenuation vs. Control Voltage @ 500 MHz]

**Insertion Loss vs. Frequency @ Control Voltage = 10V**

![Graph showing Insertion Loss vs. Frequency @ Control Voltage = 10V]
Lead-Free, SOW-16†

† Reference Application Note M538 for lead-free solder reflow recommendations.
PIN Diode Based Variable Attenuator, 50 - 1000 MHz

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