M67 / M67C

Double-Balanced Mixer

Rev. V3

Features

- LO 7 TO 17 GHz
- RF 9 TO 15 GHz
- IF DC TO 2.5 GHz
- LO DRIVE: +10 dBm (NOMINAL)
- LOW NOISE FIGURE: 6.5 dB (TYP.)

Description

The M67 is a double balanced mixer, designed for use in military, commercial and test equipment applications. The design utilizes Schottky ring quad diodes and broadband soft dielectric and ferrite baluns to attain excellent performance. This mixer can also be used as a phase detector and/or bi-phase modulator since the IF port is DC coupled to the diodes. The use of high temperature solder and welded assembly processes used internally makes it ideal for use in manual, semi-automated assembly. Environmental screening available to MIL-STD-883, MIL-STD-202, or MIL-DTL-28837, consult factory.

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>M67</td>
<td>Minpac</td>
</tr>
<tr>
<td>M67C</td>
<td>SMA Connectorized</td>
</tr>
</tbody>
</table>

Electrical Specifications: Z0 = 50Ω, Lo = +10 dBm (Downconverter application only)
Double-Balanced Mixer

Typical Performance Curves

Conversion Loss vs. LO Drive

Conversion Loss vs. Frequency

Isolation vs. Frequency

Conversion Loss vs. Output Frequency

Conversion Loss vs. RF Input Power

Isolation vs. Frequency

L-Port VSWR vs. Frequency

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Double-Balanced Mixer

Absolute Maximum Ratings

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Absolute Maximum</th>
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</thead>
<tbody>
<tr>
<td>Operating Temperature</td>
<td>-54ºC to +100ºC</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>-65ºC to +100ºC</td>
</tr>
<tr>
<td>Peak Input Power</td>
<td>+23 dBm max @ +25ºC</td>
</tr>
<tr>
<td></td>
<td>+20 dBm max @ +100ºC</td>
</tr>
<tr>
<td>Peak Input Current</td>
<td>50 mA DC</td>
</tr>
</tbody>
</table>

R-Port VSWR vs. Frequency

Outline Drawing: Minpac

Outline Drawing: SMA Connectorized

Dimensional Drawings

Weight: 6 grams (0.21 oz.) max

Weight: 25 grams (0.88 oz.) max

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