MY50A / MY50AC

Triple-Balanced Mixer

Rev. V2

Features
- LO 2 TO 26 GHz
- RF 2 TO 18 GHz
- IF 1 TO 12 GHz
- LO DRIVE +10 dBm (nominal)
- HIGH COMPRESSION POINT

Description
MY50A is a triple balanced mixer, designed for use in military, commercial and test equipment applications. The design utilizes Schottky ring quad diodes and broadband soft dielectric baluns to attain excellent performance. The use of high temperature solder 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>MY50A</td>
<td>Versapac</td>
</tr>
<tr>
<td>MY50AC</td>
<td>SMA Connectorized</td>
</tr>
</tbody>
</table>

Electrical Specifications:  $Z_0 = 50\Omega$  Lo = +10 dBm (Downconverter Application only)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Test Conditions</th>
<th>Units</th>
<th>Typical</th>
<th>Guaranteed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>+25°C</td>
<td>-54° to +85°C</td>
</tr>
</tbody>
</table>
| SSB Conversion Loss (max) & SSB Noise Figure (max) | fR = 2.5 to 18 GHz, fL = 2 to 18 GHz, fI = 1 to 10 GHz  
   fR = 2 to 18 GHz, fL = 2 to 26 GHz, fI = 1 to 12 GHz | dB dB | 7.5     | 9.5       | 10.0      |
| Isolation, L to R (min)            | fL = 2 to 3 GHz  
   fL = 3 to 26 GHz                   | dB dB | 22      | 15        | 20        |
| Isolation, L to I (min)            | fL = 7 to 26 GHz  
   fL = 2 to 7 GHz                    | dB dB | 30      | 20        | 15        |
| 1 dB Conversion Comp.              | fL = +10 dBm                                                  | dBm   | +5      |            |
| Input IP3                          | fR1 = 5 GHz at -6 dBm, fR2 = 5.01 GHz at -6 dBm, fL = 8 GHz at +10 dBm  
   fR1 = 15 GHz at -6 dBm, fR2 = 15.01 GHz at -6 dBm, fL = 25 GHz at +10 dBm | dBm   | +15     | +12       |
Typical Performance Curves

Drive Level

Conversion Loss vs. Frequency
LO @ +10 dBm

Isolation vs. Frequency

L-Port VSWR

R-Port VSWR

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Absolute Maximum Ratings

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Absolute Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Temperature</td>
<td>-54°C to +100°C</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>-65°C to +100°C</td>
</tr>
<tr>
<td>Peak Input Power</td>
<td>+26 dBm max @ +25°C</td>
</tr>
<tr>
<td></td>
<td>+22 dBm max @ +100°C</td>
</tr>
<tr>
<td>Peak Input Current</td>
<td>mA DC</td>
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</tbody>
</table>

Outline Drawing: Versapac

Weight: 6 grams (0.21 oz.) max

Outline Drawing: SMA Connectorized

Weight: 12 grams (0.42 oz.) max

* Dimensions are inches (millimeters) ±0.015 (0.38) unless otherwise specified.
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