MZ9313 / MZ9313C

Triple-Balanced Mixer

Features
- LO 2 TO 18 GHz
- RF 2 TO 18 GHz
- IF 0.03 TO 5 GHz
- LO DRIVE: +13 dBm (NOMINAL)
- MINIATURE PACKAGE
- WIDE BANDWIDTH
- AVAILABLE WITH FIELD REPLACEABLE CONNECTORS

Description
The MZ9313 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 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>MZ9313</td>
<td>Versapac</td>
</tr>
<tr>
<td>MZ9313C</td>
<td>SMA Connectorized</td>
</tr>
</tbody>
</table>

Electrical Specifications: $Z_0 = 50\Omega$  
Lo = +13 dBm (Downconverter application only)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Test Conditions</th>
<th>Units</th>
<th>Typical +25°C</th>
<th>Guaranteed -54° to +85°C</th>
</tr>
</thead>
</table>
| SSB Conversion Loss (max) & SSB Noise Figure (max) | fR = 4 to 18 GHz, fL = 2 to 18 GHz, fI = 0.03 to 3 GHz  
fR = 2 to 18 GHz, fL = 2 to 18 GHz, fI = 0.03 to 5 GHz | dB | 6.5 | 9.0 | 9.5 |
| Isolation, L to R (min)       | fL = 2 to 4 GHz  
fL = 4 to 18 GHz | dB | 17 | 12 | 10 |
| Isolation, L to I (min)       | fL = 2 to 18 GHz | dB | 30 | 17 | 15 |
| 1 dB Conversion Comp.         | fL = +13 dBm     | dBm  | +8            |                          |
| Input IP3                     | fR1 = 3 GHz at −10 dBm, fR2 = 3.01 GHz at −10 dBm,  
fL = 5 GHz at +13 dBm  
fR1 = 17.99 GHz at −10 dBm, fR2 = 18 GHz at −10 dBm,  
fL = 14 GHz at +13 dBm | dBm | +19 | +15 |
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Typical Performance Curves

Conversion vs. LO Power

Conversion vs. Frequency

Conversion vs. Frequency

L-Port VSWR vs. Frequency

Visit www.macom.com for additional data sheets and product information.

Visit https://www.macom.com/support for further information and support.
### 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>+23 dBm max @ +100°C</td>
</tr>
<tr>
<td>Peak Input Current</td>
<td>mA DC</td>
</tr>
</tbody>
</table>

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

Weight: 4 grams (0.14 oz.) max

Weight: 13 grams (0.46 oz.) max