MY87 / MY87C

Triple-Balanced Mixer

Features

- LO 0.5 TO 19 GHz
- RF 0.5 TO 19 GHz
- IF 0.03 TO 5 GHz
- LO DRIVE +13 dBm (nominal)
- VERY WIDE BANDWIDTH

Description

MY87 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>MY87</td>
<td>Versapac</td>
</tr>
<tr>
<td>MY87C</td>
<td>SMA Connectorized</td>
</tr>
</tbody>
</table>

Electrical Specifications: $Z_0 = 50\Omega$  $\text{Lo} = +13 \text{ dBm (Downconverter Application only)}$

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Test Conditions</th>
<th>Units</th>
<th>Typical</th>
<th>Guaranteed</th>
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</thead>
</table>
| SSB Conversion Loss            | $f_R = 1 \text{ to } 18 \text{ GHz}, f_L = 0.5 \text{ to } 18 \text{ GHz}, f_I = 0.03 \text{ to } 3 \text{ GHz}$  
|                               | $f_R = 0.5 \text{ to } 18 \text{ GHz}, f_L = 0.5 \text{ to } 18 \text{ GHz}, f_I = 0.03 \text{ to } 4 \text{ GHz}$  
|                               | $f_R = 0.7 \text{ to } 19 \text{ GHz}, f_L = 3 \text{ to } 19 \text{ GHz}, f_I = 0.03 \text{ to } 5 \text{ GHz}$  | dB    | 7.5     | 10.5       | 11.0       |
|                               |                                                      | dB    | 8.5     | 11.0       | 11.5       |
|                               |                                                      | dB    | 10.5    | 12.0       | 12.5       |
| Isolation, L to R (min)        | $f_L = 0.5 \text{ to } 3 \text{ GHz}$               | dB    | 17      | 10         | 8          |
|                               | $f_L = 3 \text{ to } 19 \text{ GHz}$               | dB    | 30      | 20         | 18         |
| Isolation, L to I (min)        | $f_L = 0.5 \text{ to } 5 \text{ GHz}$               | dB    | 32      | 22         | 20         |
| 1 dB Conversion Comp.          | $f_L = +13 \text{ dBm}$                             | dBm   | +8      |            |            |
| Input IP3                      | $f_R1 = 5 \text{ GHz at } -6 \text{ dBm}, f_R2 = 6.01 \text{ GHz at } -6 \text{ dBm}, f_L = 7 \text{ GHz at } +13 \text{ dBm}$  
|                               | $f_R1 = 15 \text{ GHz at } -6 \text{ dBm}, f_R2 = 15.01 \text{ GHz at } -6 \text{ dBm}, f_L = 18 \text{ GHz at } +13 \text{ dBm}$  | dBm   | $+16.5$ | $+18$      |            |

For further information and support please visit:
https://www.macom.com/support
Typical Performance Curves

Conversion Loss vs. LO Drive Power

Conversion Loss vs. Frequency LO @ +13 dBm

R-Port VSWR vs. Frequency

R-Port VSWR vs. Frequency

Isolation vs. Frequency
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>100 mA DC</td>
</tr>
</tbody>
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Outline Drawing: Versapac *

- Weight: 6 grams (0.21 oz.) max
- Weight: 12 grams (0.42 oz.) max

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