**MY51 / MY51C**

**Triple-Balanced Mixer**

**Features**
- LO 2.0 TO 24 GHz
- RF 2.0 TO 24 GHz
- IF 1.0 TO 15 GHz
- LO DRIVE: +10 dBm (NOMINAL)
- HIGH COMPRESSION POINT

**Description**
MY51 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>MY51</td>
<td>Versapac</td>
</tr>
<tr>
<td>MY51C</td>
<td>SMA Connectorized</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Test Conditions</th>
<th>Units</th>
<th>Typical $+25^\circ C$</th>
<th>Guaranteed $-54^\circ$ to $+85^\circ C$</th>
</tr>
</thead>
</table>
| SSB Conversion Loss (max) & SSB Noise Figure (max) | $f_R = 2.5$ to $18 \text{ GHz}$, $f_L = 2$ to $18 \text{ GHz}$, $f_I = 2$ to $10 \text{ GHz}$  
$IR = 2$ to $18 \text{ GHz}$, $IL = 2$ to $24 \text{ GHz}$, $IF = 1$ to $12 \text{ GHz}$  
$IR = 2$ to $24 \text{ GHz}$, $IL = 2$ to $24 \text{ GHz}$, $IF = 1$ to $15 \text{ GHz}$ | dB    | 7.5                        | 9.5                         | 10.0                        |
| Isolation, L to R (min)               | $f_L = 2$ to $3 \text{ GHz}$  
$f_L = 3$ to $24 \text{ GHz}$ | dB    | 20                         | 15                         | 13                         |
| Isolation, L to I (min)               | $f_L = 2$ to $7 \text{ GHz}$  
$f_L = 7$ to $24 \text{ GHz}$ | dB    | 22                         | 15                         | 13                         |
| 1 dB Conversion Comp.                 | $f_L = +10 \text{ dBm}$ | dBm  | $+5$                    | $+15$                       |
| Input IP3                             | $R1 = 5 \text{ GHz at } -6 \text{ dBm}$, $R2 = 5.01 \text{ GHz at } -6 \text{ dBm}$, $f_L = 8 \text{ GHz at } +10 \text{ dBm}$  
$R1 = 16 \text{ GHz at } -6 \text{ dBm}$, $R2 = 16.01 \text{ GHz at } -6 \text{ dBm}$, $f_L = 18 \text{ GHz at } +10 \text{ dBm}$ | dBm  | $+15$                      | $+15$                       |

**ADVANCED:** Data Sheets contain information regarding a product M/A-COM Technology Solutions is considering for development. Performance is based on target specifications, simulated results, and/or prototype measurements. Commitment to develop is not guaranteed.

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MY51 / MY51C

Triple-Balanced Mixer

Typical Performance Curves

- Conversion Loss vs. Frequency
  - LO @ +10 dBm
  - RF Frequency vs. GHz
  - Low Side LO vs. High Side LO

- L-Port VSWR
  - RF Frequency vs. GHz
  - LO vs. VSWR

- R-Port VSWR
  - RF Frequency vs. GHz
  - LO vs. 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>-54ºC to +100ºC</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>-65ºC to +100ºC</td>
</tr>
<tr>
<td>Peak Input Power</td>
<td>+26 dBm max @ +25ºC</td>
</tr>
<tr>
<td></td>
<td>+22 dBm max @ +100ºC</td>
</tr>
</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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