**MMP12244**

**2.0 TO 12.0 GHz COUGAR MIXERPAK DOUBLE-BALANCED MIXER**

**SPECIFICATIONS**

**Guaranteed**

-55 to +85 °C

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Port</th>
<th>Frequency (GHz)</th>
<th>Typ. (dB)</th>
<th>Max. (dB)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SSB Conversion Loss</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>and</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>SSB Noise Figure</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Conversion Comp.</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Desensitization</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Isolation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Third Order Intercept</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Third Order Intercept</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Measured in a 50-ohm system with nominal LO drive of +16 dBm as a downconverter.

**ABSOLUTE MAXIMUM RATING**

| Storage Temperature            | -65 to +150 °C |
| Peak RF Input Power All Ports  | +24 dBm @ 25 °C | derated to +19 dBm @ 100 °C |

**CONVERTION LOSS**

-5.5 dB

**LO Drive (nominal)**

+16.0 dBm

**Third Order Intercept**

+19.0 dBm

**HIGH ISOLATION (LO to RF)**

35.0 dB

**CONVERTION COM.**

**DES ENSITIZATION**

**ISOLATION**

**HARMONIC INTERMODULATION PRODUCTS (single tone)**

**HARMONIC INTERMODULATION PRODUCTS**

**PRODUCT MARKING**

**PRODUCT CONNECTOR**

**PRODUCT CHAMFER**

**PRODUCT SEAL**

**PRODUCT PACKAGE**

**DIMENSIONS ARE IN INCHES [MILLIMETERS]**

**TELEDYNE MICROWAVE SOLUTIONS**

650-691-9800 • Fax: 650-962-6845 • Updates: www.teledynemicrowave.com • microwave@teledyne.com
Some variation in the R-port VSWR will occur as a function of the L-port frequency as shown above.

VSWR of the I- and R-ports in a 50-ohm system. Some variation in the R-port VSWR will occur as a function of the L-port frequency as shown above.

Isolation (L to I) vs Frequency

Isolation (L to R) vs Frequency

Isolation (R to I) vs Frequency

L-Port VSWR vs Frequency

R-Port VSWR vs Frequency

I-Port VSWR vs Frequency

Conversion Loss vs LO Drive Level

Conversion Loss vs RF Frequency

Relative IF Response

Intercept Point

Power Input at 1 dB Compression

Conversion loss of the mixer when used in an SSB system. The frequency ordinate refers to the R-port (f_R) with f_I at 30 MHz.

VSWR vs Frequency

F_L = +16 dBm

F_L = 6.0 GHz @ +16 dBm

F_L = 6.0 GHz, Low-Side LO

F_L = 6.0 GHz @ +16 dBm

F_L = 6.0 GHz, Hi-Side LO

F_L = 6.0 GHz

F_L = 6.03 GHz, Hi-Side LO

The minimum recommended drive level is +10 dBm. The maximum recommended drive level is +30 dBm.

Hi-Side LO

Hi-Side LO

IF = 30 MHz

IF = 30 MHz

IP2

IP3

Hi-Side LO

Hi-Side LO

Hi-Side LO

Hi-Side LO

+16 dBm LO

1 Level of the f_L signal fed through to the R- and I-ports with respect to the level of the f_L signal at the L-port.

2 VSWR of the I- and R-ports in a 50-ohm system. Some variation in the R-port VSWR will occur as a function of the L-port frequency as shown above.

3 Conversion loss of the mixer when used in an SSB system. The frequency ordinate refers to the R-port (f_R) with f_I at 30 MHz.