**MTS6018**

*0.01 TO 6.0 GHz*

**SMT0-8 TRIPLE-BALANCED MIXER**

### SPECIFICATIONS*

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<thead>
<tr>
<th>Parameter</th>
<th>Port</th>
<th>Frequency (GHz)</th>
<th>Typical Value</th>
<th>Max. Value</th>
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</thead>
<tbody>
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<td><strong>SSB Conversion Loss</strong></td>
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<td>and</td>
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<tr>
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<tr>
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<td>fL</td>
<td>0.01 to 2.0</td>
<td>30</td>
<td>22</td>
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<tr>
<td>LO at I</td>
<td>fL</td>
<td>0.01 to 2.0</td>
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<tr>
<td>RF at I</td>
<td>fR</td>
<td>0.01 to 2.0</td>
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<td>fR</td>
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</table>

**Third Order Intercept**

- LO = +13 dBm: +18 dBm
- LO = +16 dBm: +20 dBm

* Measured in a 50-ohm system with nominal LO drive of +13 dBm as a downconverter.

### ABSOLUTE MAXIMUM RATINGS

- **Storage Temperature**: -65 to +125 °C
- **Peak Input Power**: +23 dBm @ 25 °C derate to +17 dBm @ 100 °C
- **Peak Input Current @ 25°C**: 50 mA DC

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**MTS6018**

Surface Mount Package for Mixer

Harmonic Intermodulation Products (single tone)

- F_L = 2100 MHz @ -10 dBm
- F_L = 4000 MHz
- F_L @ +16 dBm

Harmonic Intermodulation Products (single tone)

- F_R = 3900 MHz @ -10 dBm
- F_L = 4000 MHz
- F_L @ +16 dBm
**TYPICAL PERFORMANCE**

**Isolation (L to I) vs Frequency**

- **KEY:** +25°C, +85°C, -55°C
- **FL at +13 dBm**
- **FREQUENCY - GHz**
  - 0.01  0.5  1.0  2.0  3.0  4.0  5.0  6.0
- **Isolation (L to I) vs Frequency**

**Isolation (L to R) vs Frequency**

- **FL at +13 dBm**
- **FREQUENCY - GHz**
  - 0.01  0.5  1.0  2.0  3.0  4.0  5.0  6.0

**Isolation (R to I) vs Frequency**

- **FL at +13 dBm, 3.0 GHz**
- **FREQUENCY - GHz**
  - 0.01  0.5  1.0  2.0  3.0  4.0  5.0  6.0

**Conversion Loss vs LO Drive Level**

- **FL at +13 dBm**
- **FREQUENCY - GHz**
  - 0.01  0.5  1.0  2.0  3.0  4.0  5.0  6.0  6.5

**Conversion Loss vs RF Frequency**

- **FL at +13 dBm**
- **FREQUENCY - GHz**
  - 0.01  0.5  1.0  2.0  3.0  4.0

**Relative IF Response**

- **FL = 5.0 GHz, Hi-side LO**
- **IF = 30 MHz**

**Intercept Point**

- **FL = 4000 MHz @ +13 dBm**
- **RF = 2100, 2104 MHz @ -10 dBm**

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1 Level of the I\(_L\) signal fed through to the R- and I-ports with respect to the level of the I\(_L\) 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.

4 Vertical Scale: 10 dB/DIV

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