

# Double Balanced Mixer

## Multi-Octave Band

# Model MM4xSMx-10

# Model MM4xSMx-14

## RF 2.0 to 8.0 GHz

### Electrical Specifications <sup>(1)</sup>:

| Parameter                                               | Conditions |         |         | Specifications |         |        |
|---------------------------------------------------------|------------|---------|---------|----------------|---------|--------|
|                                                         | RF(GHz)    | LO(GHz) | IF(MHz) | Min            | Typical | Max    |
| <b>SSB Conversion loss:</b> <sup>(2) (3)</sup>          | 2.0-8.0    | 2.0-8.0 | DC-500  |                | 5.0 dB  | 7.0 dB |
|                                                         | 2.0-8.0    | 2.0-8.0 | DC-1000 |                | 6.0 dB  | 8.0 dB |
|                                                         | 2.0-8.0    | 2.0-8.0 | DC-1500 |                | 7.0 dB  | 9.5 dB |
| <b>Isolation</b><br>LO to RF:<br>LO to IF:<br>RF to IF: |            | 2.0-8.0 |         |                | 33 dB   |        |
|                                                         |            | 2.0-8.0 |         |                | 37 dB   |        |
|                                                         | 2.0-8.0    |         |         |                | 22 dB   |        |
| <b>Input 1-dB Compression Point:</b>                    | 2.0-8.0    | 2.0-8.0 | DC-1500 |                | +1 dBm  | MM43   |
|                                                         |            |         |         |                | +4 dBm  | MM44   |
|                                                         |            |         |         |                | +8 dBm  | MM46   |
|                                                         |            |         |         |                | +12 dBm | MM47   |
| <b>Input Third Order Intercept Point:</b>               | 2.0-8.0    | 2.0-8.0 | DC-1500 |                | +11 dBm | MM43   |
|                                                         |            |         |         |                | +14 dBm | MM44   |
|                                                         |            |         |         |                | +18 dBm | MM46   |
|                                                         |            |         |         |                | +22 dBm | MM47   |
| <b>LO Power:</b> <sup>(4)</sup>                         | 2.0-8.0    | 2.0-8.0 | DC-1500 |                | +7 dBm  | MM43   |
|                                                         |            |         |         |                | +10 dBm | MM44   |
|                                                         |            |         |         |                | +13 dBm | MM46   |
|                                                         |            |         |         |                | +18 dBm | MM47   |

#### LO Power

3 = +7 dBm  
4 = +10 dBm  
6 = +13 dBm  
7 = +18 dBm

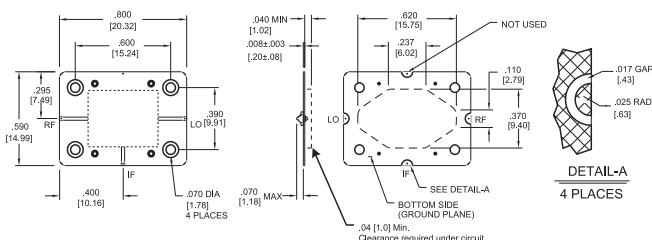
D = No Cover  
H = With Cover

#### Notes:

- Specifications are guaranteed when tested as a downconverter in a 50 Ohm system at +25°C with the nominal LO power. Specifications indicated as typical are not guaranteed.
- Noise figure is typically within ±0.5 dB of conversion loss for IF frequencies greater than 10 MHz.
- Conversion loss typically degrades less than 0.5 dB at +100°C and improves less than 0.5 dB at -55°C.
- Usable LO drives are up to 2 dB below and 3 dB above nominal.
- See Application Note M112, for aid in selecting the outline and for mounting and installation information.

## MM4xSMD-10

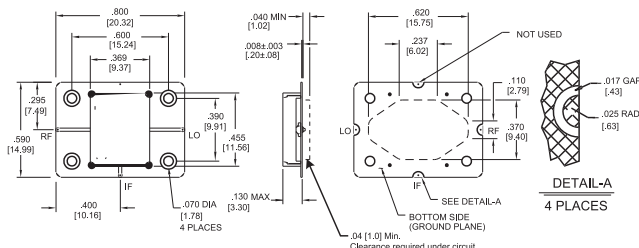
Outline: SMMC5A: AS SHOWN  
SMMC5B: RF & LO REVERSED



MM4xSMx-10: AS SHOWN  
MM4xSMx-14: RF & LO REVERSED

Outline: SMMT5A: AS SHOWN  
SMMT5B: RF & LO REVERSED

## MM4xSMH-10



**NOTE: See PC board footprint - FP2 on page 3-64**

All dimensions are in inches and [mm].

### Typical Performance at 25°C

