



M4G / SM4G

DOUBLE-BALANCED MIXER

- ◆ LO 800 TO 3500 MHz
- ◆ RF 800 TO 2400 MHz
- ◆ IF DC TO 1500 MHz
- ◆ LO DRIVE +7 dBm (NOMINAL)
- ◆ HIGH ISOLATION 30 dB (TYP.)
- ◆ AVAILABLE IN SURFACE MOUNT
- ◆ MIL-M-28837 EQUIVALENT LEVEL SCREENING AVAILABLE

Guaranteed Specifications ^{1,2}

Characteristics	Typ.	+25°C	-54°C to +85°C	Test Conditions
SSB Conversion Loss and SSB Noise Figure (Max.)	7.0 dB 8.0 dB	8.5 dB 9.0 dB	9.0 dB 9.5 dB	f_L 800 to 3500 MHz f_R 1300 to 2400 MHz f_I 10 to 1500 MHz f_L 800 to 3500 MHz f_R 800 to 2400 MHz f_I 10 to 1500 MHz
Isolation (Min.) f_L at R f_L at I	35 dB 28 dB 25 dB	25 dB 20 dB 18 dB	23 dB 18 dB 16 dB	f_L 800 to 2000 MHz f_L 2000 to 3500 MHz f_L 800 to 3500 MHz
Conversion Compression	1.0 dB			f_R Level = 0 dBm
Desensitization Level	1.0 dB			f_{R2} Level = -2 dBm

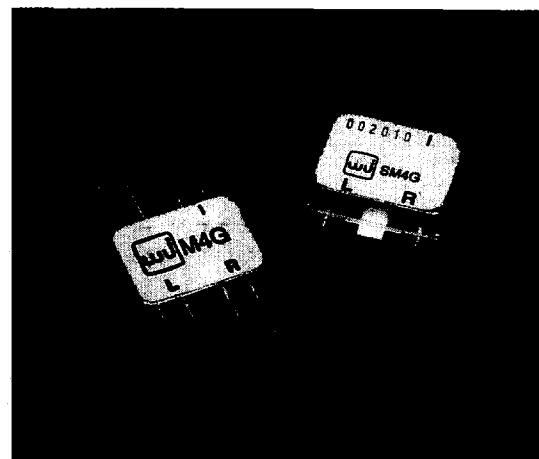
Notes:

1. Measured in a 50-ohm system with nominal LO drive and downconverter application only, unless otherwise specified. The I-Port frequency range extends to DC for phase detection, pulse modulation, or attenuator applications, I-Port VSWR degrades from a 50-ohm system at low IF frequencies.
2. Typical values are measured at +25°C and are not guaranteed.

Absolute Maximum Ratings

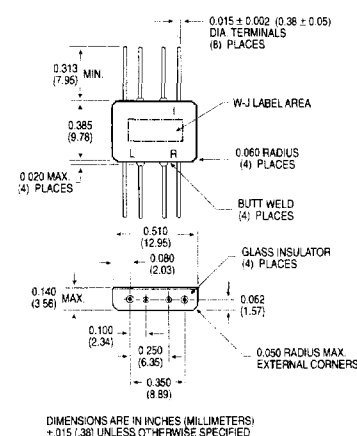
Operating Temperature -54°C to +100°C
 Storage Temperature -65°C to +100°C
 Peak RF Input Power +23 dBm at +25°C, derate to +17 dBm at +100°C
 Peak Input Current at 25°C 50 mA DC

Weight M4G: 2 grams (0.07 oz.) max.
 SM4G: 3 grams (0.11 oz.) max.

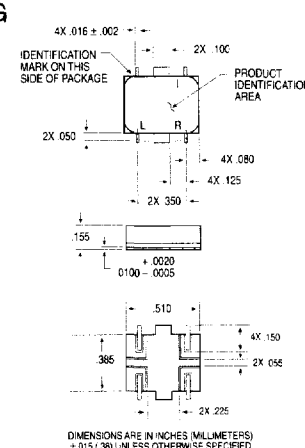


Outline Drawings

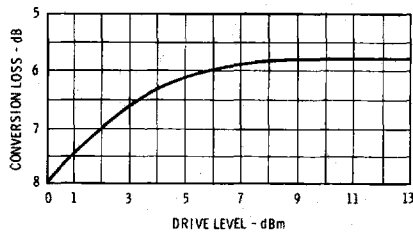
M4G



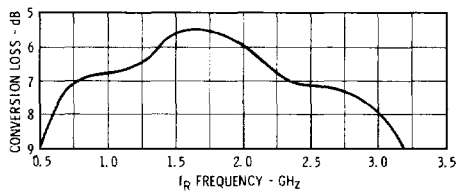
SM4G



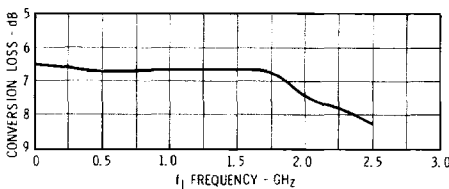
Conversion Loss



Conversion Loss vs. Drive Level: The minimum recommended drive level is +5 dBm. The maximum recommended drive level is +13 dBm.

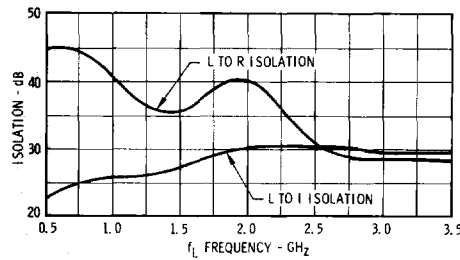


Conversion Loss vs. Input Frequency: Conversion loss of the mixer when used in an SSB system. The frequency ordinate refers to the R-port (f_R) with f_L at 120 MHz and f_L less than f_R . Data plotted with an f_L level of +7 dBm.



Conversion Loss vs. f_I Frequency: Conversion loss of the mixer when used in an SSB system. The frequency ordinate refers to the I-port (f_I) with f_R at 1.2 GHz and f_L swept from 1.2 to 3.7 GHz.

Isolation



Isolation vs. Frequency: 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.