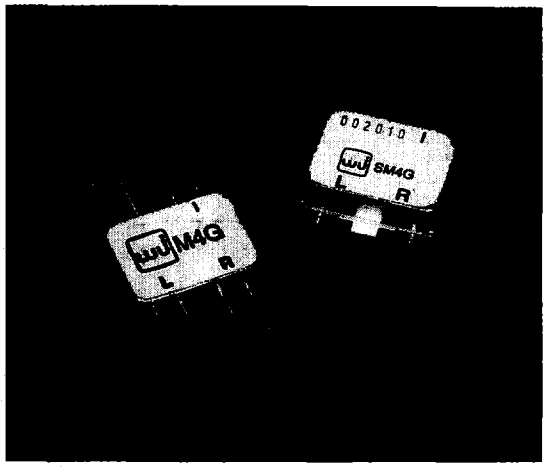
M4G / SM4G



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	8.5 dB	9.0 dB	f_L 800 to 3500 MHz f_R 1300 to 2400 MHz f_I 10 to 1500 MHz
	8.0 dB	9.0 dB	9.5 dB	f_L 800 to 3500 MHz f_R 800 to 2400 MHz f_I 10 to 1500 MHz
Isolation (Min.)				
f_L at R	35 dB	25 dB	23 dB	f_L 800 to 2000 MHz
	28 dB	20 dB	18 dB	f_L 2000 to 3500 MHz
f_L at I	25 dB	18 dB	16 dB	f_L 800 to 3500 MHz
Conversion Compression	1.0 dB			f_R Level = 0 dBm
Desensitization Level	1.0 dB			f_{R_2} 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.

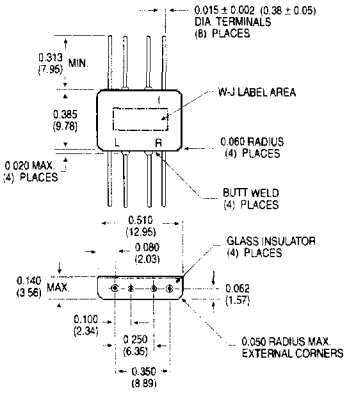
Absolute Maximum Ratings

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

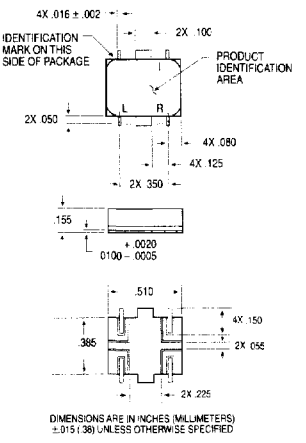
Weight M4G: 2 grams (0.07 oz.) max.
SM4G: 3 grams (0.11 oz.) max.

Outline Drawings

M4G



SM4G



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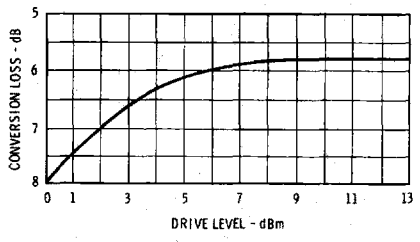
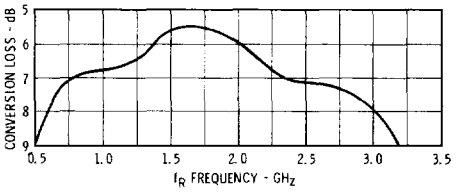
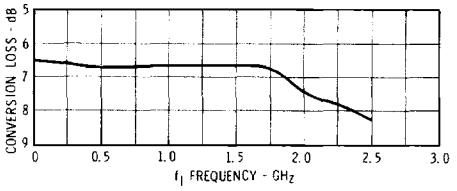
Conversion Loss



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

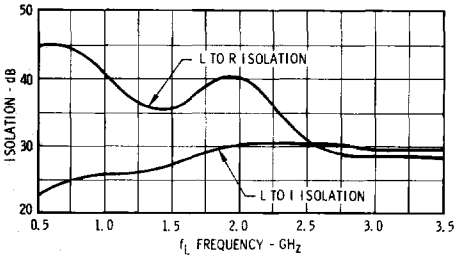


Conversion Loss vs. Input Frequency: Conversion loss of the mixer when used in an SSB system. The frequency ordinate refers to the R-port (f_R) with f_I at 120 MHz and f_L less than f_R. Data plotted with an f_L level of +7 dBm.



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.