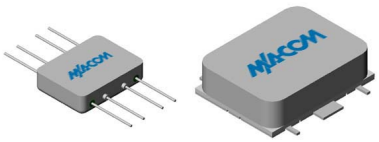
M4B/SM4B



DOUBLE-BALANCED MIXER

·LO 10 TO 1500 MHz
·RF 10 TO 1500 MHz
·IF DC TO 1000 MHz
·LO DRIVE: +13 dBm (NOMINAL)
·HIGH ISOLATION: 35 dB (TYP.)
·AVAILABLE IN SURFACE MOUNT

Specifications (Rev. Date: 6/02)*

Characteristics	Typical	Guaranteed	
		+25°C	-54° to +85°C
SSB Conversion Loss & SSB Noise Figure (max.)			
f_R = 0.01 to 1.2 GHz, f_L = 0.01 to 1.2 GHz, f_I = 0.0004 to 0.2 GHz	7.5 dB	8.5 dB	9.0 dB
f_R = 0.01 to 1.5 GHz, f_L = 0.01 to 1.5 GHz, f_I = 0.0004 to 0.2 GHz	8.0 dB	9.0 dB	9.5 dB
f_R = 0.01 to 1.5 GHz, f_L = 0.01 to 1.5 GHz, f_I = 0.0004 to 1 GHz	8.5 dB	9.5 dB	10.0 dB
Isolation (min.)			
L to R			
f_L = 0.01 to 0.6 GHz	45 dB	35 dB	33 dB
f_L = 0.6 to 1.2 GHz	35 dB	25 dB	23 dB
f_L = 1.2 to 1.5 GHz	28 dB	22 dB	20 dB
L to I			
f_L = 0.01 to 0.6 GHz	40 dB	30 dB	28 dB
f_L = 0.6 to 1.2 GHz	30 dB	25 dB	23 dB
f_L = 1.2 to 1.5 GHz	23 dB	18 dB	16 dB
1 dB Conversion Compression			
f_L @ +13 dBm	+7 dBm		
Input IP3			

* Measured in a 50-ohm system with nominal LO drive and downconverter application only, unless otherwise specified. Subject to change without notice.

Absolute Maximum Ratings

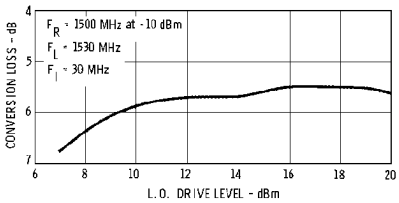
Operating Temperature	-54°C to 100°C
Storage Temperature	-65°C to 100°C
Peak Input Power	23 dBm max. @ +25°, 17 dBm max. @ +100°C
Peak Input Current	50 mA DC

Outline Drawing(s)

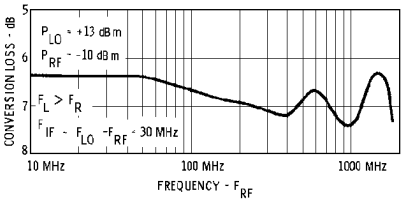
Package	Figure	Model
FP	EA	M4B
SM	AE	SM4B

Typical Performance at 25°C

Conversion Loss

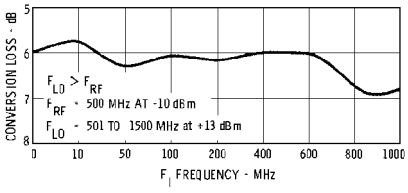


Conversion Loss vs. Drive Level: The minimum recommended drive level is +10 dBm. The maximum recommended drive level is +17 dBm.



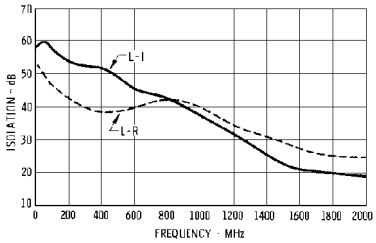
Conversion Loss vs. Frequency: Conversion loss of the mixer when used in an SSB system. The frequency ordinate refers to the R-port (f_R) with f_I equal to 30 MHz. Data plotted with an f_L level of +13 dBm.

Conversion Loss



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 (fI) with fR at 500 MHz and fL from 501 to 1500 MHz.

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.