

MCH3008 1 TO 3400 MHz TO-8H TRIPLE-BALANCED MIXER

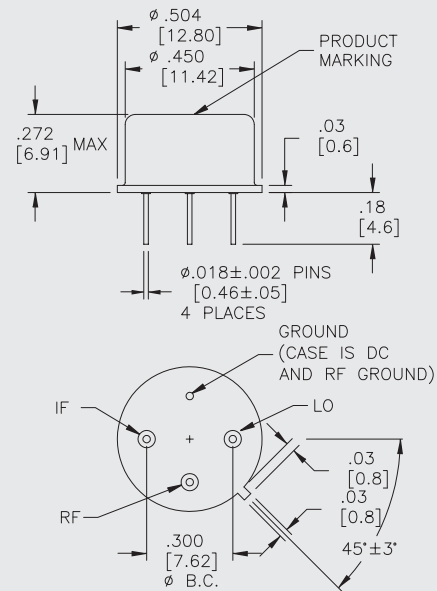
Typical Values

LO & RF	1-3400 MHz
IF	1 to 2000
Third Order I.P.	+20.0 dBm
Conversion Loss	6.0 dB
LO Drive (nominal)	+10.0 dBm
High Isolation (LO to RF)	40.0 dB
Termination Insensitive	
Packages: Tall TO-8, or Standard Surface Mount Mixer	

MCH3008

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TO-8H Package for Mixer



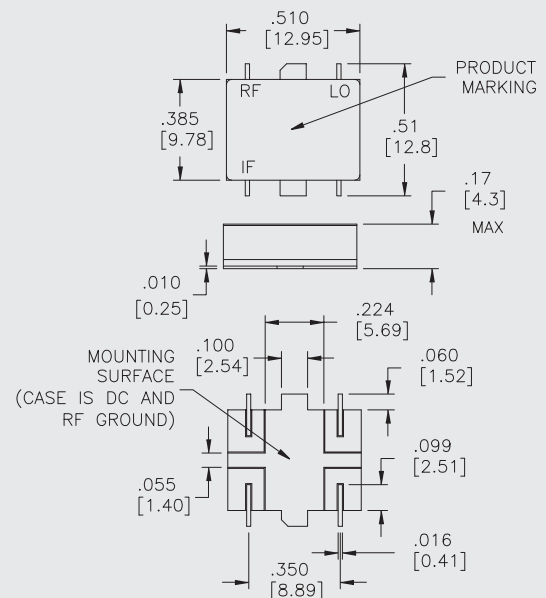
SPECIFICATIONS*

**Guaranteed
-55 to +85 °C**

Parameter	Port	Frequency (MHz)	Typ. (dB)	Max. (dB)
SSB Conversion Loss and SSB Noise Figure[^]	f _R	5 to 1000	6.0	7.5
	f _L	10 to 1500	6.0	7.5
	f _I	1 to 500	6.0	7.5
	f _R	1 to 3000	7.0	9.0
	f _L	1 to 3100	7.0	9.0
	f _I	1 to 2000	7.0	9.0
	f _R	1 to 3400	8.0	9.5
Conversion Comp. Desensitization Level	f _R	Level = 0 dBm	—	1.0
	f _{R2}	Level = -2 dBm	—	1.0
Isolation	f _L at R	10 to 1500	Typ. (dB)	Min. (dB)
	f _L at I		43	33
	f _L at R	1500 to 2000	40	30
	f _L at I		35	23
	f _L at R	2000 to 3400	40	28
	f _L at I		35	23

MTS3008

Surface Mount Package for Mixer

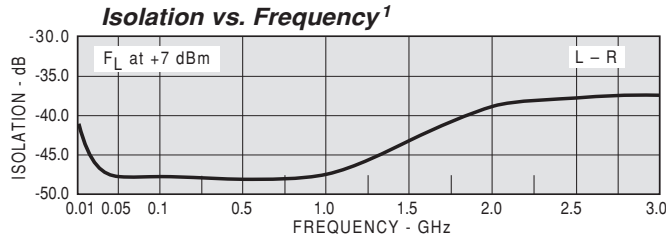
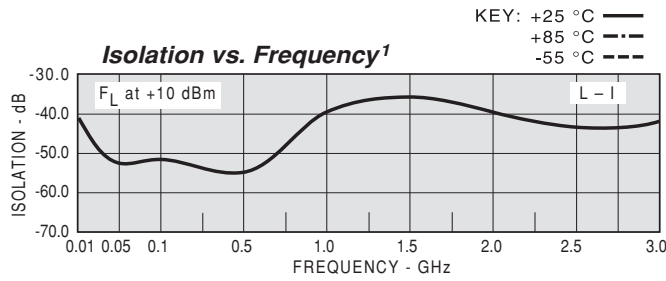


DIMENSIONS ARE IN INCHES [MILLIMETERS]

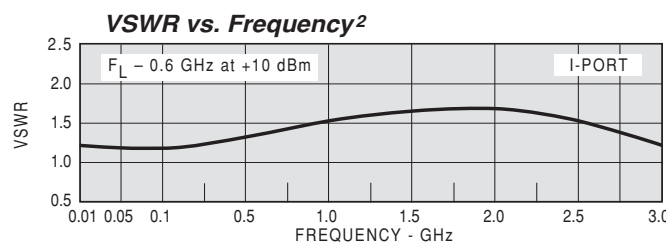
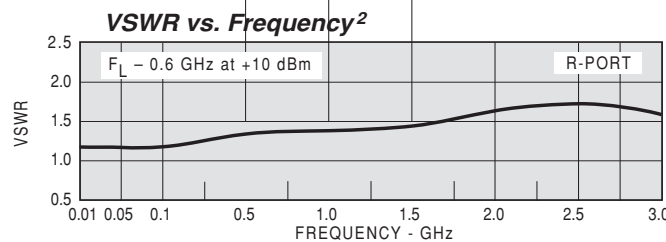
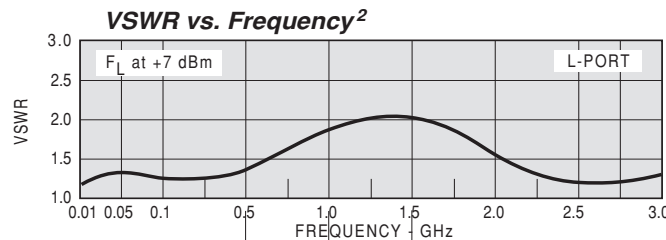
ABSOLUTE MAXIMUM RATINGS

Storage Temperature	-65 to +125 °C
Peak Input Power	+27 dBm @ 25 °C
	derate to +23 dBm @ 100 °C
Peak Input Current @ 25°C	50 mA DC

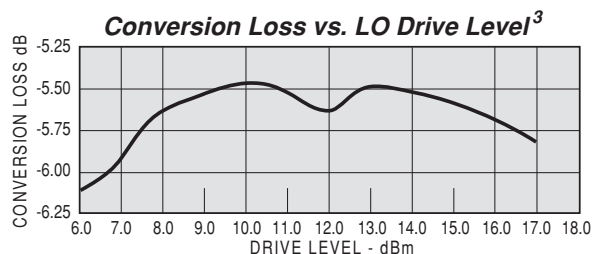
TYPICAL PERFORMANCE



¹ 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.



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 The minimum recommended drive level is +6 dBm. The maximum recommended drive level is +18 dBm.

Harmonic Intermodulation Products (single tone)

	87.4	88.4	84.2	85.8	86.9	86.8
5	88.4	90.3	84.3	85.6	86.5	86.7
4	88.4	83.8	85.7	87.0	86.7	86.1
3	89.7	84.4	84.5	86.4	87.7	87.0
2	71.5	84.1	68.7	68.0	71.1	67.0
1	71.9	71.2	68.0	60.4	67.8	58.4
0	64.0	64.6	81.1	62.0	66.2	65.4
	62.8	89.4	66.4	64.2	68.6	70.8
	32.8	0.0	37.4	12.5	44.5	22.0
	34.7	0.0	38.0	11.4	38.9	19.0
	28.6	16.8	29.9	25.0	30.7	
	22.6	17.6	32.3	29.2	39.2	

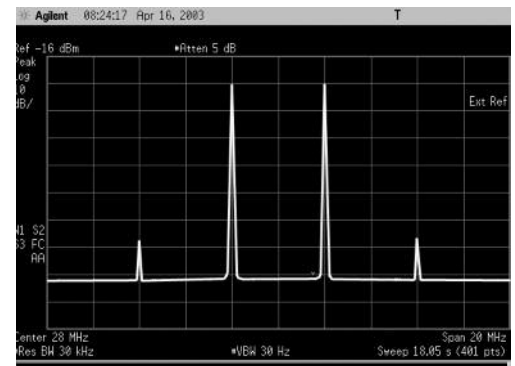
$F_R = 1000 \text{ MHz @ } -10 \text{ dBm}$ $F_L = 1030 \text{ MHz}$
 $F_L \text{ @ } +10 \text{ dBm}$ $F_L \text{ @ } +13 \text{ dBm}$

Harmonic Intermodulation Products (single tone)

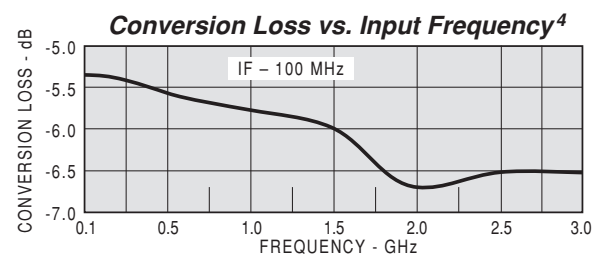
	84.2	86.4	85.4	88.5	84.5	85.9
5	83.9	87.0	85.9	88.9	84.9	86.5
4	85.1	86.3	87.9	84.5	85.9	86.9
3	86.6	86.6	88.8	84.9	85.5	88.2
2	85.3	76.8	80.2	63.7	79.2	70.8
1	82.9	73.2	76.9	59.8	74.7	65.8
0	92.0	75.8	67.1	69.2	70.7	72.3
	73.0	74.4	68.2	71.8	71.4	84.0
	24.0	0.0	36.0	18.8	47.3	42.7
	24.9	0.0	48.1	18.6	54.8	39.2
	8.8	19.5	29.6	31.5	41.1	

$F_R = 3000 \text{ MHz @ } -10 \text{ dBm}$ $F_L = 3030 \text{ MHz}$
 $F_L \text{ @ } +10 \text{ dBm}$ $F_L \text{ @ } +13 \text{ dBm}$

IP3



$F_R = 1000, 1004 \text{ MHz @ } -10 \text{ dBm}$ $F_L = 1030 \text{ MHz @ } +10 \text{ dBm}$
 Vertical Scale: 10 dB/DIV



⁴ 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 100 MHz. Data plotted with an f_L level of +10.0 dBm.