

MA4EX370H-1225T



Silicon Double Balanced HMIC Mixer
3000 - 4000 MHz

Rev. V1

Features

- 6.8 dB Typical Conversion Loss
- +13 to +17 dBm LO Drive
- HMIC IC Process
- Silicon High Barrier Schottky Barrier Diodes
- DC - 1050 Mhz IF Bandwidth
- Low Cost Miniature Plastic Package

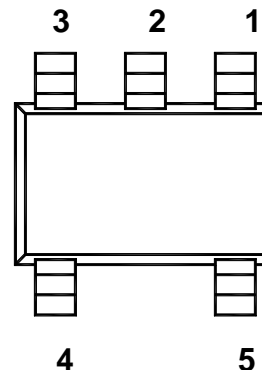
Description

M/A-COM's MA4EX370H-1225T is a silicon monolithic 3.0 -4.0 GHz double balanced mixer in a low cost miniature surface mount SOT25 package. The die uses M/A-COM's unique HMIC silicon/glass process to realize low loss passive elements while retaining the advantages of high barrier silicon Schottky barrier diodes.

Applications

These mixers are well suited for high volume WLL and WLAN applications where small size and repeatability are required. Typical applications include frequency conversion, modulation, and demodulation in wireless receivers and transmitters.

Package Outline



PIN CONFIGURATION

PIN	Function	PIN	Function
1	RF	4	Gnd
2	Gnd	5	IF
3	LO		

Ordering Information

Model No.	Package
MA4EX370H-1225T	Tape and Reel

Electrical Specifications @ +25°C

Parameter	Frequency Range	Test Conditions	Units	Min.	Typ.	Max.
Conversion Loss	3500 MHz 3.0 - 4.0 GHz	LO Drive = +15 dBm RF = -10 dBm, IF = 60 MHz	dB		6.8 6.8	8.5 9.0
L - R Isolation	3500 MHz 3.0 - 4.0 GHz	LO Drive = +15 dBm RF Level = - 10 dBm	dB		27.5 26.0	
L - I Isolation	3500 MHz 3.0 - 4.0 GHz	LO Drive = +15 dBm RF Level = - 10 dBm	dB		29.0 27.0	
R - I Isolation	3500 MHz 3.0 - 4.0 GHz	LO Drive = +15 dBm RF Level = - 10 dBm	dB		11.0 12.0	
RF VSWR	3500 MHz 3.0 - 4.0 GHz	LO Drive = +15 dBm RF Level = - 10 dBm			1.25 2.0	
IF VSWR	DC - 500 MHz	LO Drive = +15 dBm IF Level = - 10 dBm			2.0	
Input IP3	3500 MHz 3.0 - 4.0 GHz	LO Drive = +15 dBm RF = -10 dBm, IF = 60 MHz	dBm		12.5 13.5	
Input 1 dB Compression	3500 MHz 3.0 - 4.0 GHz	LO Drive = +15 dBm RF = -10 dBm, IF = 60 MHz	dBm		8.0 8.5	
IF 1 dB Bandwidth	DC - 500 MHz	LO = 3650 MHz @+15dBm	MHz			1050

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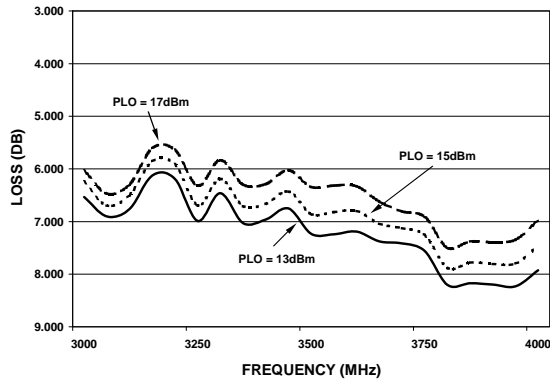


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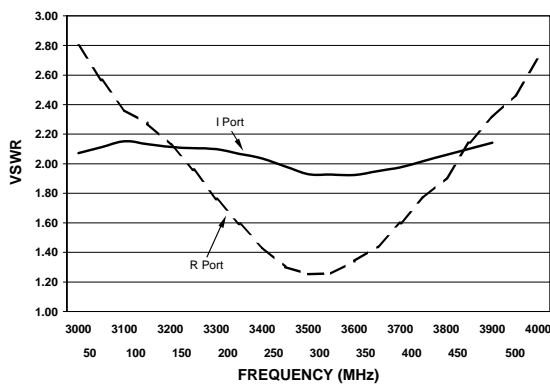
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Typical Performance Curves (LO Drive = +15dBm, RF = -10dBm, IF = 60MHz)

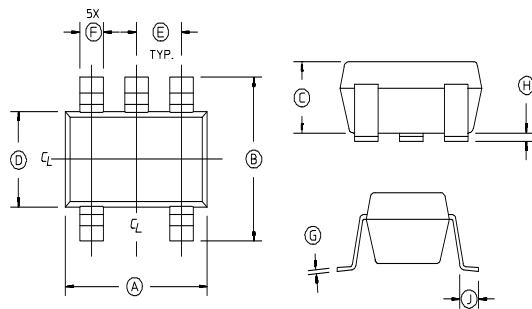
CONVERSION LOSS



VSWR



Case Style – SOT-25

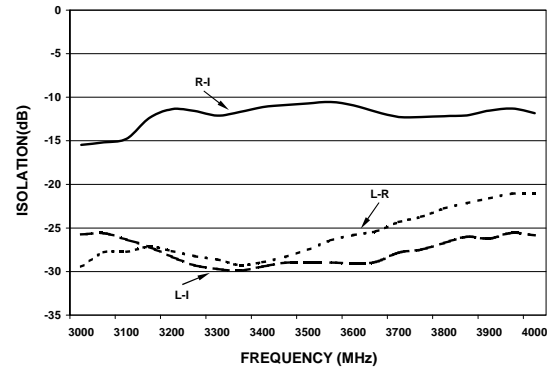


Absolute Maximum Ratings¹

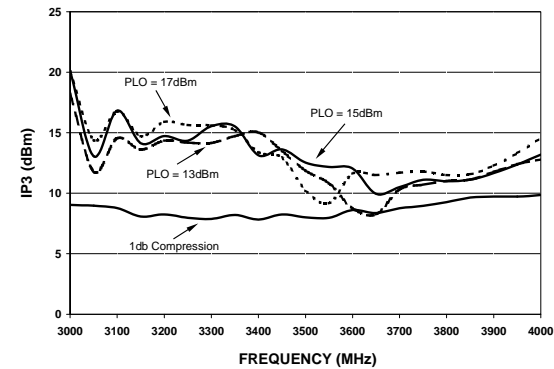
Parameter	Maximum Ratings
Operating Temperature	-40°C to +85°C
Storage Temperature	-65°C to +150°C
Incident LO Power	+20 dBm
Incident RF Power	+20 dBm

1. Exceeding these limits may cause permanent damage.

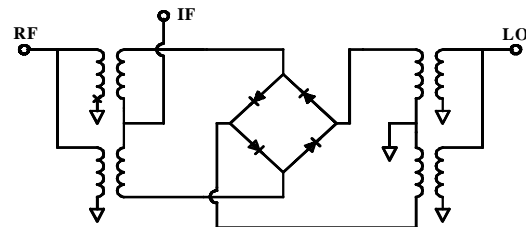
ISOLATION



INPUT IP3 & 1dB Compression Point



Schematic



SOT-25

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	.106	.122	2.70	3.10
B	.100	.118	2.54	3.00
C	—	.051	—	1.30
D	.063 REF.		1.60 REF.	
E	.032	.043	.80	1.10
F	.014	.020	.35	.50
G	.003	—	.08	—
H	.000	.006	.00	.15
J	.018 REF.		.45 REF.	

Notes: 1. Leads Coplanarity should be 0.003 (0.08) max.

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