MA4EX370M-1225T

Silicon Double Balanced HMIC Mixer
3000 - 4000 MHz

Rev. V2

Features

- 7.0 dB Typical Conversion Loss
- +7 to +13 dBm LO Drive
- HMIC IC Process
- Silicon Medium Barrier Schottky Barrier Diodes
- DC - 1050 MHz IF Bandwidth
- Low Cost Miniature Plastic Package

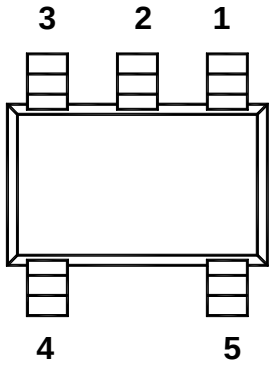
Description

M/A-COM's MA4EX370M-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 medium 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
MA4EX370M-1225T	Tape and Reel

Electrical Specifications @ +25°C

Parameter	Frequency Rage	Test Conditions	Units	Min.	Typ.	Max.
Conversion Loss	3500 MHz 3.0 - 4.0 GHz	LO Drive = +10 dBm RF = -10 dBm, IF = 60 MHz	dB		6.3 7.0	7.5 9.0
L - R Isolation	3500 MHz 3.0 - 4.0 GHz	LO Drive = +10 dBm RF Level = - 10 dBm	dB		27.0 22.0	
L - I Isolation	3500 MHz 3.0 - 4.0 GHz	LO Drive = +10 dBm RF Level = - 10 dBm	dB		31.0 27.0	
R - I Isolation	3500 MHz 3.0 - 4.0 GHz	LO Drive = +10 dBm RF Level = - 10 dBm	dB		11.0 13.0	
RF VSWR	3500 MHz 3.0 - 4.0 GHz	LO Drive = +10 dBm RF Level = - 10 dBm			1.10 2.20	
IF VSWR	DC - 500 MHz	LO Drive = +10 dBm IF Level = - 10 dBm			1.90	
Input IP3	3500 MHz 3.0 - 4.0 GHz	LO Drive = +10 dBm RF = -10 dBm, IF = 60 MHz	dBm		15.0 13.0	
Input 1 dB Compression	3500 MHz 3.0 - 4.0 GHz	LO Drive = +10 dBm RF = -10 dBm, IF = 60 MHz	dBm		5.0 5.0	
IF 1 dB Bandwidth	DC - 500 MHz	LO = 3650 MHz @+10dBm	MHz			1050

• **North America** Tel: 800.366.2266 • **Europe** Tel: +353.21.244.6400
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Visit www.macomtech.com for additional data sheets and product information.

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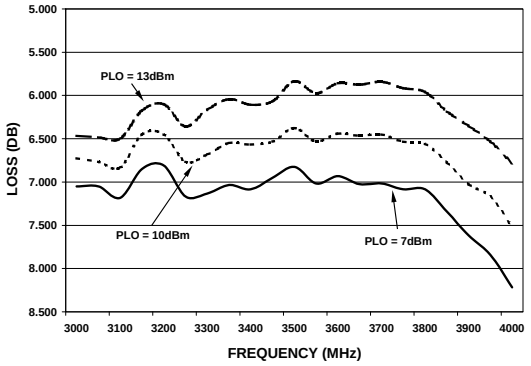
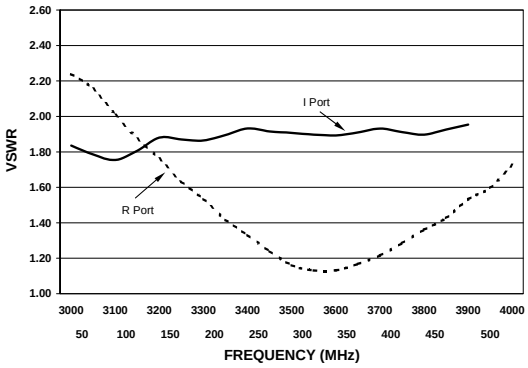
Typical Performance Curves
(LO Drive = +10dbm, RF = -10dBm, IF = 60MHz)

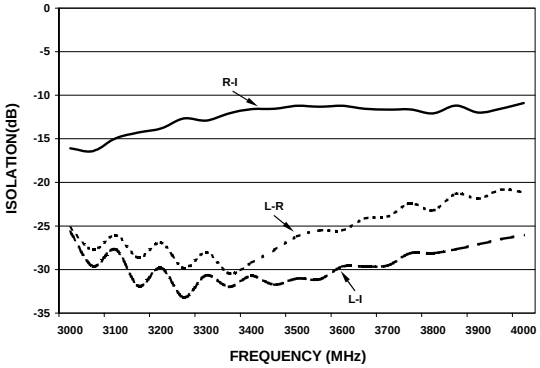
CONVERSION LOSS



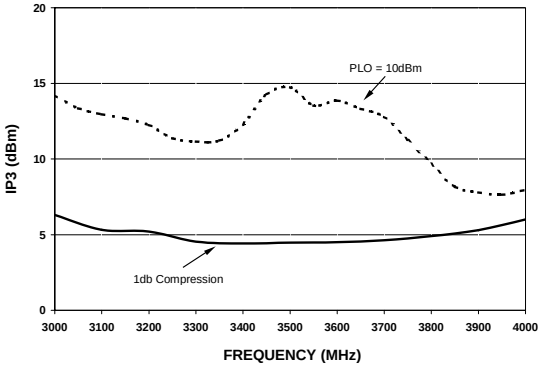
VSWR



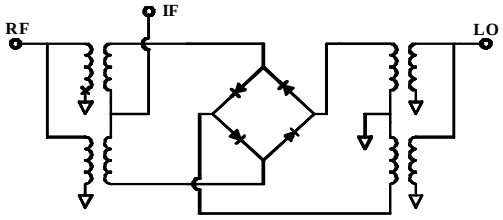
ISOLATION



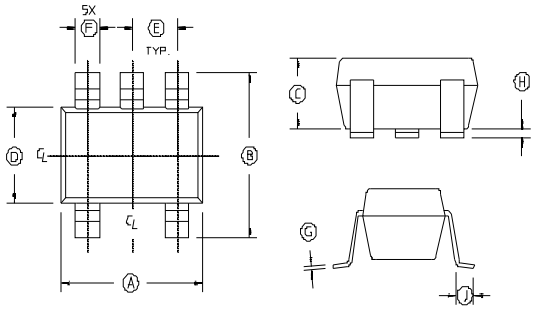
INPUT IP3 & 1dB Compression Point



Schematic



Case Style – SOT-25



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.

Absolute Maximum Ratings[1]

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.

ADVANCED: Data Sheets contain information regarding a product M/A-COM Technology Solutions is considering for development. Performance is based on target specifications, simulated results, and/or prototype measurements. Commitment to develop is not guaranteed.
PRELIMINARY: Data Sheets contain information regarding a product M/A-COM Technology Solutions has under development. Performance is based on engineering tests. Specifications are typical. Mechanical outline has been fixed. Engineering samples and/or test data may be available. Commitment to produce in volume is not guaranteed.

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