

MA4EX900L-1226T

Silicon Double Balanced HMIC Mixer 700 - 1000 MHz

Rev. VP2

Features

- Low Cost Miniature Plastic Package
- 6.5 dB Typical Conversion Loss at 850 MHz
- +3 to +7 dBm LO Drive
- HMIC™ Process
- Silicon Low Barrier Schottky Diodes
- DC - 400 MHz IF Bandwidth

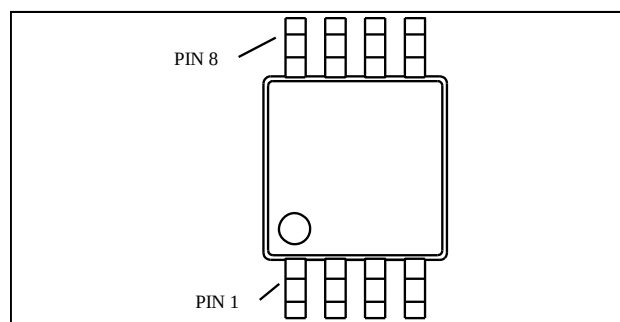
Description

M/A-COM's MA4EX900L-1226 is a silicon monolithic double balanced low barrier mixer in a low cost surface mount 8 lead plastic MSOP package. The die uses M/A-COM's unique HMIC™ silicon/glass process to achieve low loss passive elements while retaining the advantages of low barrier silicon Schottky diodes.

Applications

These mixers are well suited for high volume wireless and cellular applications where small size and repeatability are required. Typical Applications include frequency conversion, modulation, and demodulation for receivers and transmitters in both portable cellular and base station applications.

MSOP-8 Plastic Package



PIN Configuration

PIN	Function	PIN	Function
1	GND	5	LO
2	IF	6	GND
3	GND	7	GND
4	GND	8	RF

Ordering Information

Model No.	Package
MA4EX900L-1226T	Tape and Reel

Electrical Specifications @ 25°C

Parameter	Freq. Range	Test Conditions	Units	Min.	Typ.	Max.
Conversion Loss	850 MHz 700 - 1000 MHz	LO Drive = +5 dBm RF = -10 dBm, IF = 60 MHz	dB dB	— —	6.5 7.0	7.0 9.0
L-R Isolation	850 MHz 700 - 1000 MHz	LO Drive = +5 dBm RF Level = -10 dBm	dB dB	— —	26 23	— —
L-I Isolation	850 MHz 700 - 1000 MHz	LO Drive = +5 dBm RF Level = -10 dBm	dB dB	— —	31 30	— —
R-I Isolation	850 MHz 700 - 1000 MHz	LO Drive = +5 dBm RF Level = -10 dBm	dB dB	— —	23 21	— —
LO VSWR	850 MHz 700 - 1000 MHz	LO Drive = +5 dBm RF Level = -10 dBm	— —	— —	1.6 1.6	— —
RF VSWR	850 MHz 700 - 1000 MHz	LO Drive = +5 dBm RF Level = -10 dBm	— —	— —	1.1 1.8	— —
IF VSWR	DC - 300 MHz	LO Drive = +5 dBm RF Level = -10 dBm	— —	— —	1.9	— —
Input IP3	850 MHz 700 - 1000 MHz	LO Drive = +5 dBm IF = 60 MHz	dBm dBm	8.0 8.0	+9.5 +11.0	— —
Input 1 dB Compression	850 MHz 700 - 1000 MHz	LO Drive = +5 dBm IF = 60 MHz	dBm dBm	— —	+1.0 +1.0	— —
IF 1 dB Bandwidth			MHz	0	400	—

Specifications subject to change without notice.

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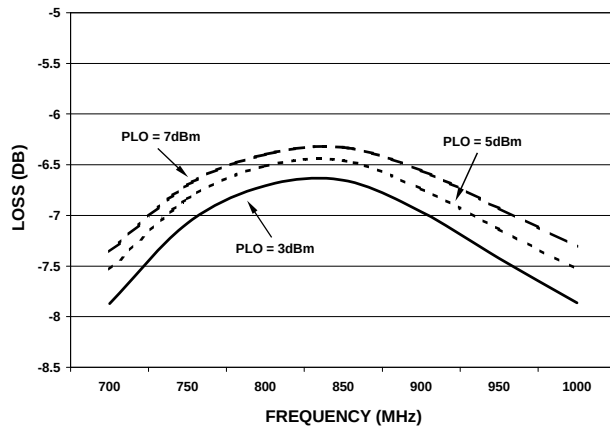


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700 - 1000 MHz

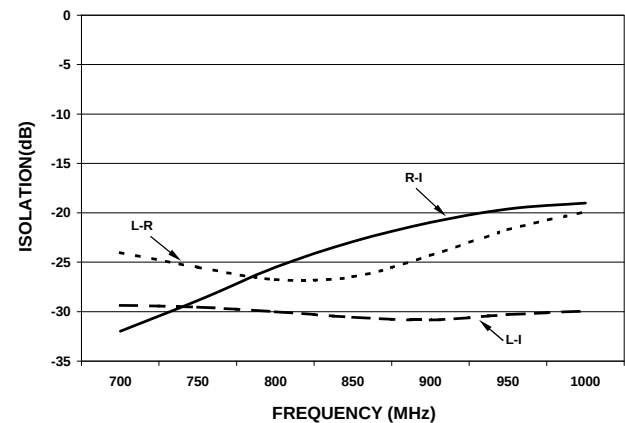
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Typical Performance Curves (LO Drive = +5 dBm, RF = -10 dBm, IF = 60 MHz)

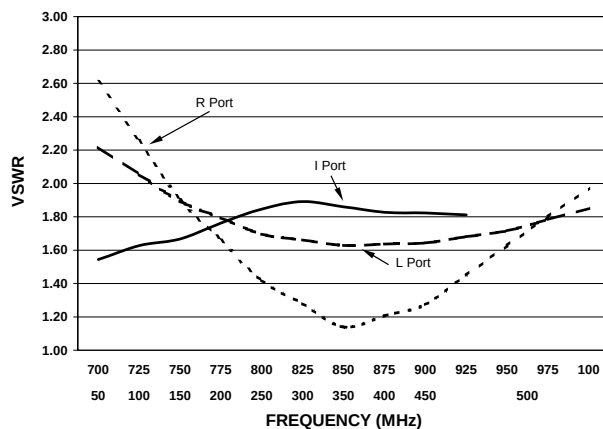
Conversion Loss



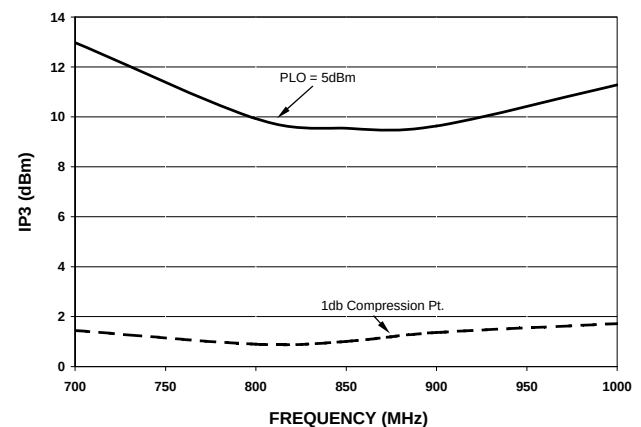
Isolation



VSWR



Input IP3 & 1 dB Compression Point

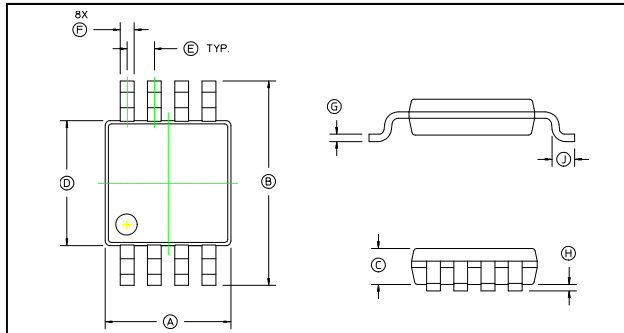


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Case Style - MSOP-8 / ODS-1226



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.

MSOP-8 / ODS-1226 ²

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	.110	.126	2.80	3.20
B	.184	.202	4.67	5.13
C	—	.040	—	1.02
D	.118 REF		3.00 REF	
E	.020	.031	.50	.80
F	.008	.016	.20	.40
G	.003	—	.08	—
H	.000	.006	.00	.15
J	.022 REF		.55 REF	

2. Leads Coplanarity should be 0.003 (0.08) max.

Schematic

