

**Silicon Double Balanced HMIC
Mixer 850 – 1050 MHz**

**MAMX-090950-1277LT
V1**

Features

- + 21 dBm Typical Input IP3
- 8.3 dB Typical Conversion Loss
- +5 to +10 dBm LO Drive
- Fully Balanced Passive Mixer
- Low Cost Miniature Plastic MLP Package
- Lead Free (RoHS Compliant) with 260 °C Reflow Capability
- 100 % Matte Tin Plating

MLP 3mm Package - Circuit Side



Description

M/A-COM's MAMX-090950-1277LT is a 850-1050 MHz silicon monolithic double balanced mixer in a low cost miniature surface mount MLP 3 mm, 16 lead plastic 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 GSM and CDMA Cellular basestation applications where small size and high performance are required. Typical applications include frequency conversion, modulation, and demodulation in wireless receivers and transmitters.

PIN CONFIGURATION

(center area is ground)

PIN	Function	PIN	Function
1	N/C	9	N/C
2	N/C	10	RF
3	LO	11	N/C
4	N/C	12	N/C
5	N/C	13	N/C
6	N/C	14	IF
7	N/C	15	N/C
8	N/C	16	N/C

Ordering Information

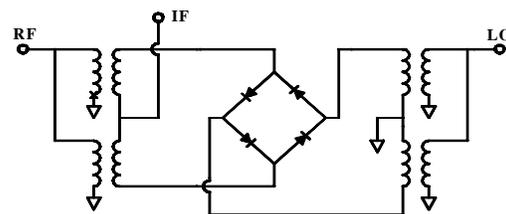
Model No.	Package
MAMX-090950-1277LT	Tape and Reel

Absolute Maximum Ratings 1

Parameter	Maximum Ratings
Operating Temperature	-65°C to +125°C
Storage Temperature	-65°C to +150°C
Incident LO Power	+20 dBm
Incident RF Power	+20 dBm
Soldering Temperature	+260°C max.

1. Exceeding these limits may cause permanent damage.
- * Please refer to application note M538 for surface mounting instructions.

Schematic



The Preliminary Specifications Data Sheet Contains Typical Electrical Specifications Which May Change Prior to Final Introduction.

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Electrical Specifications @ 25 Deg.C.

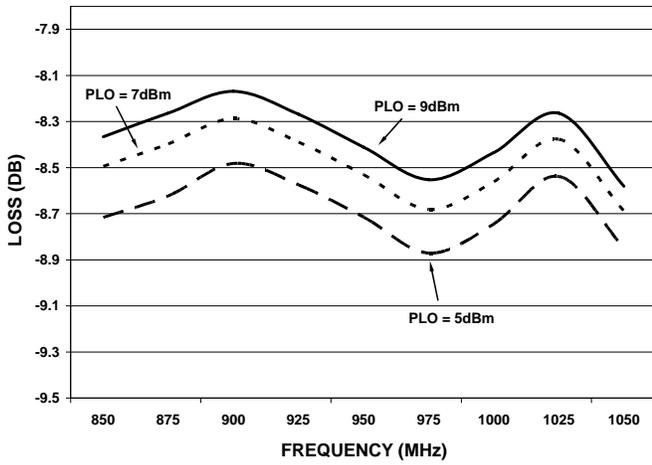
Parameter	Frequency Range	Test Conditions	Units	Min.	Typ.	Max.
Conversion Loss	900 MHz	LO Drive = +7 dBm	dB	-	8.2	8.9
	850-1050 MHz	RF = -10 dBm, IF = 60 MHz		-	8.5	9.5
L - R Isolation	900 MHz	LO Drive = +7 dBm	dB	-	65	-
	850-1050 MHz	RF Level = - 10 dBm		-	62	-
L - I Isolation	900 MHz	LO Drive = +7 dBm	dB	-	46	-
	850-1050 MHz	RF Level = - 10 dBm		-	46	-
R - I Isolation	900 MHz	LO Drive = +7 dBm	dB	-	23	-
	850-1050 MHz	RF Level = - 10 dBm		-	23	-
LO VSWR	900 MHz	LO Drive = +7 dBm	Ratio	-	1.5:1	-
	850-1050 MHz	RF Level = - 10 dBm		-	1.5:1	-
RF VSWR	900 MHz	LO Drive = +7 dBm	Ratio	-	1.3:1	-
	850-1050 MHz	RF Level = - 10 dBm		-	1.5:1	-
IF VSWR	DC - 400 MHz	LO Drive = +7 dBm IF Level = - 10 dBm	Ratio	-	1.5:1	-
Input IP3	900 MHz	LO Drive = +7 dBm	dBm	17.8	21.0	-
	850-1050 MHz	RF = - 10 dBm, IF = 60 MHz		16.9	20.5	-
Input 1 dB Compression	900 MHz	LO Drive = +7 dBm	dBm	-	4.3	-
	850-1050 MHz	IF = 60 MHz		-	4.3	-
IF 1 dB Bandwidth	DC - 400 MHz	LO = 900 MHz @ +7dBm	MHz	0	-	400

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Typical Performance Curves

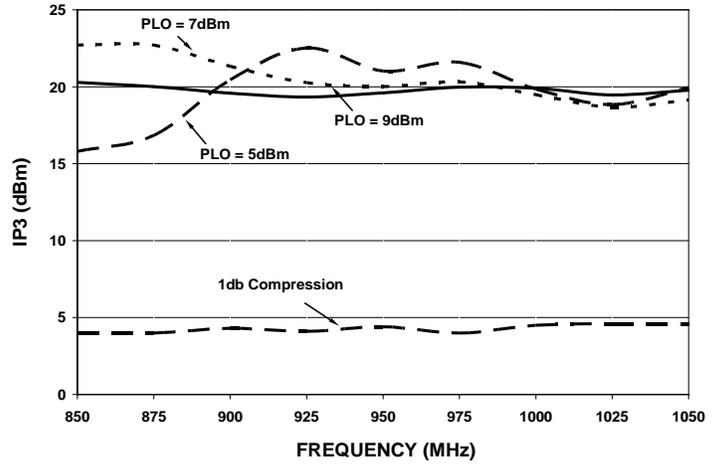
Conversion Loss

LO Drive=+5/+7/+9dbm,RF=-10dBm,IF= 60MHz



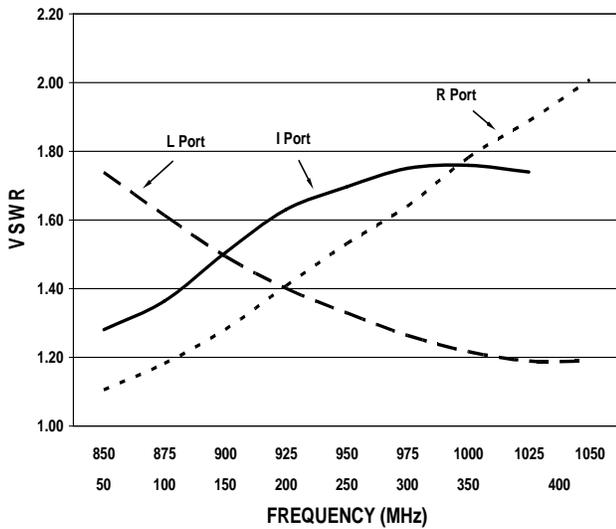
Input 1 dB & P1dB

LO Drive=+5/+7/+9dbm,RF=-10dBm,IF= 60MHz



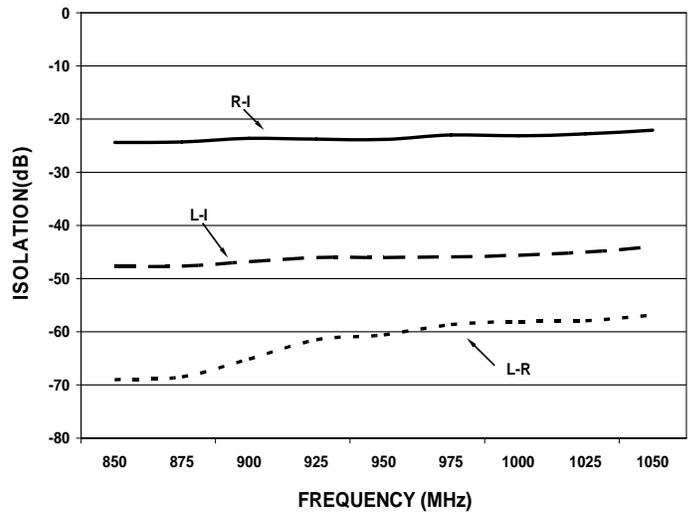
VSWR

LO Drive= +7dbm, RF= -10dBm, IF= 60MHz



Isolation

LO Drive= +7dbm, RF= -10dBm)



Specification Subject to Change Without Notice

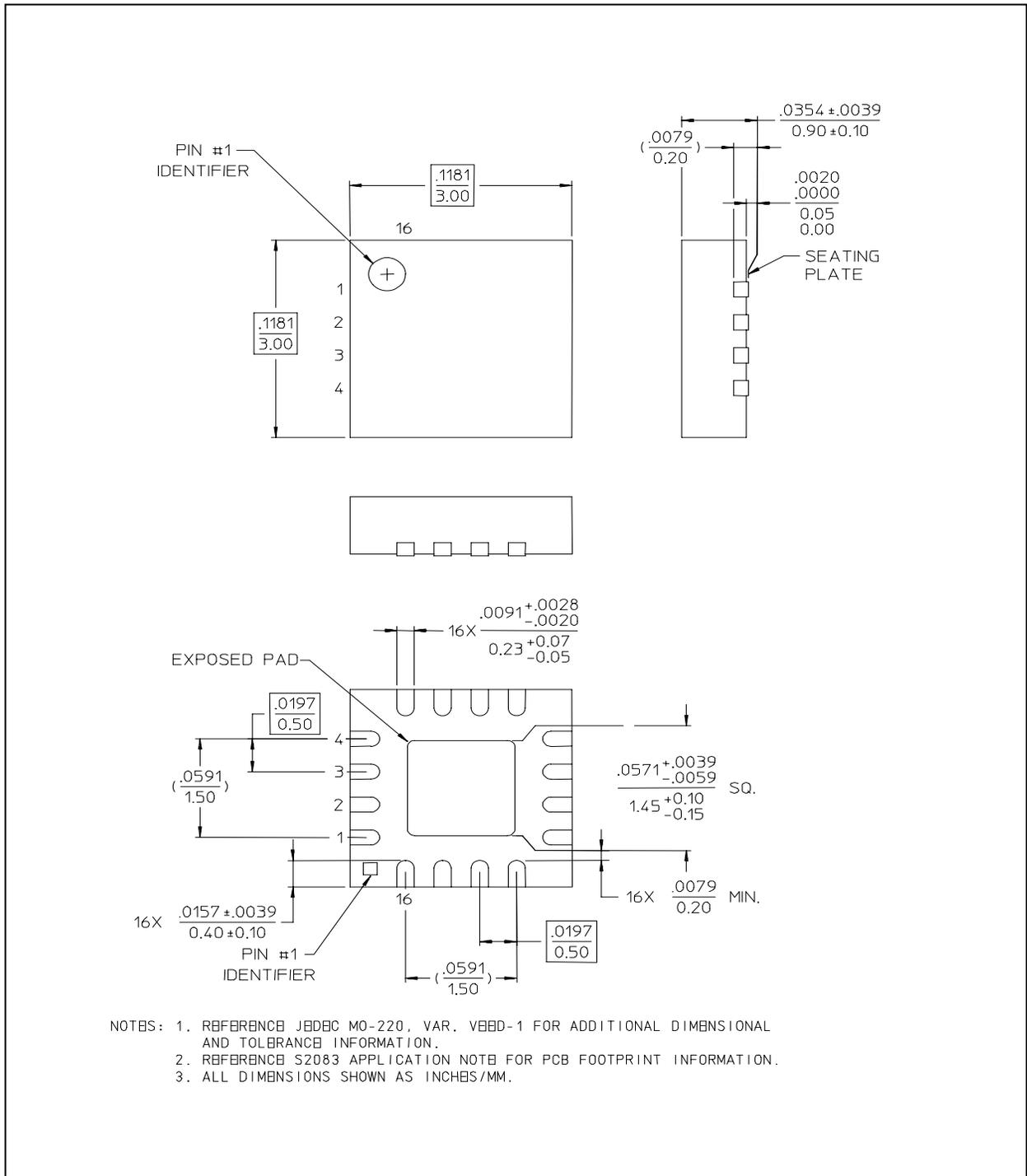
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MAMX-090950-1277LT Outline
3mm FQFP- 16 Lead Saw Singulated



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