

# E-Series HMIC Double Balanced Mixer

## 700 - 1400 MHz

# EMD40-900H

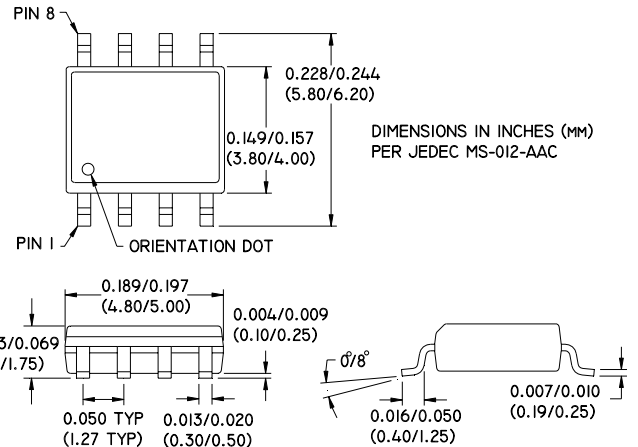
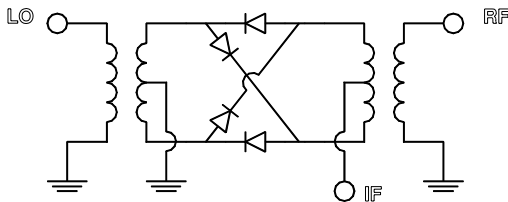
### Features

- \* SOIC-8 package
- \* IC process
- \* Low profile
- \* LO Drive +13dBm to +17dBm

### Description

M/A-COM's EMD40-900H is a passive double balanced mixer in a low cost, surface mount SOIC-8 package. Fabricated using a mature silicon process (HMIC), it is ideally suited for high volume cellular and wireless applications. Typical applications include frequency up/down conversion, modulation and demodulation in GSM, AMPS, DAMPS and JDC frequencies.

### Schematic



### Pin Configuration

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

### Ordering Information

Part Number	Packaging
EMD40-900H	Tube
EMD40-900HTR	Tape and Reel

### Specifications @ 25°C

Frequency Range	700 - 1400 MHz		
	Maximum	Mean (x)	Sigma (σ)
<b>Conversion Loss</b>			
700 - 1000 MHz	9.0 dB	6.61 dB	.26
1000 - 1400 MHz	11.0 dB	8.99 dB	.29
<b>L - R Isolation</b>	<b>Minimum</b>	<b>Typical</b>	
700 - 1000 MHz	29.0 dB	31.9 dB	
1000 - 1400 MHz	28.0 dB	31.2 dB	
<b>L - I Isolation</b>	<b>Minimum</b>	<b>Typical</b>	
700 - 1000 MHz	24.0 dB	28.1 dB	
1000 - 1400 MHz	20.0 dB	26.3 dB	
<b>LO VSWR</b>	<b>Maximum</b>	<b>Typical</b>	
700 - 1000 MHz	3.10	2.01	
1000 - 1400 MHz	4.50	2.48	
<b>RF VSWR</b>	<b>Maximum</b>	<b>Typical</b>	
700 - 1000 MHz	3.30	1.70	
1000 - 1400 MHz	5.00	4.01	
<b>IF VSWR</b>	<b>Maximum</b>	<b>Typical</b>	
DC - 400 MHz	1.40	1.16	
<b>Input IP3</b>	<b>Minimum</b>	<b>Typical</b>	
700 - 1000 MHz	16.0 dBm	22.3 dBm	
1000 - 1400 MHz	19.0 dBm	24.8 dBm	
<b>IF 1.0 dB Bandwidth</b>	DC - 500MHz		
<b>Input 1dB Compression</b>	+7.0 dBm		

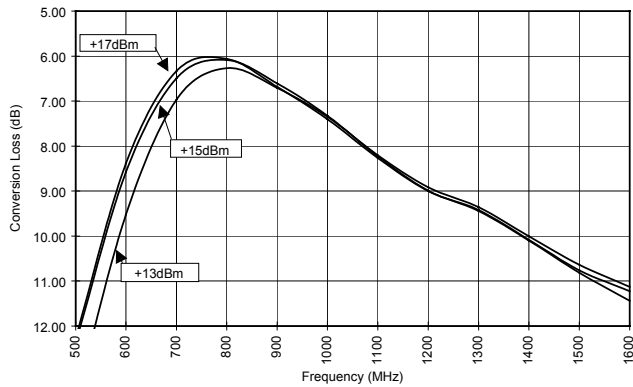
Test conditions: LO drive = +17dBm, IF frequency = 60MHz. Mean and sigma calculated at 850MHz and 1200MHz.

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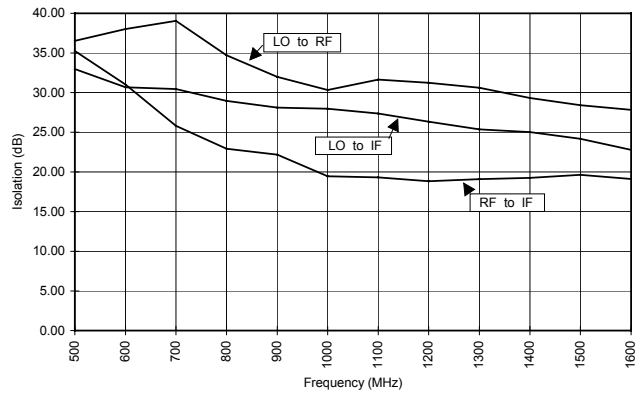
Specifications Subject to Change Without Notice

## Typical Performance Over Extended Bandwidth

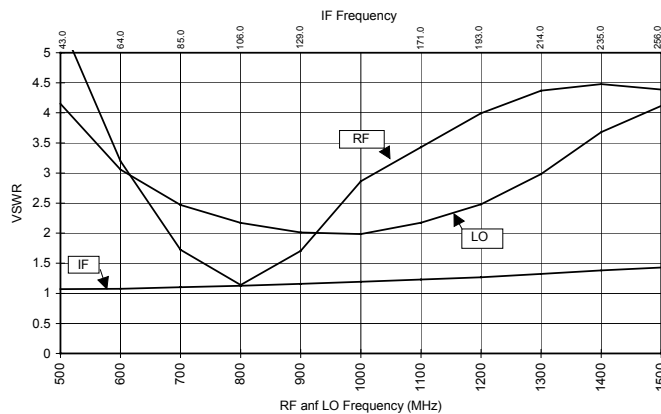
### Conversion Loss



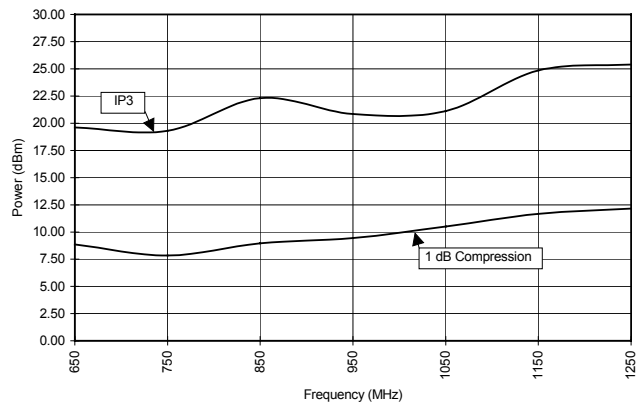
### Isolation



### VSWR



### IP3 and 1dB Compression



Note: Conversion loss measured with fixed IF frequency of 60MHz. All measurements made with input power of +17dBm.

## Absolute Maximum Ratings

Parameter	Absolute Maximum
RF Input Power	+27dBm
LO Drive Power	+27dBm
Operating/Storage Temp.	-40°C to +85°C

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