

Low Cost High IP3 Mixer for PCS/WLL Applications

Rev. V2

Features

- LO & RF 1800 to 2000 MHz
- IF 10 to 150 MHz
- LO Drive +13 dBm (nominal)
- Surface Mount
- High Intercept +22 dBm (typ)

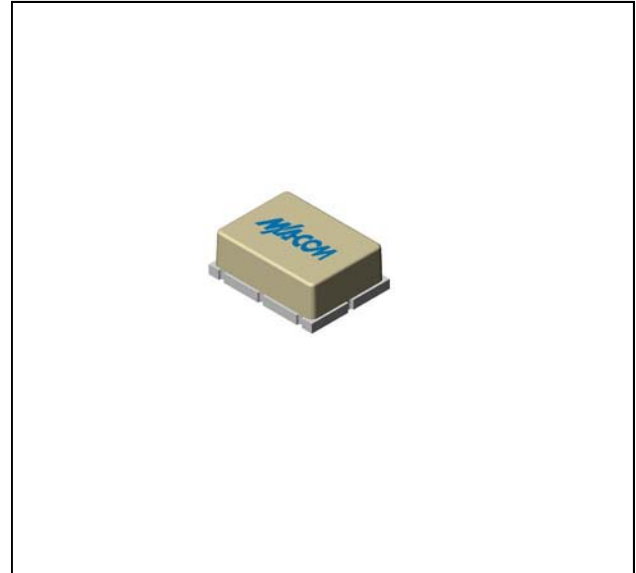
Description

The CSM12-13 is a double balanced mixer, designed for use in the high volume wireless applications. The design utilizes Schottky ring quad diodes and broadband baluns to attain excellent performance. The use of high temperature solder assembly processes used internally makes it ideal for use in semi-automated and automated assembly.

Ordering Information

Part Number	Package
CSM12-13	Surface Mount

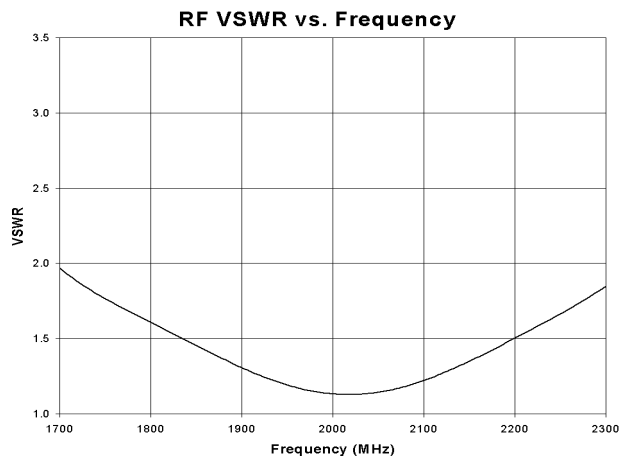
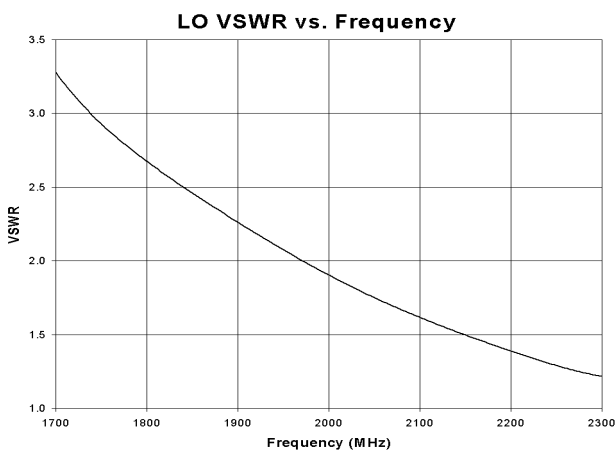
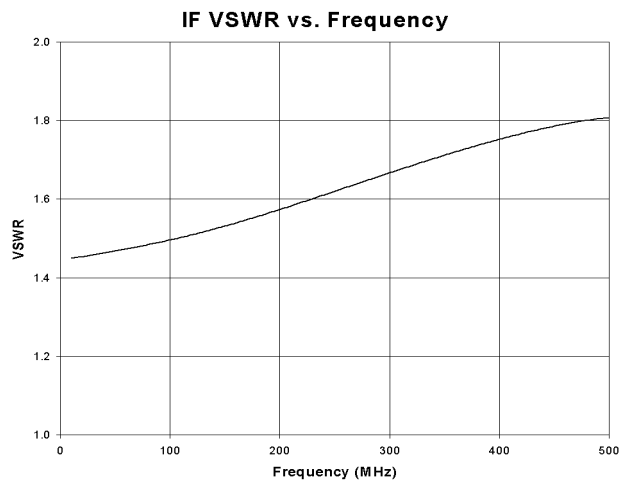
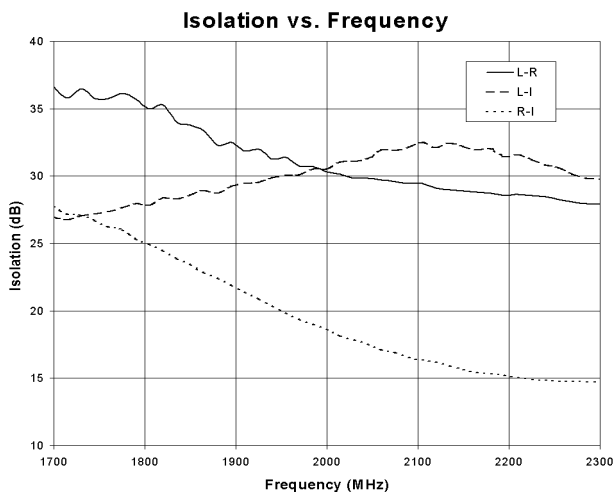
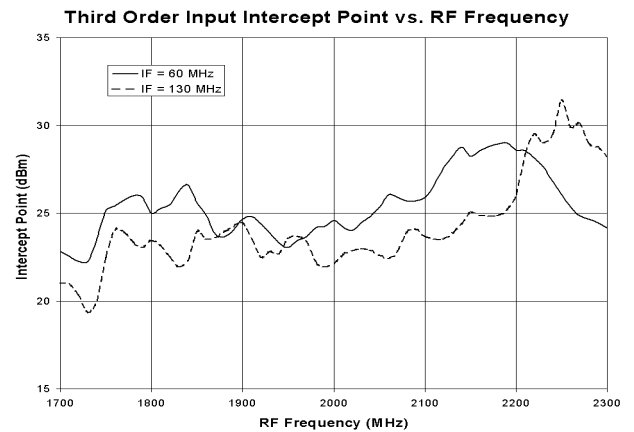
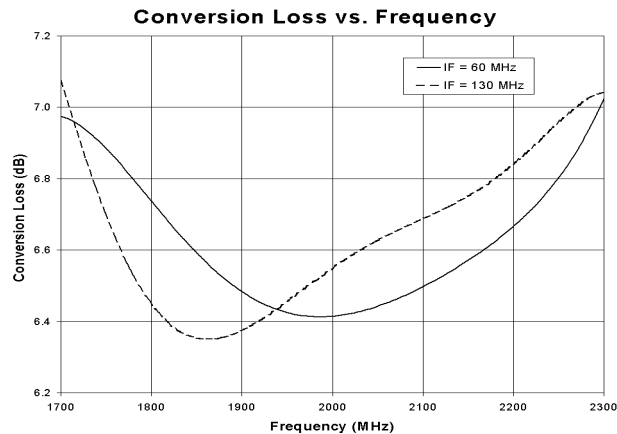
Product Image



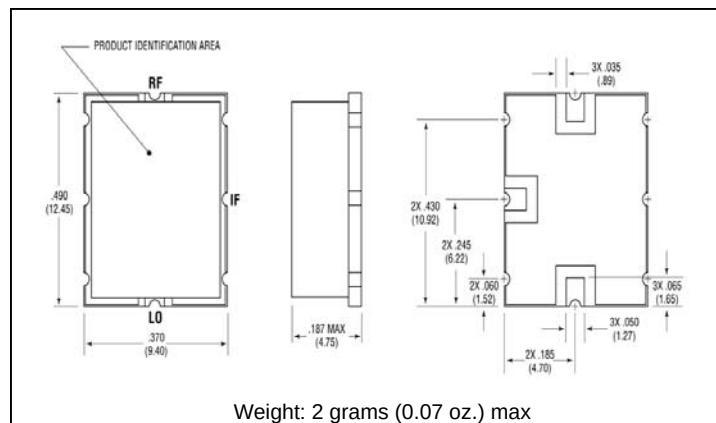
Electrical Specifications: $Z_0 = 50\Omega$ $Lo = +13$ dBm (Downconverter application only)

Parameter	Test Conditions	Units	Typical	Guaranteed	
				+25°C	-40° to +85°C
SSB Conversion Loss (max)	fR = 1800 to 2000 MHz, fL = 1800 to 2000 MHz, fI = 60 MHz	dB	6.7 dB	8.0	8.5
SSB Noise Figure (max)	Within 1 dB of conversion loss	dB	—	—	—
L - R Isolation (min)	fL = 1800 to 2000 MHz	dB	30	25	23
L - I Isolation (min)	fL = 1800 to 2000 MHz	dB	28	24	22
R - I Isolation (min)	fR = 1800 to 2000 MHz	dB	20		
1 dB Conversion Comp.	fL = +13 dBm	dBm	+8		
Input IP3	fR1 = 1800 to 2000 MHz, fR2 = 1800 to 2000 MHz, fL = 10 to 150 MHz	dBm	+22		
R-Port VSWR	fR = 1800 to 2000 MHz		1.5:1		
L-Port VSWR	fL = 1800 to 2000 MHz		2.5:1		
I-Port VSWR	fI = 10 to 150 MHz		1.75:1		

Typical Performance Curves



Outline Drawing: Surface Mount *



* Dimensions are inches (millimeters) ± 0.015 (0.38) unless otherwise specified.

Absolute Maximum Ratings

Parameter	Absolute Maximum
Operating Temperature	-40°C to +85°C
Storage Temperature	-65°C to +100°C
Peak Input Power	+20 dBm max @ +25°C +17 dBm max @ +85°C
Peak Input Current	50 mA DC