

Low Cost High IP3 Mixer for PCS/WLL Applications

CSM2-17
V3

Features

- LO & RF 10 TO 2800 MHz
- IF 10 TO 2000 MHz
- LO DRIVE +17 dBm (NOMINAL)
- SURFACE MOUNT
- HIGH INTERCEPT +27 dBm (TYP.)
- +260°C REFLOW COMPATIBLE

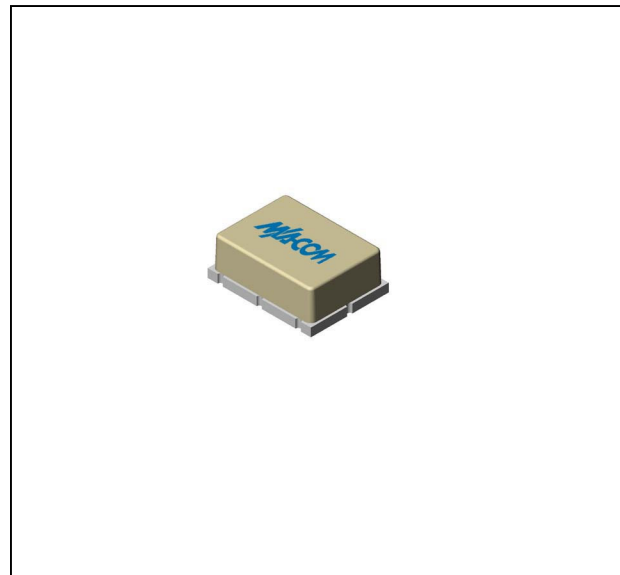
Description

The CSM2-17 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.

Ordering Information

Part Number	Package
CSM2-17	Surface Mount

Product Image

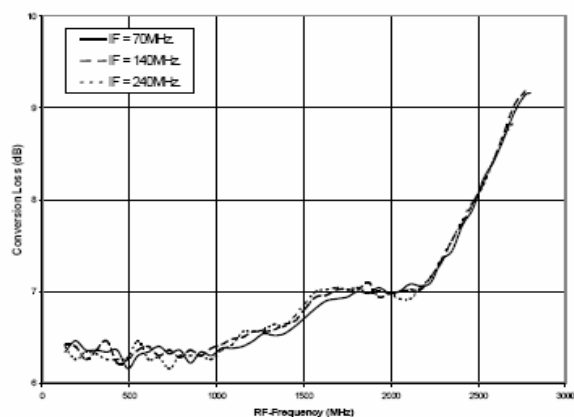


Electrical Specifications: $Z_0 = 50\Omega$ $Lo = +17$ dBm (Downconverter application only)

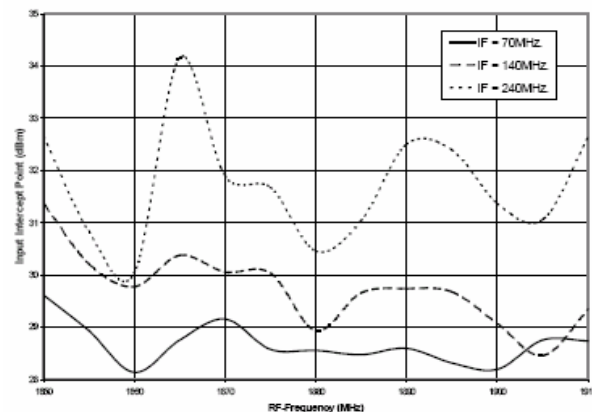
Parameter	Test Conditions	Units	Typical	Guaranteed	
				+25°C	-40° to +85°C
SSB Conversion Loss(max)	fR = 10 to 1200 MHz, fL = 10 to 1200 MHz, fi = 10 to 1000 MHz fR = 1200 to 2800 MHz, fL = 1200 to 2800 MHz, fi = 10 to 1500 MHz	dB	7.5	8.5	9.0
			8.5	9.5	10.0
SSB Noise Figure		dB	Within 1 dB of conversion loss		
L - R Isolation (min)	fL = 10 to 1200 MHz fL = 1200 to 2800 MHz	dB	35	32	30
		dB	30	28	26
L - I Isolation (min)	fL = 10 to 2800 MHz	dB	27	23	21
R - I Isolation (min)	fR = 10 to 2800 MHz	dB	27		
1 dB Conversion Comp.	fL = +17 dBm	dBm	+14		
Input IP3	fL = 10 to 2000 MHz, fi = 10 to 1000 MHz, fR = 10 to 2000 MHz fL = 2000 to 2800 MHz, fi = 10 to 2000 MHz, fR = 2000 to 2800 MHz	dBm	+27		
		dBm	+23		
R-Port VSWR	fR = 10 to 2800 MHz		1.9:1		
L-Port VSWR	fL = 10 to 1500 MHz fL = 1500 to 2000 MHz		2.0:1		
			2.75:1		
I-Port VSWR	fi = 10 to 1500 MHz		1.5:1		

Typical Performance Curves

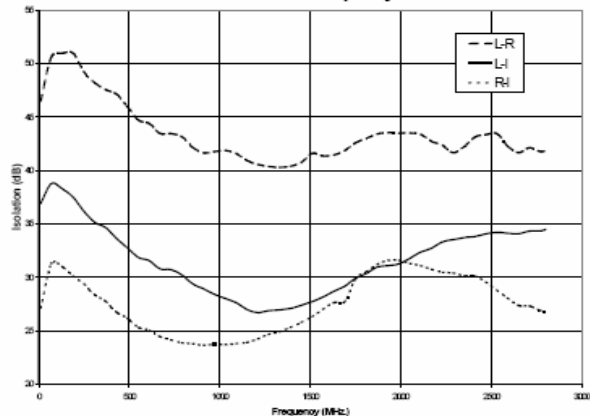
Conversion Loss vs. RF-Frequency



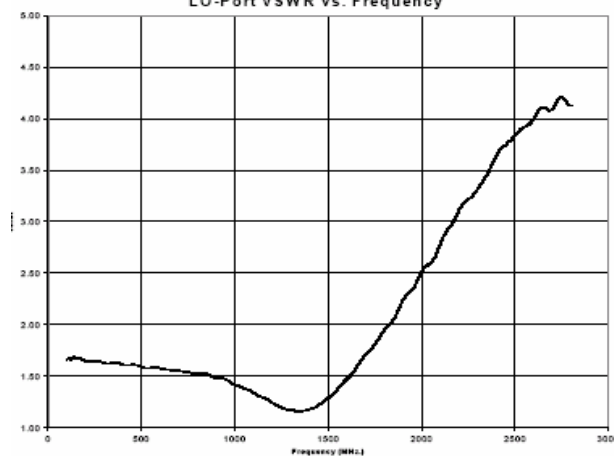
Third Order Input Intercept Point vs. RF-Frequency



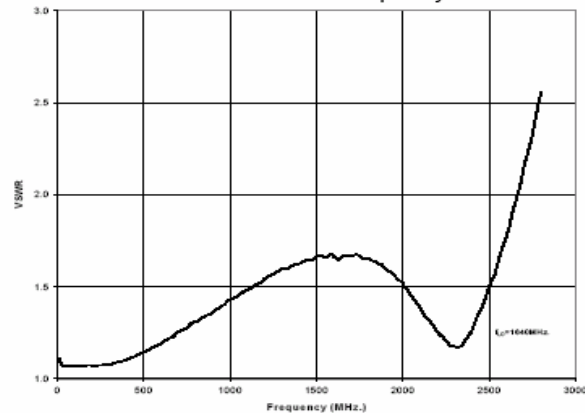
Isolation vs. Frequency



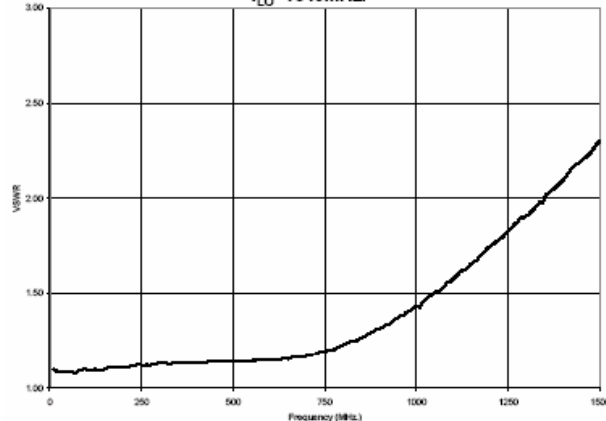
LO-Port VSWR vs. Frequency



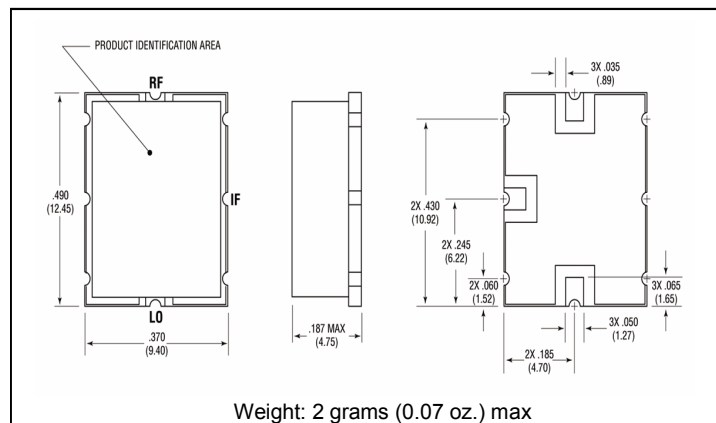
RF-Port VSWR vs. Frequency



IF-Port VSWR vs. Frequency
 $f_{LO} = 1640\text{MHz}$



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