

Low Cost High IP3 Mixer for Cellular Applications

Rev. V3

Features

- LO & RF 10 TO 1500 MHz
- IF 1 TO 500 MHz
- LO DRIVE +17 dBm (NOMINAL)
- SURFACE MOUNT
- HIGH INTERCEPT +27 dBm (TYP.)
- +260°C REFLOW COMPATIBLE

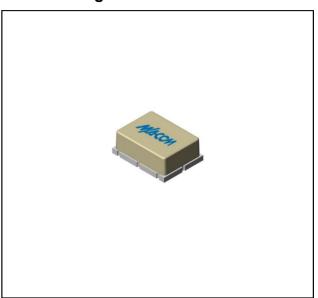
Description

The CSM1-17 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
CSM1-17	Surface Mount

Product Image



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

Dovementor	Took Conditions	l lnita	Typical	Guaranteed	
Parameter Test Conditions		Units		+25°C	-40° to +85°C
SSB Conversion Loss (max)	fR = 10 to 1000 MHz, fL = 10 to 1000 MHz, fI = 1 to 500 MHz fR = 1000 to 1500 MHz, fL = 1000 to 1500 MHz, fI = 1 to 500 MHz	dB dB	6.5 7.5	7.0 8.0	7.5 8.5
SSB Noise Figure		dB	Within 1 dB of conversion loss		
L - R Isolation (min)	fL = 10 to 1500 MHz	dB	40	35	33
L - I Isolation (min)	fL = 10 to 1500 MHz	dB	30	25	23
R - I Isolation (min)	fR = 10 to 1500 MHz	dB	27		
1 dB Conversion Comp	fL = +17 dBm	dBm	+14		
Input IP3	fL = 10 to 1500 MHz, fl = 1 to 500 MHz, fR = 10 to 1500 MHz	dBm	+27		
R-Port VSWR	fR = 10 to 1500 MHz		1.50:1		
L-Port VSWR	fL = 10 to 1500 MHz		2.00:1		
I-Port VSWR	fl = 10 to 500 MHz		1.50:1		

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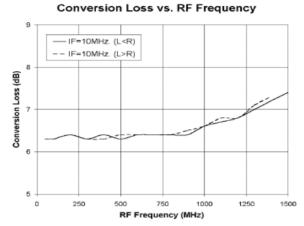


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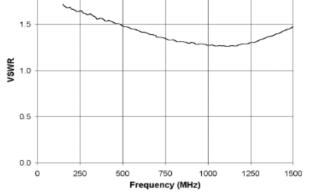
Typical Performance Curves



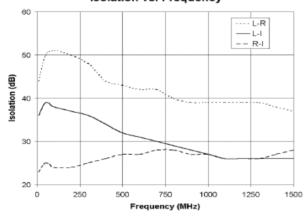


LO-Port VSWR vs. Frequency

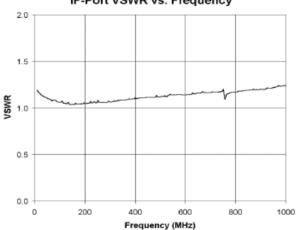
2.0



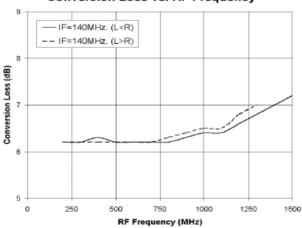
Isolation vs. Frequency



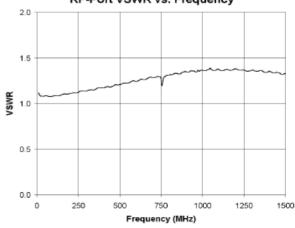
IF-Port VSWR vs. Frequency



Conversion Loss vs. RF Frequency



RF-Port VSWR vs. Frequency

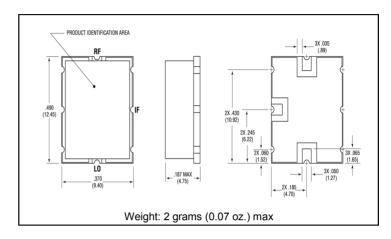




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Outline Drawing: Surface Mount *



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

Absolute Maximum Ratings

Parameter	Absolute Maximum		
Operating Temperature	-54°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		

CSM1-17



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