Low Cost High IP3 Mixer for PCS/WLL Applications



Rev. V2

Features

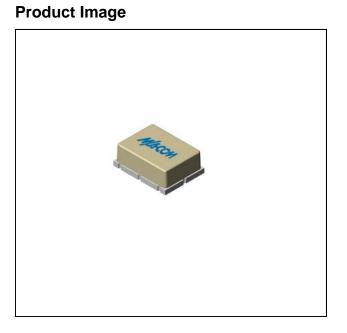
- LO & RF 1800 to 2000 MHz
- IF 10 to 150 MHz
- LO Drive +13 dBm (nominal)
- Surface Mount
- High Intercept +22 dBm (typ)

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



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

Parameter	Parameter Test Conditions		Typical	Guaranteed	
Parameter Test Conditions		Units		+25⁰C	-40º to +85ºC
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	fl = 10 to 150 MHz		1.75:1		

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Solutions has under development. Performance is based on engineering tests. Specifications are typical. Mechanical outline has been fixed. Engineering samples indonest outer may be available Commitment to produce in volume is not outer the same set.

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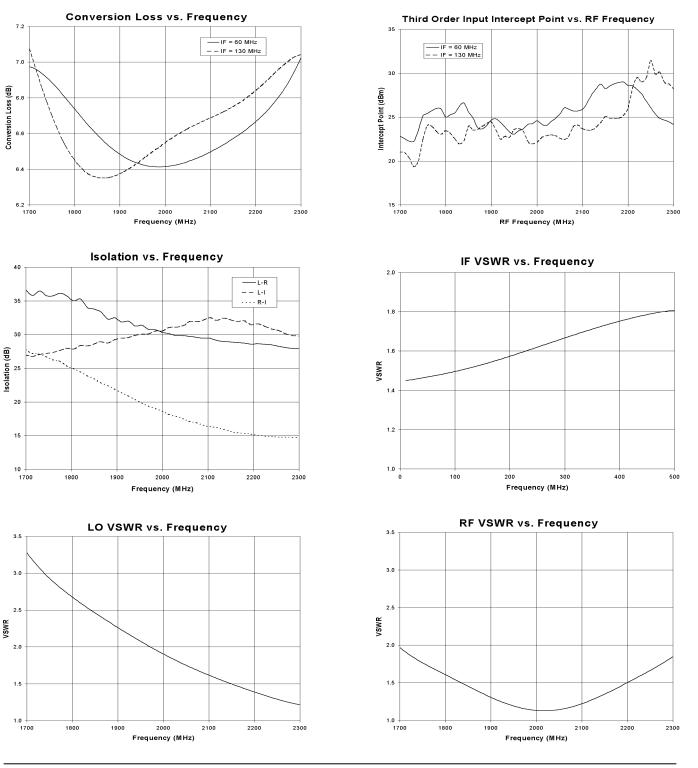
CSM12-13

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Typical Performance Curves



²

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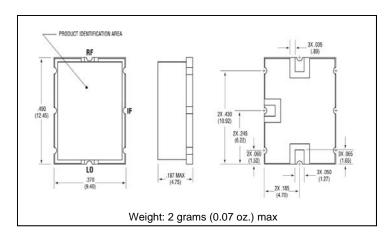
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Outline Drawing: Surface Mount *



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

Absolute Maximum Ratings

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

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