Low Cost High IP3 Mixer for **PCS/WLL Applications**



Rev. 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)

Devenueter	Test Conditions	Unite	Typical	Guaranteed	
Parameter	Test Conditions	Units		+25⁰C	-40º to +85ºC
SSB Conversion Loss(max)	$\label{eq:response} \begin{array}{l} fR = 10 \mbox{ to } 1200 \mbox{ MHz}, \mbox{ fL} = 10 \mbox{ to } 1200 \mbox{ MHz}, \mbox{ fI} = 10 \mbox{ to } 1000 \mbox{ MHz} \\ fR = 1200 \mbox{ to } 2800 \mbox{ MHz}, \mbox{ fL} = 1200 \mbox{ to } 2800 \mbox{ MHz}, \mbox{ fI} = 10 \mbox{ to } 1500 \mbox{ MHz} \\ \end{array}$	dB dB	7.5 8.5	8.5 9.5	9.0 10.0
SSB Noise Figure			Within 1 dB of conversion loss		
L - R Isolation (min)	fL = 10 to 1200 MHz fL = 1200 to 2800 MHz	dB dB	35 30	32 28	30 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 dBm	+27 +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	fl = 10 to 1500 MHz		1.5:1		

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CSM2-17

Low Cost High IP3 Mixer for **PCS/WLL Applications**

Typical Performance Curves



IF = 70MHz

Rev. V3



Third Order Input Intercept Point vs. RF-Frequency







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Frequency (MHz.)

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2500

Low Cost High IP3 Mixer for PCS/WLL Applications



Rev. V3

Outline Drawing: Surface Mount



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

Absolute Maximum Ratings

Parameter	eter Absolute Maximum		
Operating Temperature	-40°C to +85°C		
Storage Temperature	-65°C to +100°C		
Peak Input Power	+20 dBm max @ +25⁰C +17 dBm max @ +85⁰C		
Peak Input Current	50 mA DC		

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