



Open Carrier Double-Balanced Mixer For Microwave Telecommunications

MC2110

Features

- LO 3.4 TO 4.7 GHz
- RF 3.4 TO 4.7 GHz
- IF DC TO 1.0 GHz
- LO DRIVE +10 dBm (NOMINAL)
- MICROSTRIP INTERFACE

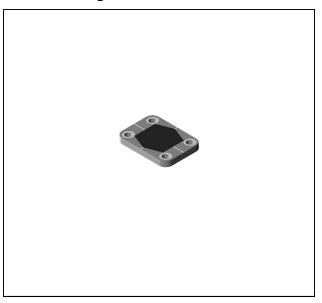
Description

The MC211 is a double balanced mixer, designed for use in military, commercial and test equipment applications. The design utilizes Schottky ring quad diodes and broadband soft dielectric and ferrite baluns to attain excellent performance. This mixer can also be used as a phase detector and/or bi-phase modulator since the IF port is DC coupled to the diodes. The use of high temperature solder and welded assembly processes used internally makes it ideal for use in manual, semi-automated assembly. Environmental screening available to MIL-STD-883, MIL-STD-202, or MIL-DTL-28837, consult factory.

Ordering Information

Part Number	Package
MC2110	Open Carrier

Product Image



Electrical Specifications: $Z_0 = 50\Omega$ Lo = +10 dBm (Downconverter application only)

Baramatar	Toot Conditions	Units	Typical	Guaranteed	
Parameter Test Conditions		Units		+25°C	-54° to +85°C
SSB Conversion Loss (max) & SSB Noise Figure (max)	fR = 3.4 to 4.7 GHz, fL = 3.4 to 4.7 GHz, fl = 0.01 to 0.3 GHz fR = 3.4 to 4.7 GHz, fL = 3.4 to 4.7 GHz,	dB	5.5	7.0	7.5
riguic (max)	fl = 0.01 to 1 GHz	dB	6.2	7.5	8.0
Isolation, L to R (min)	fL = 3.4 to 4.7 GHz	dB	42	25	23
Isolation, L to I (min)	fL = 3.4 to 4.7 GHz	dB	39	25	23
Isolation, R to I (min)	fL = 3.4 to 4.7 GHz	dB	25		
1 dB Conversion Comp.	fL = +10 dBm	dBm	+3		
Input IP3	fR1 = 4.2 GHz at –10 dBm, fR2 = 4.21 at –10 dBm, fL = 3.7 GHz at +10 dBm	dBm	+12		

¹

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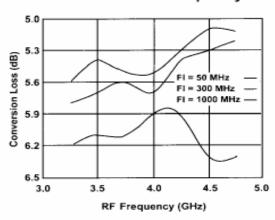




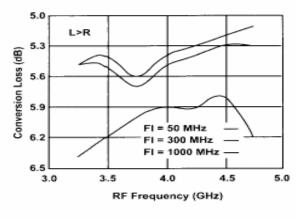
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Typical Performance Curves

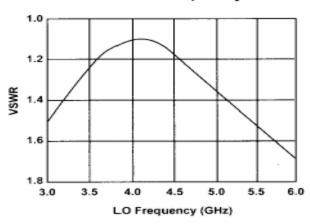
Conversion Loss vs. Frequency



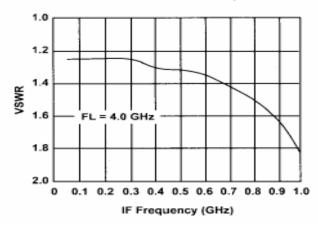
Conversion Loss vs. Frequency



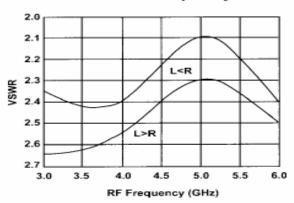
L-Port VSWR vs. Frequency



I-Port VSWR vs. Frequency



R-Port VSWR vs. Frequency



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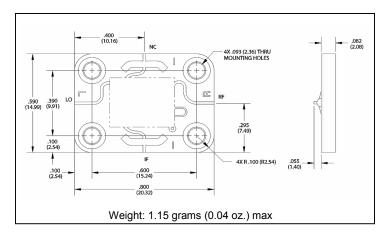
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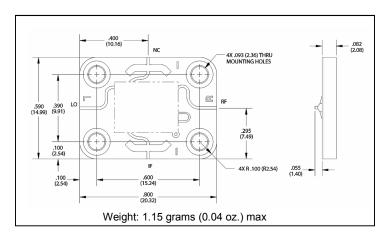
Absolute Maximum Ratings

Parameter	Absolute Maximum		
Operating Temperature	-54°C to +85°C		
Storage Temperature	-65°C to +100°C		
Peak Input Power	+23 dBm max @ +25°C +20 dBm max @ +85°C		
Peak Input Current	50 mA DC		

Outline Drawing: Open Carrier *MC4110



Outline Drawing: Open Carrier *MC4110-2



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

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