MZ8813 / MZ8813C



Triple-Balanced Mixer

Rev. V3

Features

- LO 2 to 18 GHz
- RF 2 to 18 GHz
- IF 1 to 8 GHz
- LO Drive +13 dBm (nominal)
- Wide Bandwidth
- Available with Field Replaceable Connectors

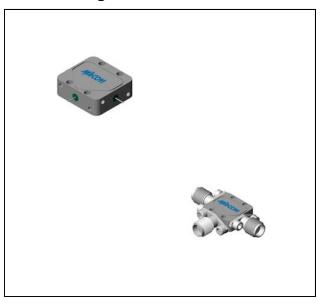
Description

The MZ8813 is a triple balanced mixer, designed for use in military, commercial and test equipment applications. The design utilizes Schottky ring quad diodes and broadband soft dielectric baluns to attain excellent performance. 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
MZ8813	Versapac
MZ8813C	SMA Connectorized

Product Image



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

Parameter	Test Conditions	Units	Typical	Guaranteed	
Farameter	rest Conditions			+25°C	-54º to +85ºC
SSB Conversion Loss (max)	fR = 3 to 10 GHz, fL = 2 to 15 GHz, fI = 1 to 5 GHz fR = 2 to 18 GHz, fL = 2 to 18 GHz, fI = 1 to 8 GHz	dB	6.5 7.5	9.0 11.0	9.5 11.5
SSB Noise Figure (max)	Within 1 dB of conversion loss	dB			
Isolation, L to R (min)	fL = 2 to 18 GHz	dB	25	15	13
Isolation, L to I (min)	fL = 2 to 18 GHz	dB	28	16	14
1 dB Conversion Comp.	fL = +13 dBm	dBm	+8		
Input IP3	fR1 = 3 GHz at -10 dBm, fR2 = 3.01 GHz at -10 dBm, fL = 5 GHz at +13 dBm fR1 = 17.99 GHz at -10 dBm, fR2 = 18 GHz at -10 dBm, fL = 14 GHz at +13 dBm	dBm	+19 +16		

Commitment to produce in volume is not guaranteed.

• India Tel: +91.80.4155721

• China Tel: +86.21.2407.1588

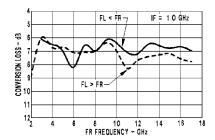


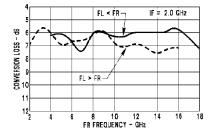
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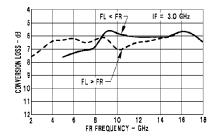
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Typical Performance Curves

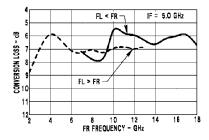
Conversion vs. Frequency

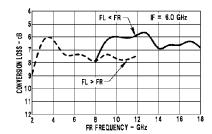


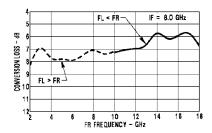




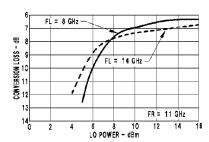
Conversion vs. Frequency





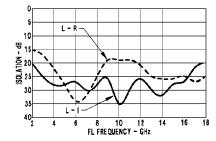


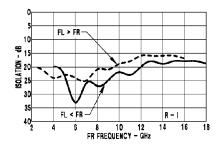
Conversion Loss vs. LO Power



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Isolation vs. Frequency





PRELIMINARY: Data Sheets contain information regarding a product M/A-COM Technology Solutions has under development. Performance is based on engineering tests. Specifications are typical. Mechanical outline has been fixed. Engineering samples and/or test data may be available.

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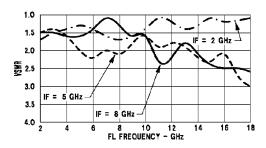
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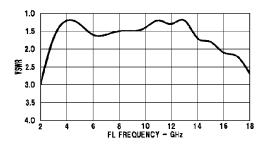
Absolute Maximum Ratings

Parameter	Absolute Maximum		
Operating Temperature	-54°C to +100°C		
Storage Temperature	-65°C to +100°C		
Peak Input Power	+26 dBm max @ +25°C +23 dBm max @ +100°C		
Peak Input Current	100 mA DC		

I-Port VSWR vs. Frequency

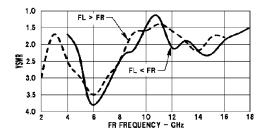


L-Port VSWR vs. Frequency

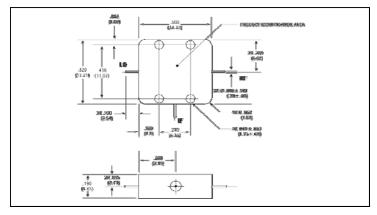


R-Port VSWR vs. Frequency

Commitment to produce in volume is not guaranteed.

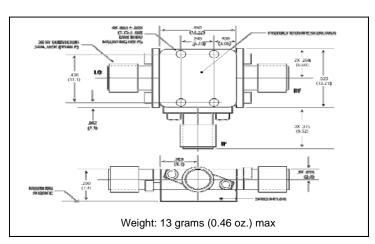


Outline Drawing: Versapac



Weight: 4 grams (0.14 oz.) max

Outline Drawing: SMA Connectorized *



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