# M63 / M63C

Double-Balanced Mixer

Rev. V3

Features

- LO 2.5 TO 7 GHz
- RF 2.5 TO 5.5 GHz
- IF DC TO 1.5 GHz
- LO DRIVE: +9 dBm (NOMINAL)
- LOW NOISE FIGURE: 5.8 dB (TYP.)

Description

The M63 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.
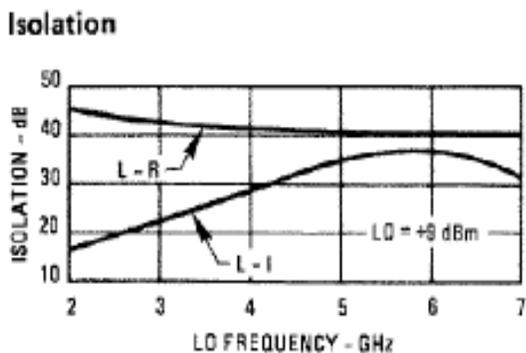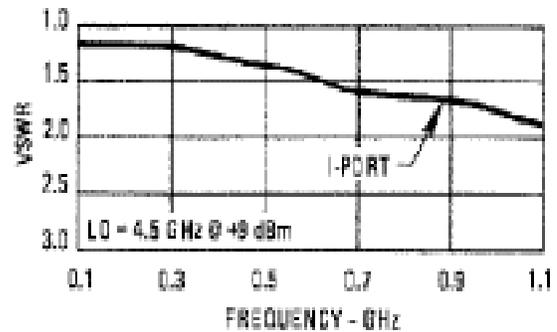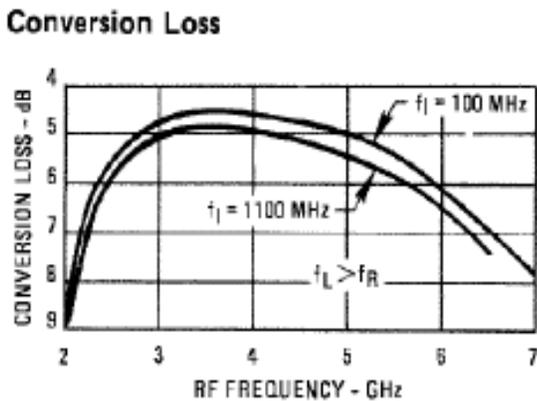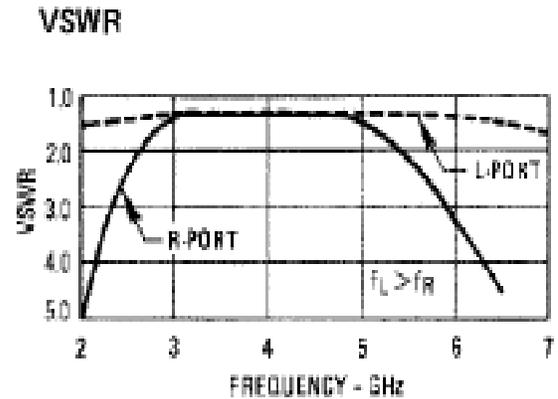
Product Image
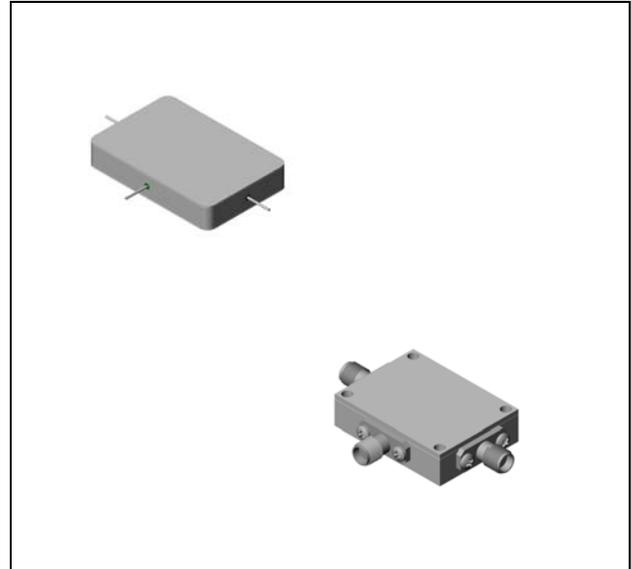
Ordering Information

Part Number	Package
M63	Minpac
M63C	SMA Connectorized

Electrical Specifications: $Z_0 = 50\Omega$ Lo = +9 dBm (Downconverter application only)

Parameter	Test Conditions	Units	Typical	Guaranteed	
				+25ºC	-54º to +85ºC
SSB Conversion Loss (max) & SSB Noise Figure (max)	fR = 3.0 to 5.0 GHz, fL = 3.0 to 5.5 GHz, fI = 0.03 to 0.5 GHz fR = 2.5 to 5.5 GHz, fL = 2.5 to 7 GHz, fI = 0.03 to 1.5 GHz	dB dB	5.0 5.8	6.0 7.0	6.5 7.5
Isolation, L to R (min)	fL = 2.5 to 7 GHz	dB	40	30	28
Isolation, L to I (min)	fL = 2.5 to 3.5 GHz fL = 3.5 to 7 GHz	dB dB	25 30	17 20	15 18
1 dB Conversion Comp.	fL = +9 dBm	dBm	+2		
Input IP3	fR1=4.00 GHz at –10 dBm, fR2=4.01 GHz at –10 dBm, fL = 22.8 GHz at = +9 dBm	dBm	+11		

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- **North America** Tel: 800.366.2266
- **India** Tel: +91.80.4155721
- **Europe** Tel: +353.21.244.6400
- **China** Tel: +86.21.2407.1588

Visit www.macomtech.com for additional data sheets and product information.

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Typical Performance Curves

Drive Level

VSWR

Conversion Loss

Isolation

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Technology Solutions

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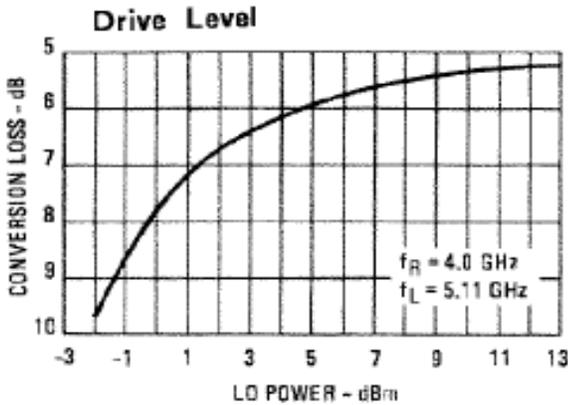
Absolute Maximum Ratings

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

Outline Drawing: Minpac *

Weight: 8 grams (0.28 oz.) max
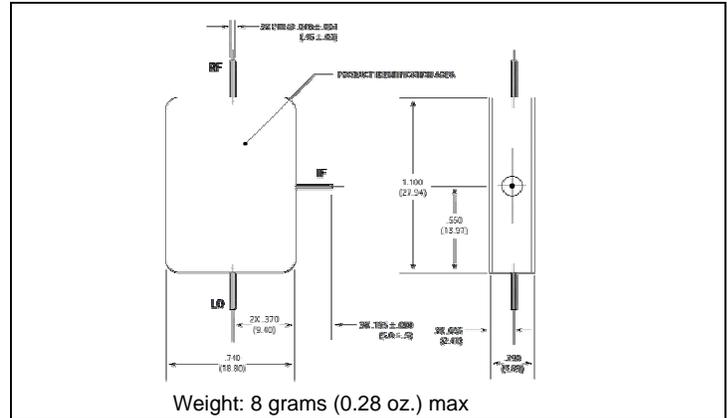
Outline Drawing: SMA Connectorized *

Weight: 33 grams (1.16 oz.) max
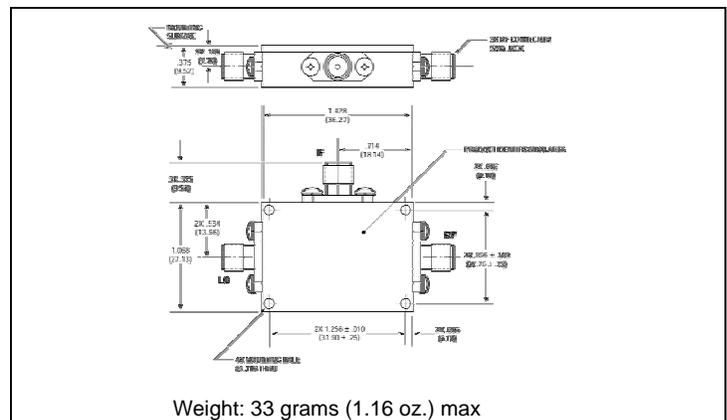
∗ Dimensions are inches (millimeters) ±0.015 (0.38) unless otherwise specified.

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