

## Triple-Balanced Mixer

Rev. V5

### Features

- LO 10 to 2400 MHz
- RF 10 to 2400 MHz
- IF 10 to 1000 MHz
- Lo Drive: 13 dBm (nominal)
- High Intercept: 22 dBm
- High Isolation: 40 dB

### Description

The M2T 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.



TO-8



SMA connectorized

### Ordering Information

Part Number	Package
M2T	TO-8
M2TC	SMA Connectorized

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

Parameter	Test Conditions	Units	Typical	Guaranteed	
			+25°C	+25°C	-54° to +85°C <sup>1</sup>
SSB Conversion Loss (max.) & SSB Noise Figure (max.)	fR = 0.01 - 2.4 GHz, fL = 0.01 - 2.4 GHz, fl = 0.05 - 1 GHz	dB	7.5	9.5	10.0
	fR = 0.01 - 2.4 GHz, fL = 0.01 - 2.4 GHz, fl = 0.01 - 1 GHz		9.0	10.0	10.5
	fR = 0.5 - 1.5 GHz, fL = 0.5 - 1.5 GHz, fl = 0.01 - 1 GHz		7.0	8.5	9.0
Isolation, L to R (min.)	fL = 0.01 - 1.2 GHz	dB	40	35	33
	fL = 1.2 - 2.4 GHz		40	30	28
Isolation, L to I (min.)	fL = 0.01 - 1.2 GHz	dB	40	35	33
	fL = 1.2 - 2.4 GHz		40	30	28
1 dB Conversion Comp.	fL @ +13 dBm	dBm	+11	—	—
Input IP3	—	dBm	+22	—	—

1. The M2TC specification limits apply at 0°C to +50°C.

### Absolute Maximum Ratings

Parameter	Absolute Maximum
Peak Input Power	25 dBm @ +25°C 4 dBm @ +100°C
Peak Input Current	75 mA DC
Operating Temperature	-54°C to +100°C
Storage Temperature	-65°C to +100°C

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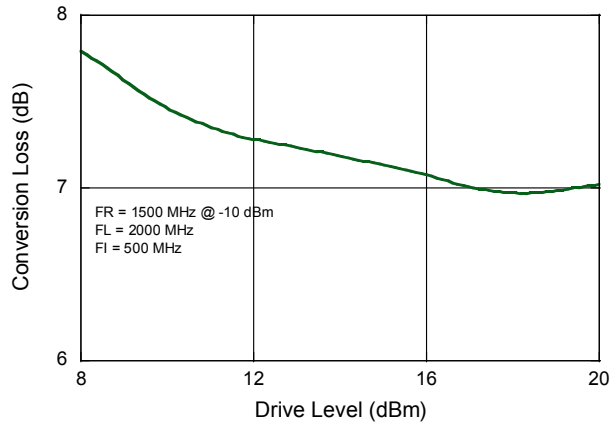
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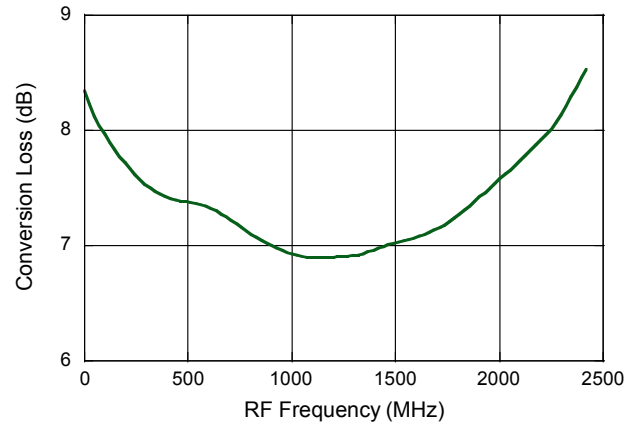
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### Typical Performance Curves

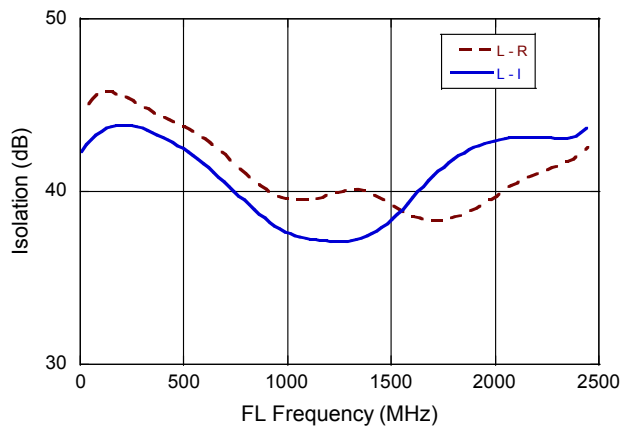
**Conversion Loss**



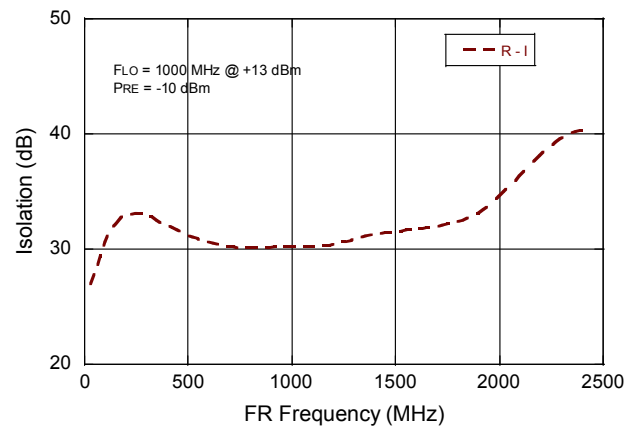
**Conversion Loss**



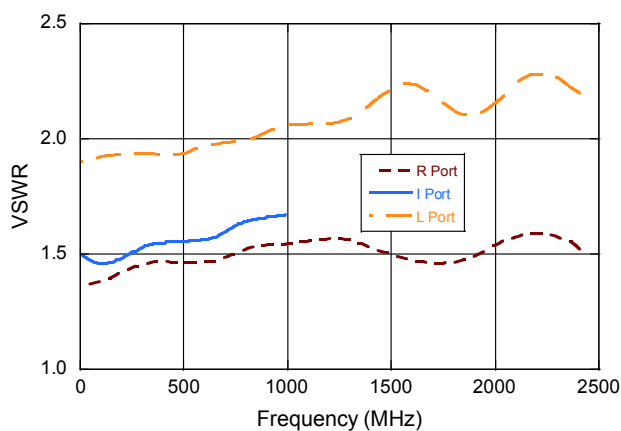
**Isolation**



**Isolation**



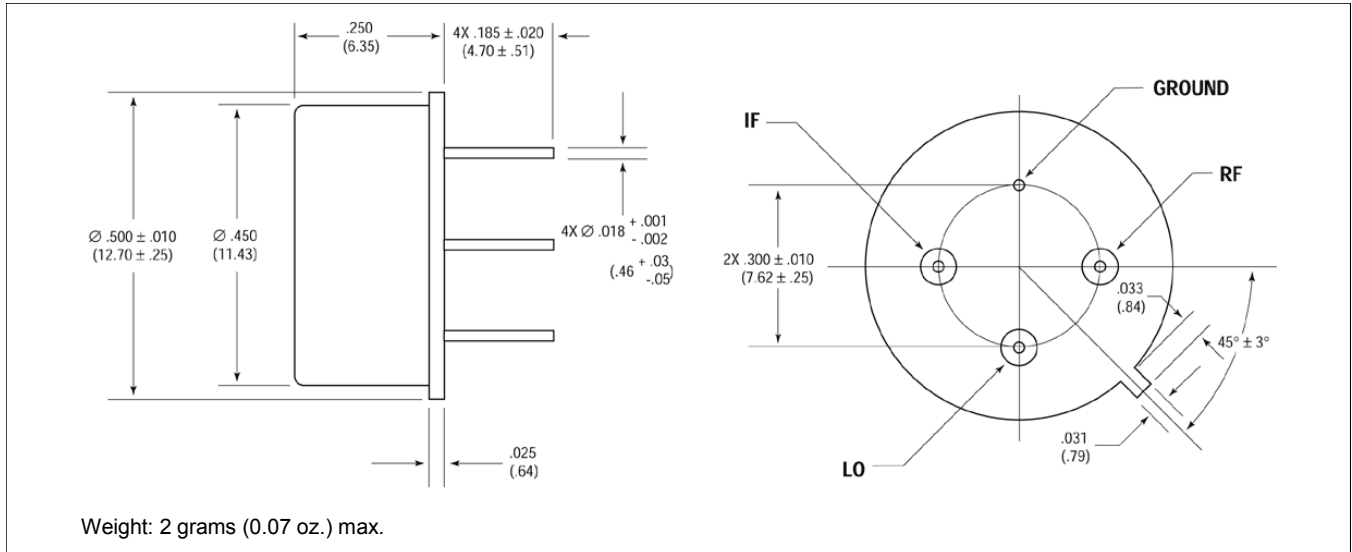
**VSWR**



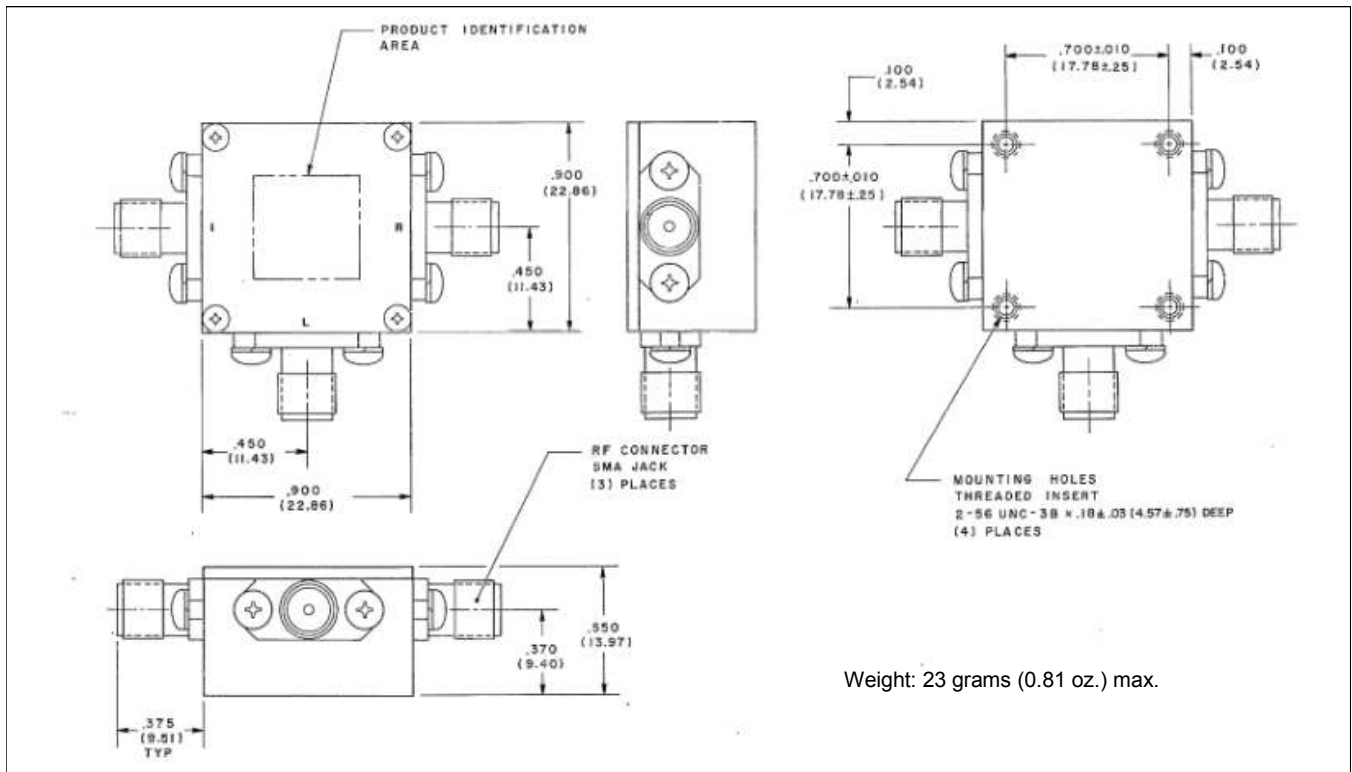
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### Outline Drawing: TO-8\*



### Outline Drawing: SMA Connectorized\*



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

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