

Electronics

Termination-Insensitive Mixer,

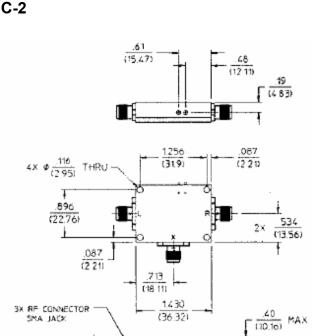
1 - 7 GHz

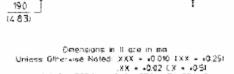
Features

- Intermodulation Ratio Insensitive to • IF Ports Mismatches
- Conversion Loss: 6 dB Typical Midband •
- Impedance: 50 Ohms Nominal •
- Maximum Input Power: 350 mW max. @ 25°C, • Derated 3.5 mW/°C
- Low Power: +24 dBm Max. •
- MIL-STD-883 Screening Available

Description

The unique design of the termination insensitive mixer (TIM) enables it to apply high reverse voltage to diodes during their "off" phase, in the LO cycle. This allows for higher power level performance with minimum distortion. In addition the TIM has internal loads that provide a good match and also absorb mixer generated LO frequency terms. Combined, these features give the mixer its insensitivity to external mismatches, plus superior VSWR.





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WEIGHT LAPPROXE 12 DUNCES 34 GRAMS

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1

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MDC-162 V3





Termination-Insensitive Mixer, 1 - 7 GHz

MDC-162 V3

Electrical Specifications¹: T_A = -55°C to +85°C

Parameter	Test Conditions	Frequency	Units	Min	Тур	Мах
Frequency Range	RF, LO Ports IF Port	1 - 7 10 - 2000	GHz MHz		_	
Conversion Loss ²		1.5 - 5.5 GHz 1 - 7 GHz	dB dB	_	_	7.5 8.5
Isolation	LO to RF	1 - 3 GHz 3 - 7 GHz	dB dB	15 17	_	_
	LO to IF	1 - 3 GHz 3 - 7 GHz	dB dB	20 13	_	
	RF to IF	1 - 3 GHz 3 - 7 GHz	dB dB	17 12	_	
RF Input	1 dB Compression 1 dB Desensitization		dBm dBm	_	+8 +6	_
SSB Noise Figure	Within 1 dB of Conversion Loss Max.	_	_		—	—
3rd Order Input Intercept		2.0 GHz 7.0 GHz	dBm dBm		16.5 18.0	
3rd Order Intercept Degration	@ IF Termination VSWR 3:1	_	dB	—	1.5	—

1. All specifications apply when operated at +13 dBm available LO power with 50 ohm source and load impedance.

2. For IF frequencies of 10 - 500 MHz and an RF of -10 dBm or lower.

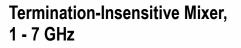
3. Independent of sum frequency match.

This product contains elements protected by United States Patent Number 4,224,572

2

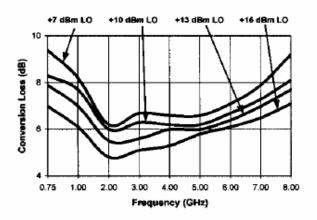
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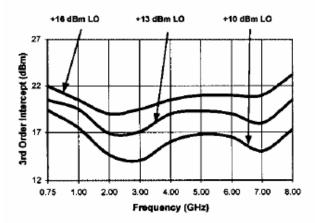


Typical Performance Curves

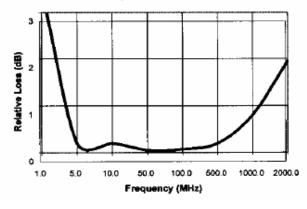
Conversion Loss



3rd Order Intercept





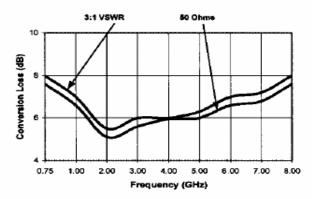


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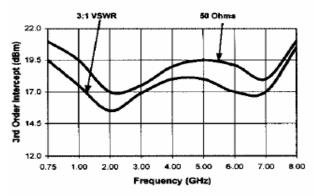
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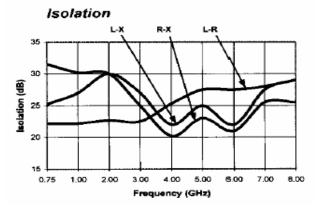


Conversion Loss vs. IF Port Termination ³



3rd Order Intercept vs. IF Port Termination ³





Ordering Information

Part Number	Package		
MDC-162 SMA	C-2		

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