

Termination Insensitive Mixer, 1 - 1500 MHz

Rev. V3

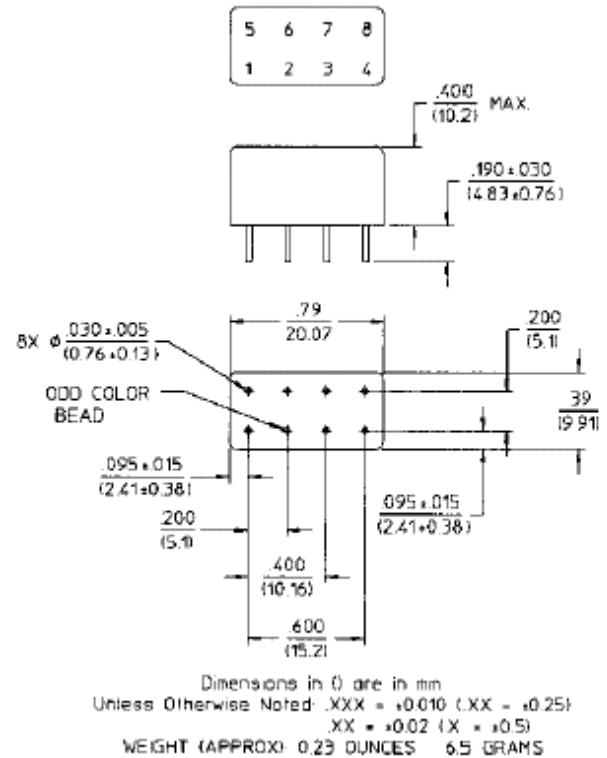
Features

- Third Order Intermodulation Ratio is Insensitive to Port Mismatches
- Conversion Loss: 7 dB Typical Midband
- VSWR: Typically Less than 1.5:1 @ Midband
- Impedance: 50 Ohms Nominal
- Maximum Input Power: 350 mW Max @ 25°C, Derated to 85°C @ 3.5 mW/°C
- 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.

RH-3



Pin Configuration

Pin No.	Function	Pin No.	Function
1	LO	5	GND
2	GND	6	GND
3*	IF	7*	IF
4	GND	8	RF

* P3 and P7 are connected together to make IF Port.

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

Parameter	Test Conditions	Frequency	Units	Min	Typ	Max
Frequency Range	RF, LO Ports IF Port (3 dB BW)	1 - 1500 1 - 1000	MHz MHz	— —	— —	— —
Conversion Loss ²		5 - 1000 MHz 1 - 1500 MHz	dB dB	— —	— —	7.5 9.0
Isolation	LO to RF	1 - 5 MHz	dB	20	—	—
		5 - 500 MHz	dB	28	—	—
		500 - 1500 MHz	dB	25	—	—
	LO to IF	1 - 5 MHz	dB	20	—	—
		5 - 500 MHz	dB	28	—	—
		500 - 1500 MHz	dB	17	—	—
RF to IF	1 - 5 MHz	dB	20	—	—	
	5 - 500 MHz	dB	25	—	—	
	500 - 1500 MHz	dB	17	—	—	
RF Input	1 dB Compression ³ 1 dB Desensitization ³	—	dBm	—	+15	—
		—	dBm	—	+13	—
SSB Noise Figure	Within 1 dB of Conversion Loss Max	—	—	—	—	—
3rd Order Input Intercept	P _{LO} +13 dBm	15 MHz	dBm	—	+18	—
		500 MHz	dBm	—	+20	—
		1000 MHz	dBm	—	+19	—
	P _{LO} +20 dBm	15 MHz	dBm	—	+23	—
		500 MHz	dBm	—	+25	—
		1000 MHz	dBm	—	+25	—
3rd Order Intercept Degradation	@ IF VSWR 3.0:1	—	dB	—	3	—

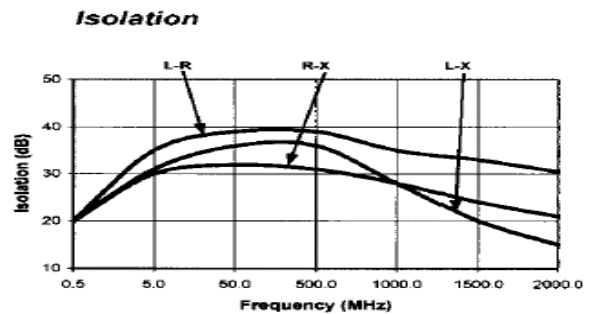
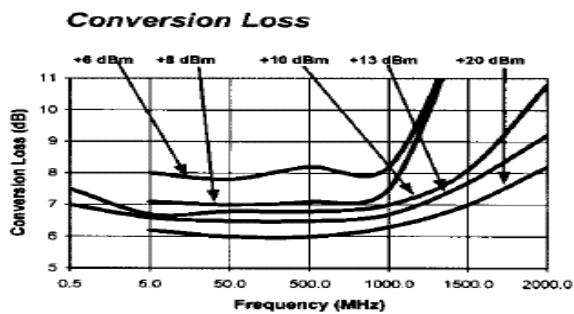
1. All specifications apply when operated at +13 dBm available LO power with 50 Ohm source and load impedance.

2. For IF Frequencies of 5 - 1000 MHz and RF of -10 dBm or less.

3. These characteristics apply @ 25 dBm LO power.

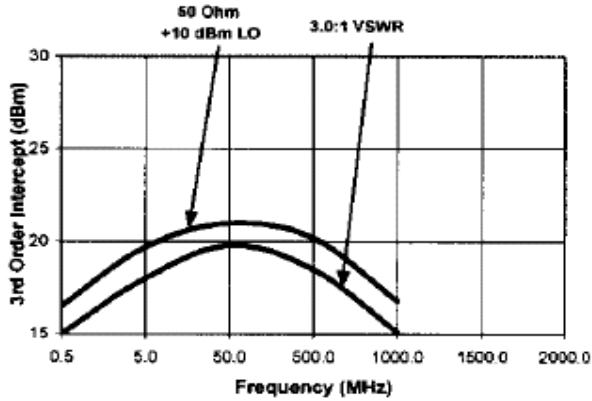
This product contains elements protected by United States Patent Number 4,224,572.

Typical Performance Curves

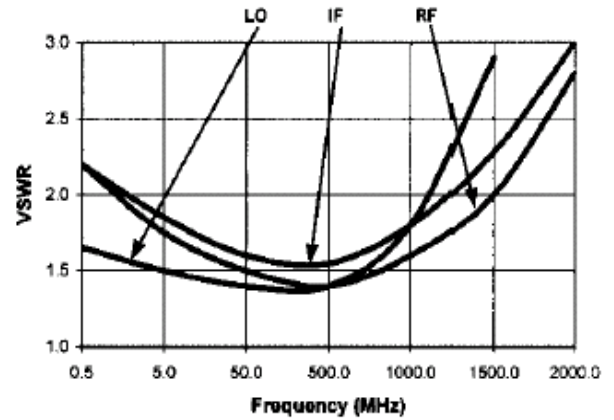


Typical Performance Curves

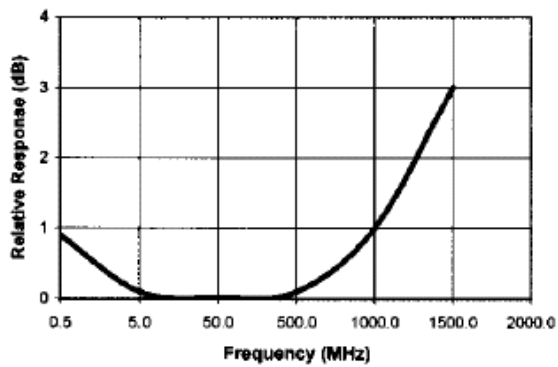
3rd Order intercept vs. IF Port Termination



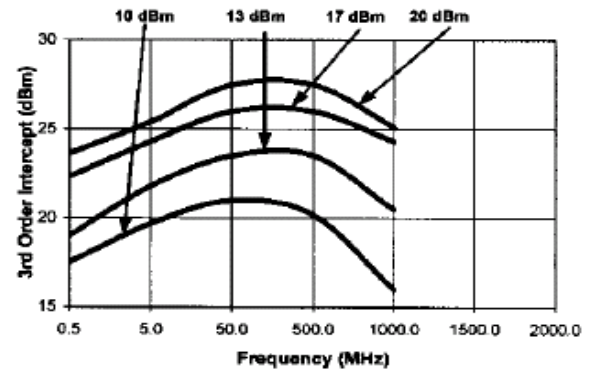
VSWR



IF Port Response



3rd Order Intercept



Ordering Information

Part Number	Package
MD-160 PIN	RH-3

M/A-COM Technology Solutions Inc. All rights reserved.

Information in this document is provided in connection with M/A-COM Technology Solutions Inc ("MACOM") products. These materials are provided by MACOM as a service to its customers and may be used for informational purposes only. Except as provided in MACOM's Terms and Conditions of Sale for such products or in any separate agreement related to this document, MACOM assumes no liability whatsoever. MACOM assumes no responsibility for errors or omissions in these materials. MACOM may make changes to specifications and product descriptions at any time, without notice. MACOM makes no commitment to update the information and shall have no responsibility whatsoever for conflicts or incompatibilities arising from future changes to its specifications and product descriptions. No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document.

THESE MATERIALS ARE PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, RELATING TO SALE AND/OR USE OF MACOM PRODUCTS INCLUDING LIABILITY OR WARRANTIES RELATING TO FITNESS FOR A PARTICULAR PURPOSE, CONSEQUENTIAL OR INCIDENTAL DAMAGES, MERCHANTABILITY, OR INFRINGEMENT OF ANY PATENT, COPYRIGHT OR OTHER INTELLECTUAL PROPERTY RIGHT. MACOM FURTHER DOES NOT WARRANT THE ACCURACY OR COMPLETENESS OF THE INFORMATION, TEXT, GRAPHICS OR OTHER ITEMS CONTAINED WITHIN THESE MATERIALS. MACOM SHALL NOT BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, INCLUDING WITHOUT LIMITATION, LOST REVENUES OR LOST PROFITS, WHICH MAY RESULT FROM THE USE OF THESE MATERIALS.

MACOM products are not intended for use in medical, lifesaving or life sustaining applications. MACOM customers using or selling MACOM products for use in such applications do so at their own risk and agree to fully indemnify MACOM for any damages resulting from such improper use or sale.

Данный компонент на территории Российской Федерации

Вы можете приобрести в компании MosChip.

Для оперативного оформления запроса Вам необходимо перейти по данной ссылке:

<http://moschip.ru/get-element>

Вы можете разместить у нас заказ для любого Вашего проекта, будь то серийное производство или разработка единичного прибора.

В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: info@moschip.ru

Skype отдела продаж:

moschip.ru

moschip.ru_4

moschip.ru_6

moschip.ru_9