

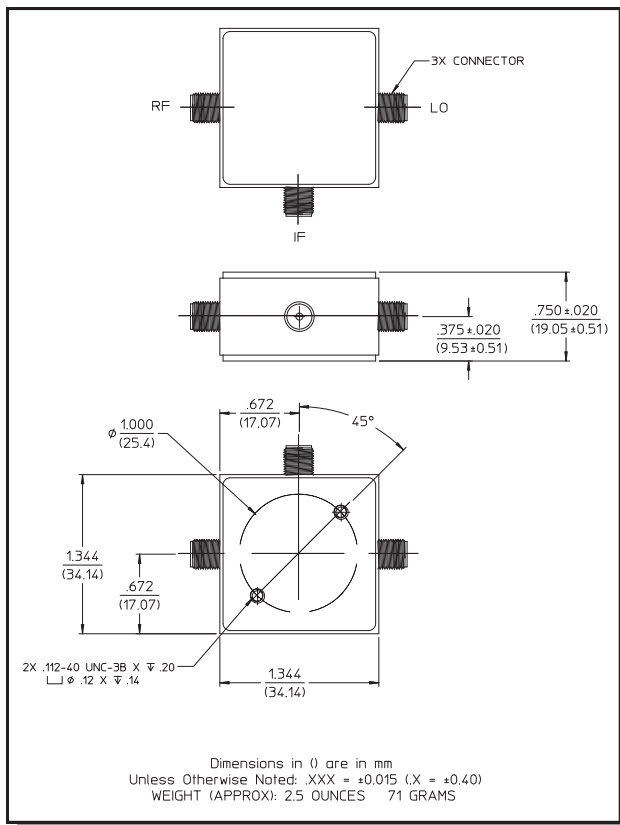
Features

- n Intermodulation Ratio is Insensitive to Port Mismatches
- n VSWR: <2.0:1 Typical Midband
- n Isolation: 35 dB Typical Midband
- n Impedance: 50 Ohms Nominal
- n Maximum Input Power: 350 mW Max @ 25°C, Derated to 85°C @ 3.2 mW/°C
- n LO Power: +24 dBm Max.
- n MIL-STD-883 Screening Available

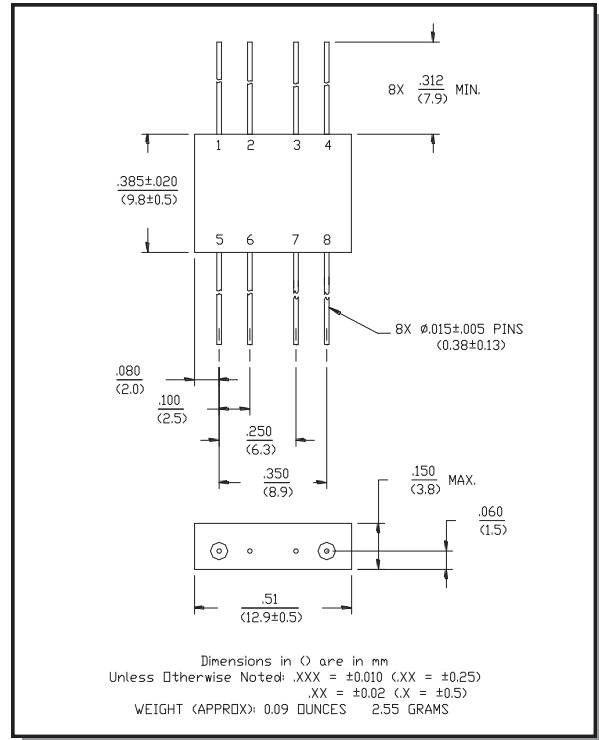
Description

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.

C-7 (MDC-179)



FP-2 (MD-179)



Pin Configuration (MD-179)

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

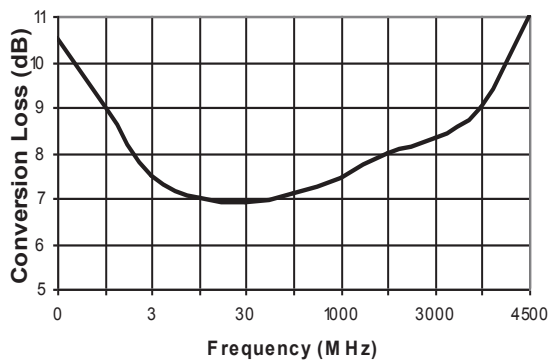
Electrical Specifications¹: $T_A = -55^\circ\text{C}$ to $+85^\circ\text{C}$

| Parameter | Test Conditions | Frequency | Units | Min | Typ | Max |
|---|--|--|----------------------|------------------|------------------|---------------------------|
| Frequency Range | RF, LO Ports IF Port | 1 - 4000 5 - 1500 | MHz MHz | — — | — — | — — |
| Conversion Loss ^{2,3} | | 5 - 1000 MHz 5 - 2500 MHz 5 - 3500 MHz 1 - 4000 MHz | dB dB dB dB | — — — — | — — — — | 7.5 8.5 9.5 10.5 |
| Isolation | LO to RF | 5 - 1000 MHz | dB | 30 | — | — |
| | | 1 - 4000 MHz | dB | 20 | — | — |
| | LO to IF | 5 - 1000 MHz 1 - 4000 MHz | dB dB | 30 20 | — — | — — |
| RF Input | 1 dB Compression 1 dB Desensitization | — | dBm | — | +5 | — |
| | | — | dBm | — | +3 | — |
| SSB Noise Figure | Within 1 dB of Conversion Loss Max | — | — | — | — | — |
| Typical Two-Tone IM Ratio | with a -10 dBm input, each tone 60 MHz IF | 10 MHz | dB | — | 49 | — |
| | | 500 MHz | dB | — | 52 | — |
| | | 3000 MHz | dB | — | 50 | — |
| 3rd Order Intermodulation Ratio Degradation | @ IF VSWR 3:1 | — | dB | — | 3 | — |

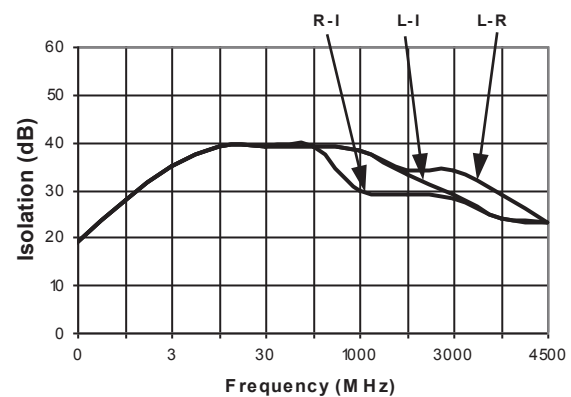
- All specifications apply when operated at +7 dBm available LO power with 50 Ohm source and load impedance.
 - For IF Frequencies of 5 - 300 MHz and RF of -10 dBm or less.
 - For MDC-179, add 1.0 dB to conversion loss.
- This product contains elements protected by United States Patent Number 4,224,572.

Typical Performance Curves

**Conversion Loss - LO @ +7 dBm,
IF @ 60 MHz**

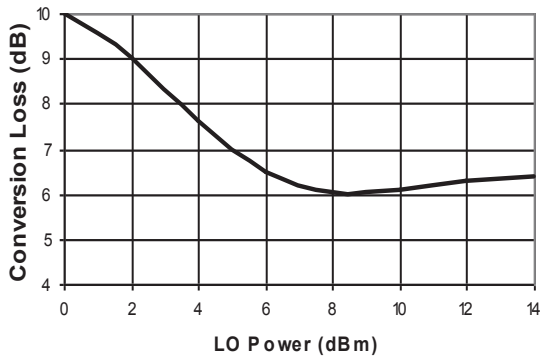


Isolation - Input +7 dBm

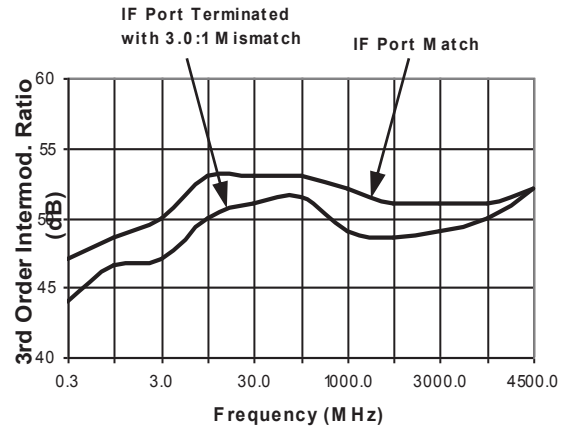


Typical Performance Curves

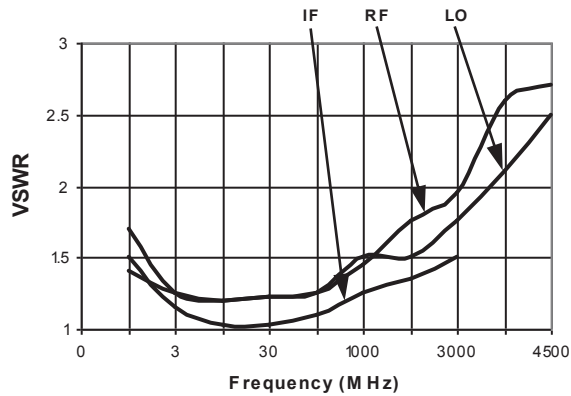
Conversion Loss vs. LO Power - RF @ 2000 MHz -10 dBm, IF @ 60 MHz



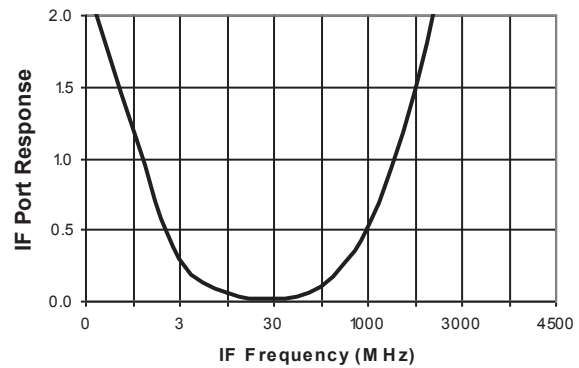
3rd Order IM Ratio - Input +7 dBm



VSWR



IF Port Response



Ordering Information

| Part Number | Package |
|-------------|---------|
| MD-179 PIN | FP-2 |
| MDC-179 SMA | C-7 |

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- Оценку стоимости проекта по компонентам.
- Изготовление тестовой платы монтаж и пусконаладочные работы.



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