

## Surface Mount Mixer 700 - 1000 MHz

### MD22-0002-MUC

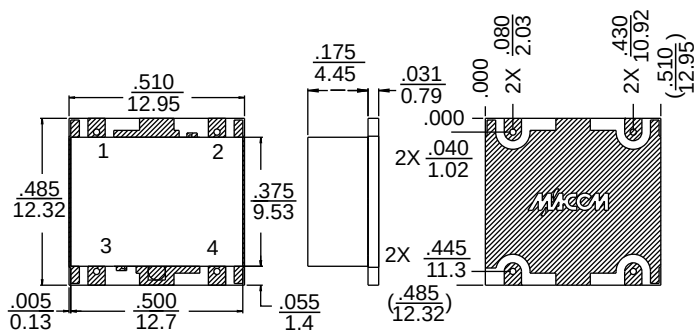
V1.00

### Features

- Low Cost 0.510" x 0.485" Surface Mount Package
- 4.5 dB Conversion Gain
- High Input Third Order Intercept Point
- Low LO Power: +5 dBm
- 25 dB LO Leakage
- DC Supply +8 volts @ 75 mA Typical

### Description

M/A-COM's MD22-0002-MUC is a low cost cellular band mixer preamp in a surface mount pc board package. This device offers conversion gain of 5 dB and excellent input third order intercept point for an input LO power of +5 dBm. Its price, size, and overall electrical performance make it an ideal choice for base station applications.



### Ordering Information

**Part No.**  
MD22-0002-MUC

**Package**  
SM-41

### Pin Configuration

| Function  | Pin No. |
|-----------|---------|
| LO Input  | 1       |
| RF Input  | 2       |
| DC Input  | 3       |
| IF Output | 4       |

### Electrical Specifications

**Test Conditions:**  $T_A = +25^\circ\text{C}$ , Frequency: RF, LO Ports = 700 - 1000 MHz, IF Port = 10 - 150 MHz

| Parameter               | Test Conditions            | Units | Min. | Typical |
|-------------------------|----------------------------|-------|------|---------|
| Conversion Gain         | LO @ +5 dBm<br>IF @ 60 MHz | dB    | 2.5  | 4.5     |
| Isolation               | LO to RF                   | dB    | 17   | 22      |
|                         | LO to IF                   | dB    | 20   | 30      |
|                         | RF to IF                   | dB    | 30   | 35      |
| Input Compression (1dB) | LO @ +5 dBm, IF @ 60 MHz   | dBm   | -    | +8      |
| Input Intercept Point   | LO @ +5 dBm<br>IF @ 60 MHz | dBm   | -    | +17     |
| DC Supply               | @ 75 mA                    | Volts | -    | +8      |

This Preliminary Specifications Data Sheet Contains Typical Electrical Specifications Which May Change Prior to Final Introduction.

**M/A-COM, Inc.**

North America: Tel. (800) 366-2266  
Fax (800) 618-8883

■ Asia/Pacific: Tel. +81 (03) 3226-1671  
Fax +81 (03) 3226-1451

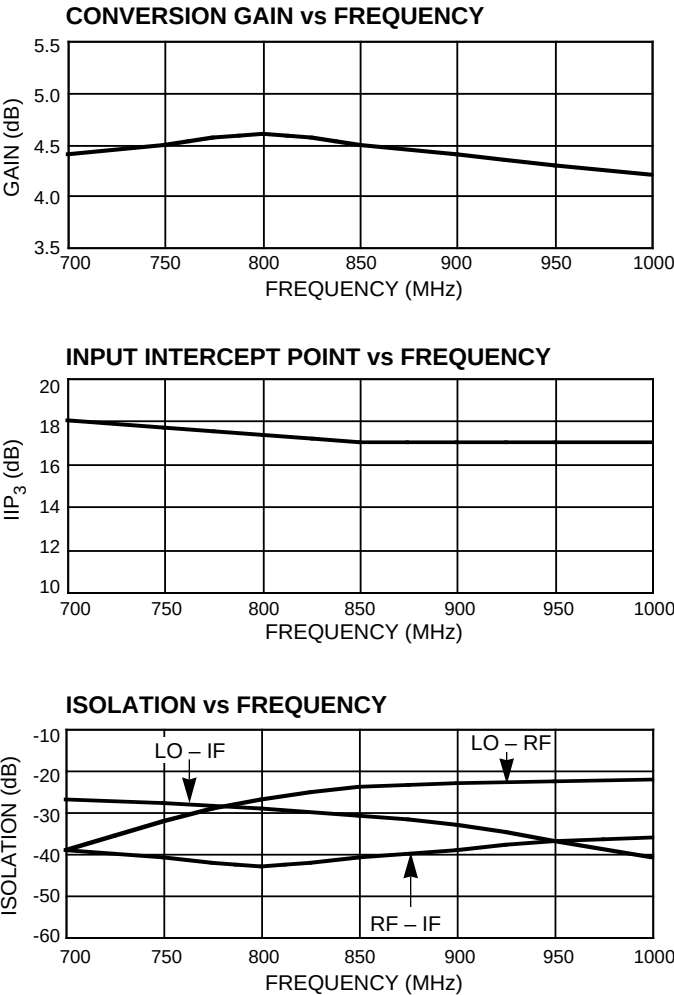
■ Europe: Tel. +44 (1344) 869 595  
Fax +44 (1344) 300 020

Absolute Maximum Rating<sup>1</sup>

| Parameter             | Absolute Maximum |
|-----------------------|------------------|
| RF Power <sup>2</sup> | +22 dBm          |
| LO Power <sup>2</sup> | +13 dBm          |
| Total Power           | +23 dBm          |
| Operating Temp        | -40°C to +85°C   |
| Storage Temp          | -65°C to +150°C  |
| Max Current           | 120 mA           |

1. Exceeding these limits may cause permanent damage.  
2. Ambient temperature ( $T_A$ ) = +25°

Typical Performance



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