

## Features

- Surface mount
- LO power +7dBm
- RF power up to +1dBm
- Low profile
- 260°C reflow compatible
- RoHS\* compliant
- RoHS version of MAMXES0028
- Available on tape and reel.

## Description

M/A COM's MAMX-008174-CXD860 is a low cost broadband high performance double balance mixer designed for use in high volume wireless applications. The device has been optimised by careful selection of the Schottky diode and balun transformer.

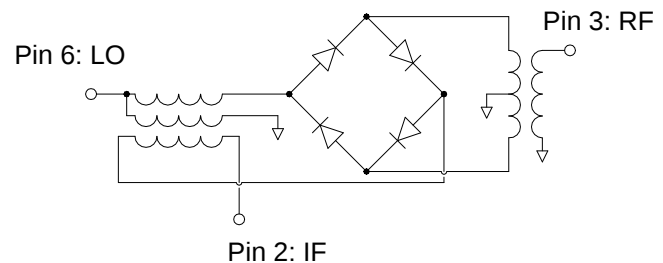


## Pin configuration

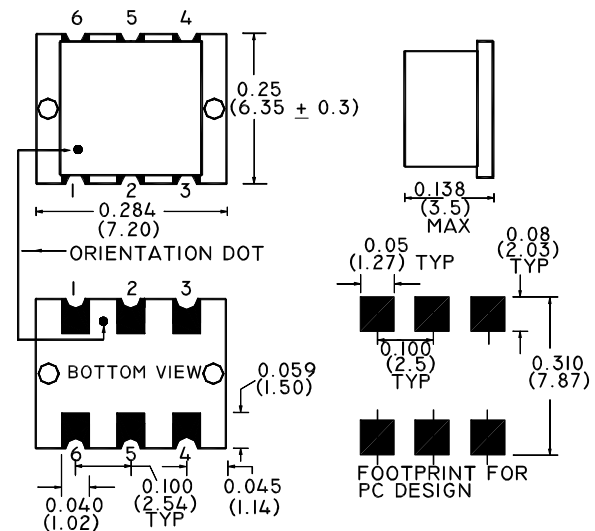
| Pin no. | Function |
|---------|----------|
| 1       | Ground   |
| 2       | IF       |
| 3       | RF       |
| 4       | Ground   |
| 5       | Ground   |
| 6       | LO       |

Note: Reference application note **M513** for reel size information.

## Schematic



## Case style: SM-134



Dimensions in inches [mm] Tolerance: .xx ± .02, .xxx ± .010, unless otherwise stated

## Ordering information

| Part number        | Description         |
|--------------------|---------------------|
| MAMX-008174-CXD860 | 900 piece reel      |
| MAMX-008174-CXD8TB | Customer Test Board |

\* Restrictions on Hazardous Substances, European Union Directive 2002/95/EC.

**Electrical Specifications: @ 25°C,  $Z_0 = 50\Omega$ , LO = +7dBm**

| Parameter                    | Frequency                                              | Units          | Min            | Typ            | Max         |
|------------------------------|--------------------------------------------------------|----------------|----------------|----------------|-------------|
| Frequency                    | RF 1 - 1000 MHz<br>LO 1 - 1000 MHz<br>IF DC - 1000 MHz | -<br>-<br>-    | -<br>-<br>-    | -<br>-<br>-    | -<br>-<br>- |
| Conversion Loss              | 1 - 500 MHz<br>500 - 1000 MHz                          | dB<br>dB       | -<br>-         | 6.5<br>7.5     | 7.5<br>8.5  |
| Isolation (LO - RF)          | 1 - 5 MHz<br>5 - 250 MHz<br>250 - 500 MHz              | dB<br>dB<br>dB | 50<br>35<br>25 | 55<br>45<br>30 | -<br>-<br>- |
| Isolation (LO - IF)          | 1 - 5 MHz<br>5 - 250 MHz<br>250 - 500 MHz              | dB<br>dB<br>dB | 50<br>35<br>25 | 55<br>45<br>30 | -<br>-<br>- |
| RF Input for 1dB Compression | 5 - 1000 MHz                                           | dBm            | -              | -              | +1          |
| Input IP3                    | 5 - 1000 MHz                                           | dBm            | 14             | 18             | -           |

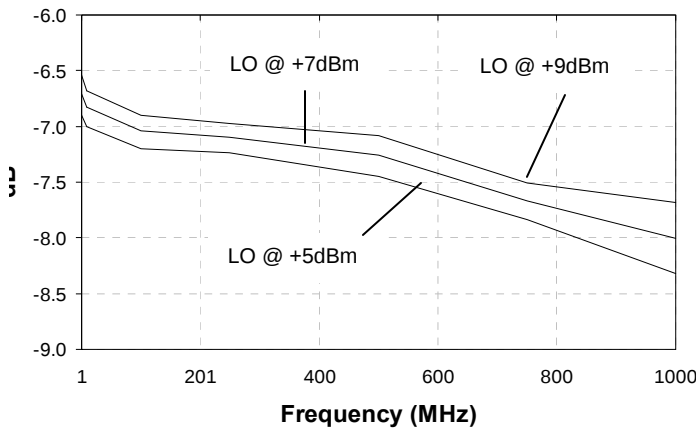
## Absolute Maximum Ratings <sup>1,2</sup>

| Parameter             | Absolute maximum |
|-----------------------|------------------|
| RF power              | 50mW             |
| Peak IF current       | 40mA             |
| Operating Temperature | -40°C to +85°C   |
| Storage Temperature   | -55°C to +100°C  |

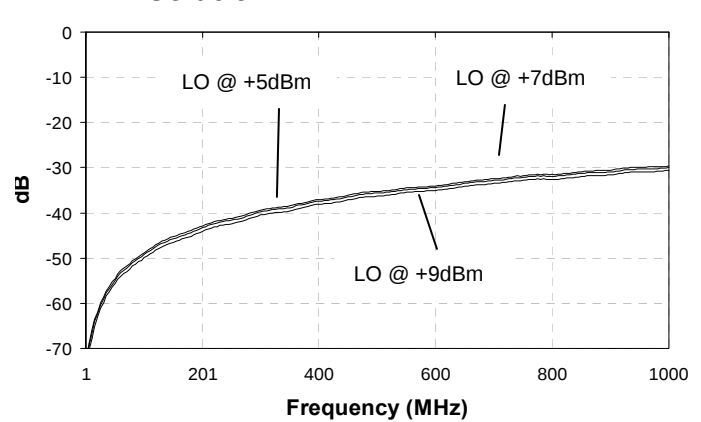
1. Exceeding any one or combination of these limits may cause permanent damage to this device.
2. M/A-COM does not recommend sustained operation near these survivability limits.

**Typical Performance Curves: @ 25°C,  $Z_0 = 50\Omega$ , LO = +7dBm**

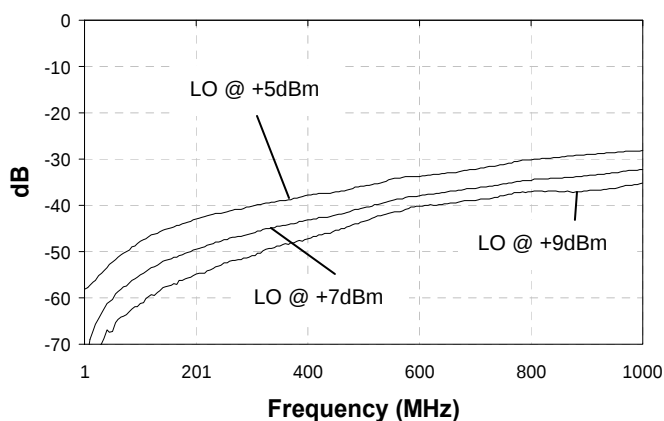
**Conversion Loss**



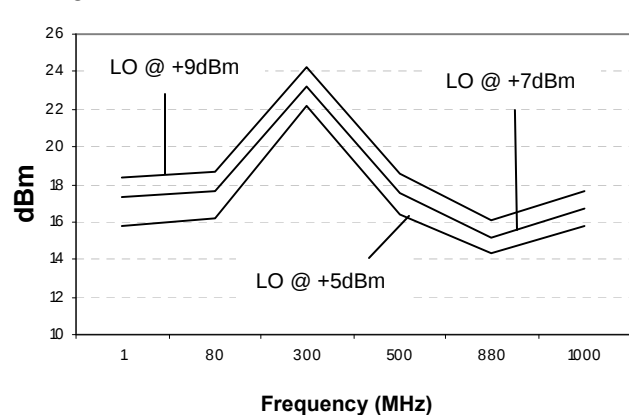
**L - R Isolation**



**L - I Isolation**

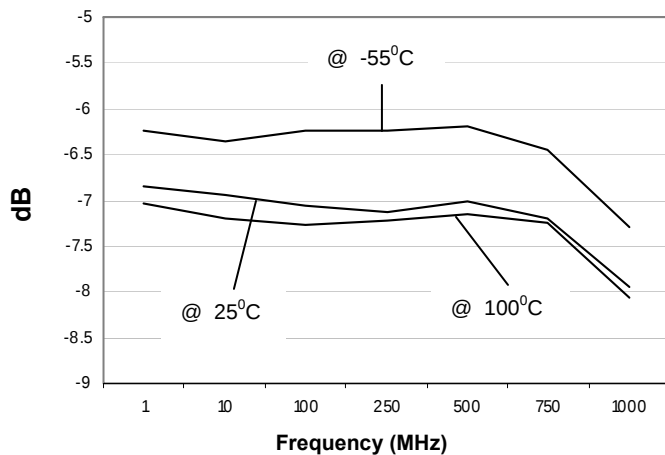


**IIP3**

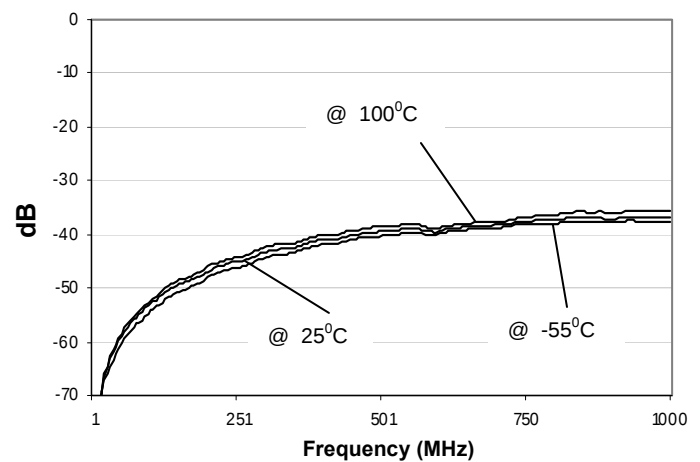


**Typical Performance Curves over Temperature: @ -55°C, +25°C, +100°C**

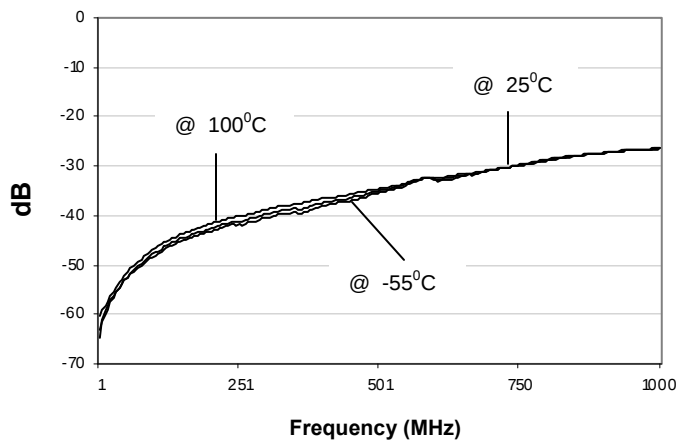
**Conversion Loss**



**L - R Isolation**



**L - I Isolation**



**IIIP3**

