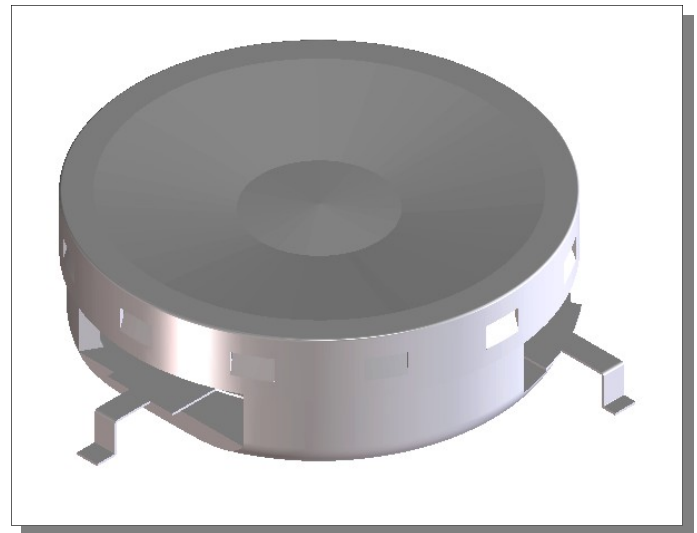


## Features

- Designed for RFID market
- 22dB Isolation typical
- 0.25dB Insertion Loss
- Low cost package
- 260°C Reflow Compatible
- RoHS\* Compliant Version of the MAFRIN0461

## Description

This circulator is designed specifically for RFID applications and features high reliability performance at a low cost. It is in a low cost package ideally suited for high volume manufacturing. M/A Com is one of the largest suppliers of isolator and circulators in the world.



## Electrical Specifications: $T_A = +25^\circ\text{C}$ , $Z_0 = 50 \text{ Ohms}$

| Parameter       | Test Conditions                             | Units | Min  | Typ  | Max  |
|-----------------|---|-------|------|------|------|
| Frequency Range | Over $T_{op}^1$                             | MHz   | 902  |      | 928  |
| Insertion Loss  | 902 MHz—928 MHz, over $T_{op}^1$            | dB    |      | 0.21 | 0.30 |
| Isolation       | 902 MHz—928 MHz, over $T_{op}^1$            | dB    | 22.0 | 29.0 |      |
| Return Loss     | 902 MHz—928 MHz, all ports, over $T_{op}^1$ | dB    | 21.0 | 28.0 |      |
| Circulation     | Over $T_{op}^1$                             |       |      | CW   |      |

1. See "Absolute Maximum Ratings" for  $T_{op}$ .

## Absolute Maximum Ratings

| Parameter             | Absolute Maximum |
|-----------------------|------------------|
| Forward Power         | 100 Watts        |
| Operating Temperature | -10°C to +85°C   |
| Storage Temperature   | -40°C to +100°C  |

1. Operation of this device above any one of these parameters may cause permanent damage.

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

## Ordering Information

| Part Number | Packaging |
|-------------|-----------|
| MAFRIN0497  | Tray      |

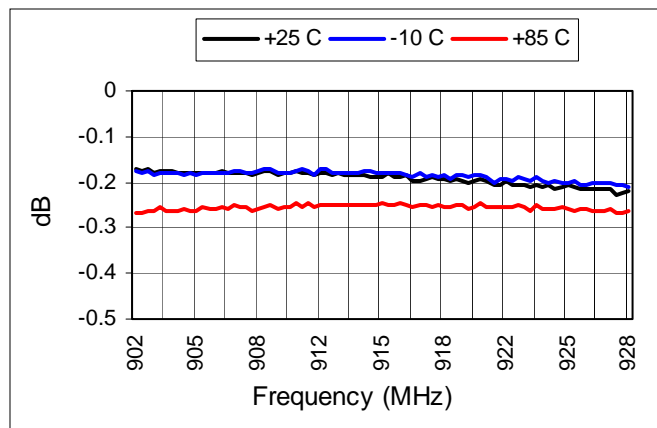
## Environmental Specifications

Devices are designed to function after exposure to the shock, vibration, thermal shock and moisture conditions typically encountered in base station and other infrastructure environments.

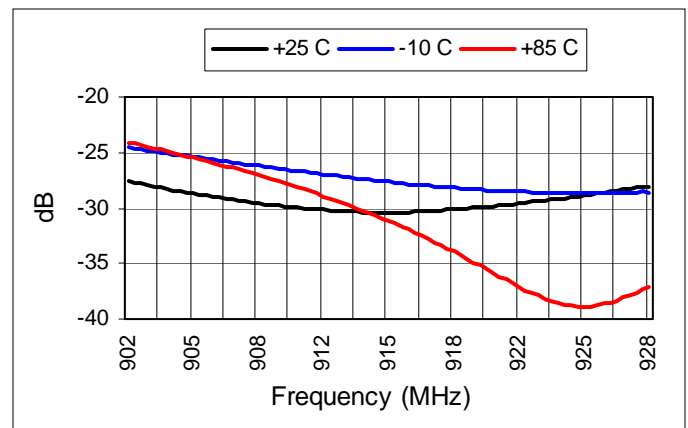
## S-Parameters

S-parameters are available on the M/A Com web-site at: [S-Parameters](#)

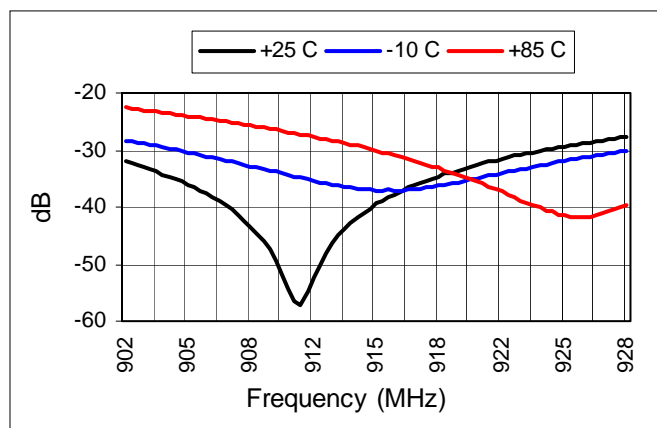
## Insertion Loss (S21)



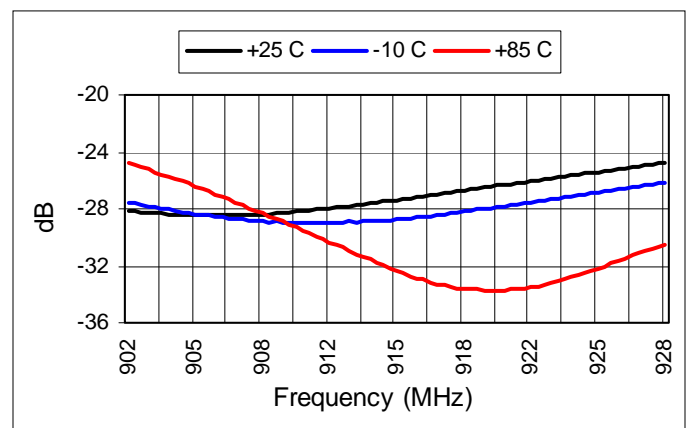
## Isolation (S12)



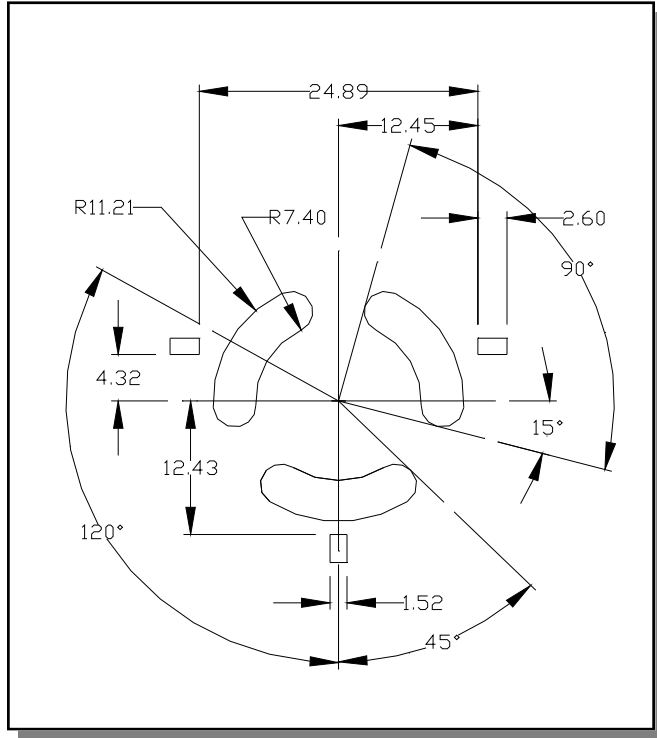
## Return Loss (S11)



## Return Loss (S22)

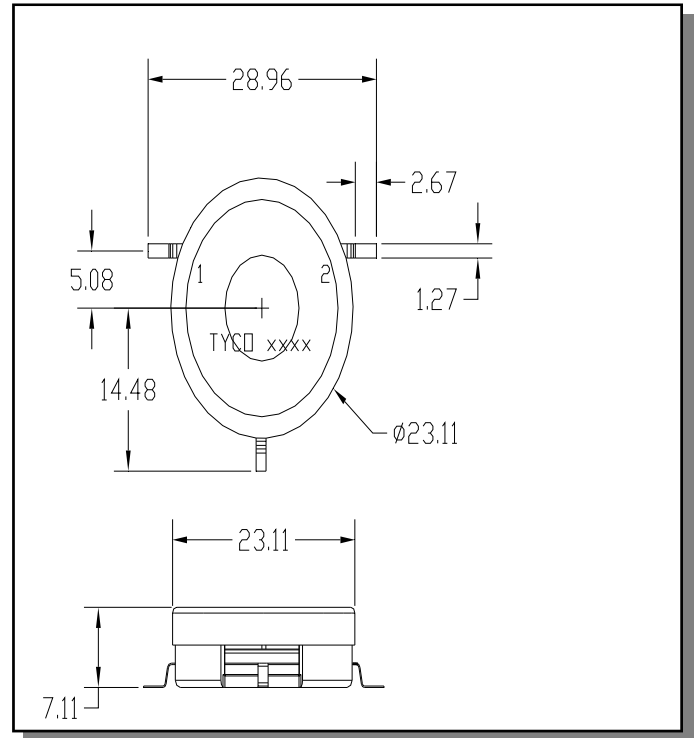


## Recommended PCB Layout



1. Dimensions in mm.
2. Tolerances:  $\pm 0.2$  mm unless otherwise noted.
3. Use multiple plated thru holes in ground area under the housing.

## Outline Drawing



1. Dimensions in mm.
2. Tolerances:  $\pm 0.3$  mm unless otherwise noted.
3. Housing: Cold Rolled Steel with Sn 100% plating.
4. Cover: CRS with Sn 100% plating.
5. Leads: Copper.