

Single Junction Gull Wing Circulator
950 MHz—956 MHz

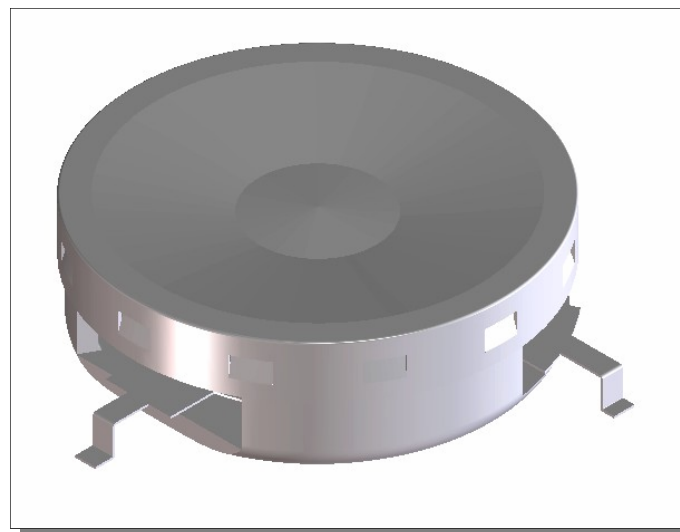
MAFRIN0453
Version 2

Features

- Designed for RFID market
- 22dB Isolation typical
- 0.25dB Insertion Loss
- Low cost package

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 | 950 | | 956 |
| Insertion Loss | 950 MHz—956 MHz, over T_{op} | dB | | 0.21 | 0.25 |
| Isolation | 950 MHz—956 MHz, over T_{op} | dB | 23.0 | 29.0 | |
| Return Loss | 950 MHz—956 MHz, all ports, over T_{op} | dB | 23.0 | 28.0 | |
| Circulation | Over T_{op} | | | 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.

Single Junction Gull Wing Circulator
950 MHz—956 MHz

MAFRIN0453
Version 2

Ordering Information

| Part Number | Packaging |
|-------------|-----------|
| MAFRIN0453 | Tray |

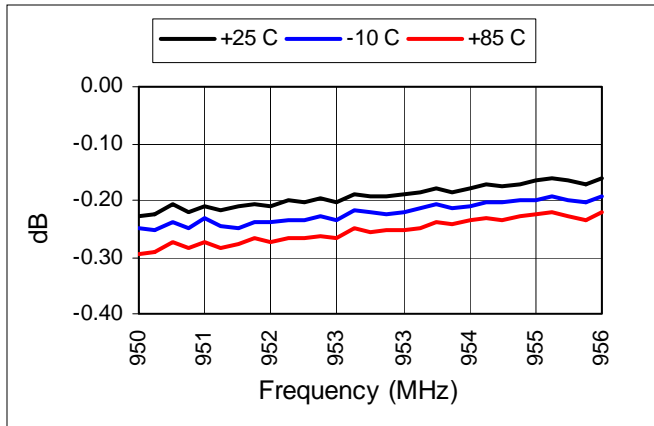
Environmental Specifications

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.

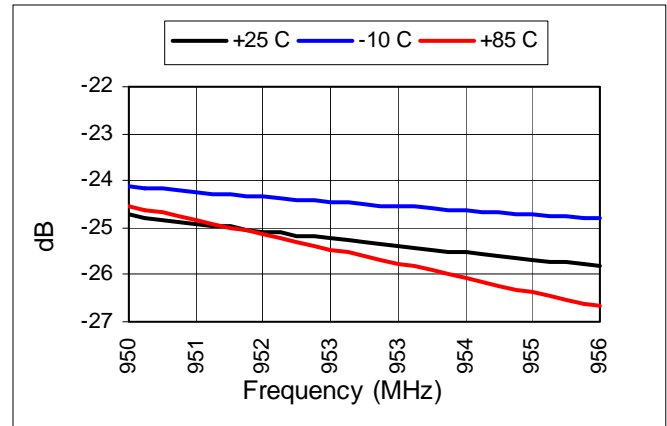
S-Parameters

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

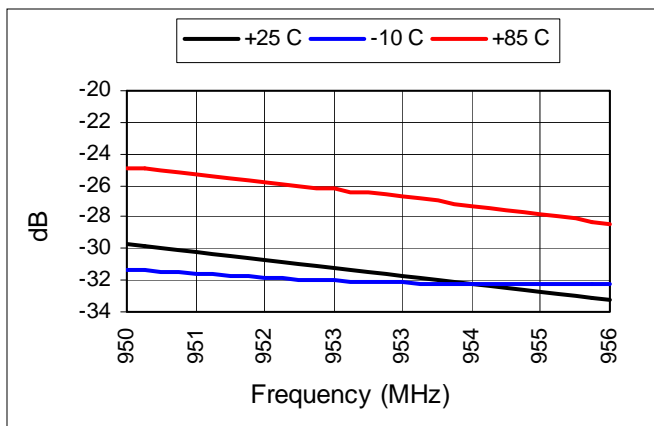
Insertion Loss (S21)



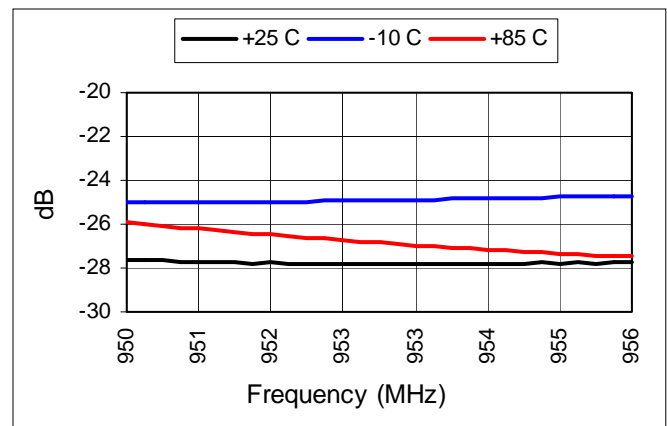
Isolation (S12)



Return Loss (S11)



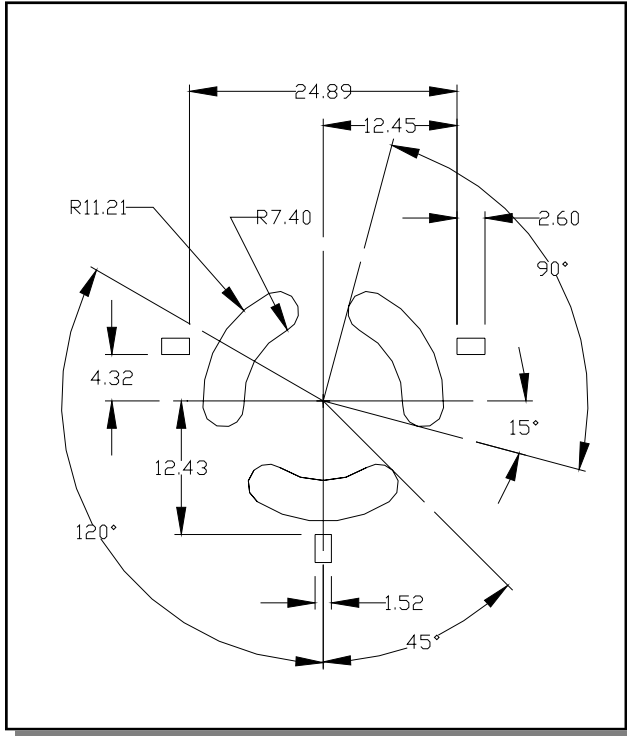
Return Loss (S22)



Single Junction Gull Wing Circulator
950 MHz—956 MHz

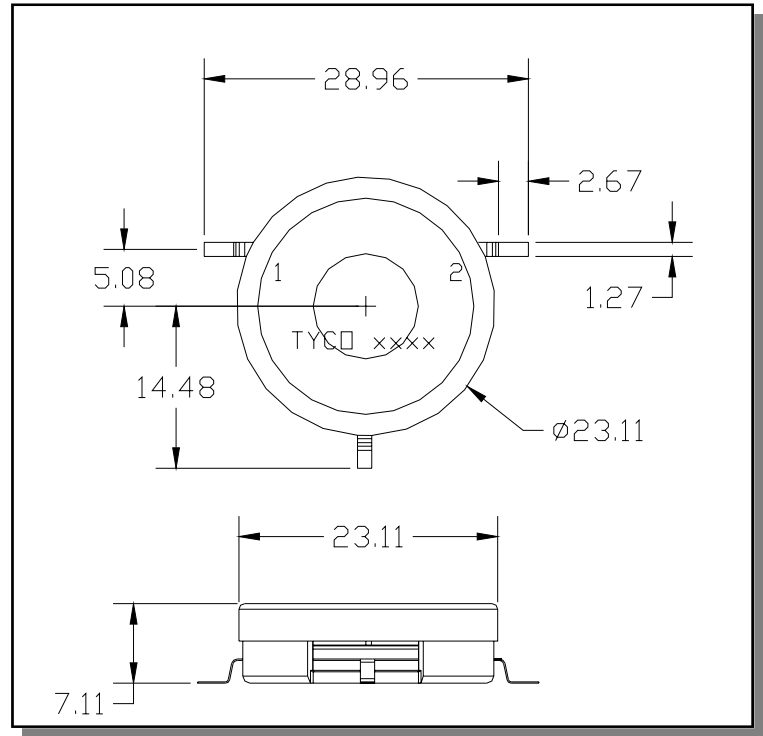
MAFRIN0453
Version 2

Recommended PCB Layout



1. Dimensions in mm.
2. Tolerances: ± 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: ± 0.3 mm unless otherwise noted.
3. Housing: Cold Rolled Steel with SnPb 90/10 plating.
4. Cover: CRS with SnPb 90/10 plating.
5. Leads: Copper.