

## Single Junction Gull Wing Circulator 950 MHz—956 MHz

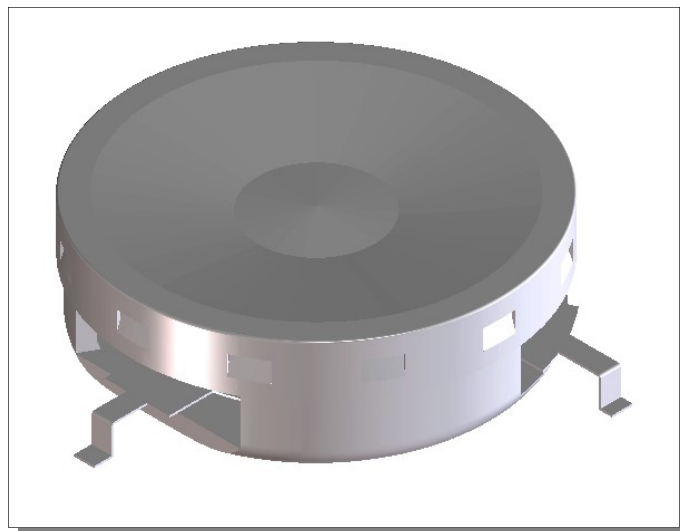
Rev. V2

### Features

- Designed for RFID market
- 22dB Isolation typical
- 0.25dB Insertion Loss
- Low cost package
- 260°C Reflow Compatible
- RoHS\* Compliant Version of the MAFRIN0453

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

Parameter	Test Conditions	Units	Min	Typ	Max
Frequency Range	Over $T_{op}$ <sup>1</sup>	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.

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

## Ordering Information

Part Number	Packaging
MAFRIN0496	Tray

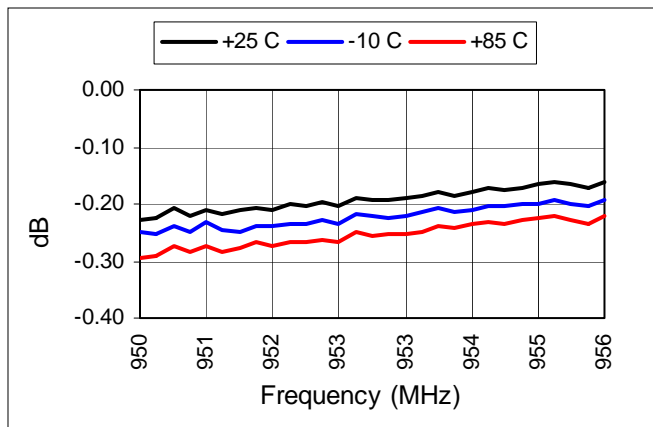
## Environmental Specifications

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.

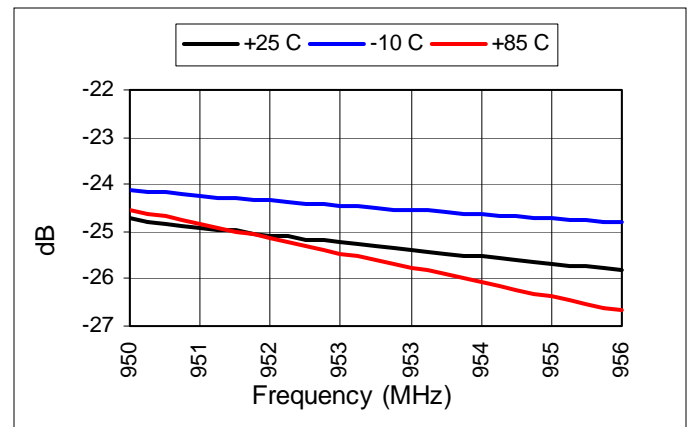
## S-Parameters

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

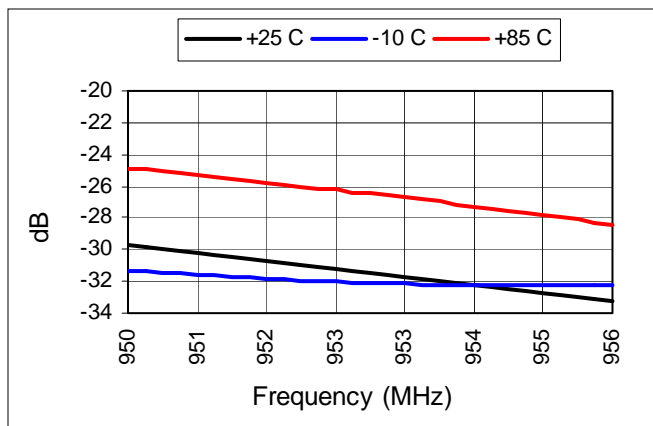
## Insertion Loss (S21)



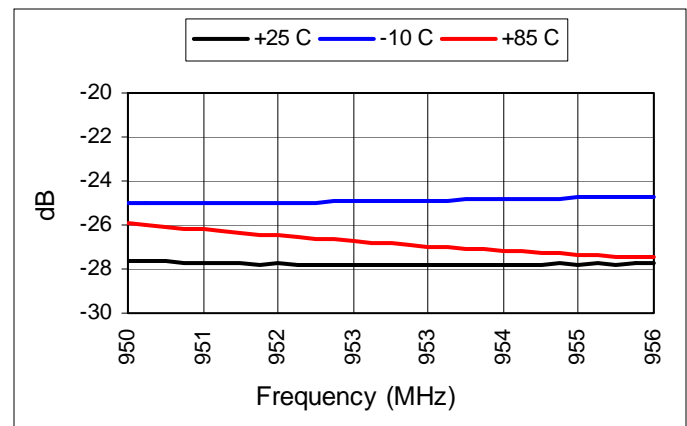
## Isolation (S12)



## Return Loss (S11)



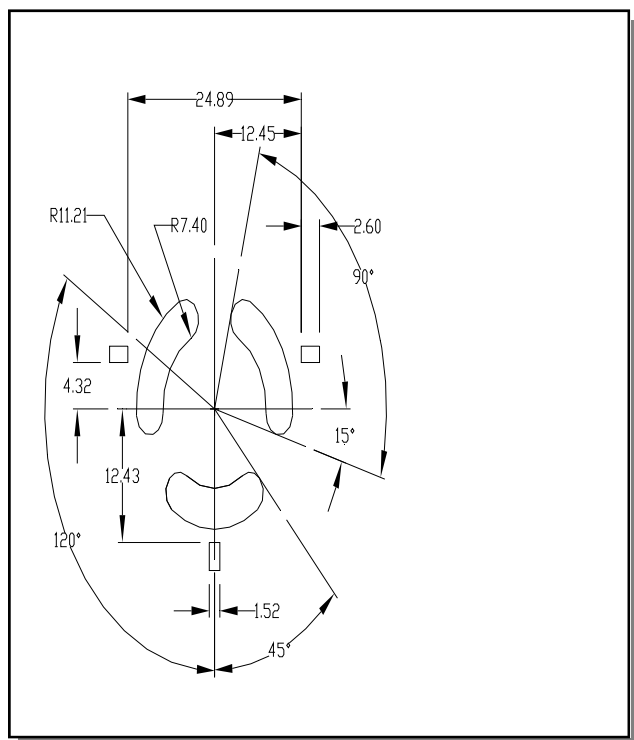
## Return Loss (S22)



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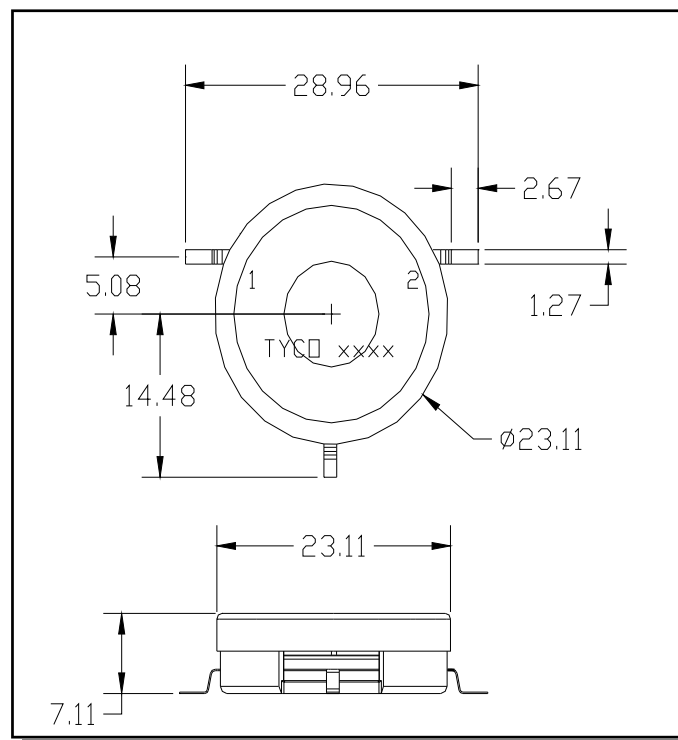
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## Recommended PCB Layout



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.