

**Single Junction Surface Mount Gull Wing Circulator**  
860 MHz—872 MHz

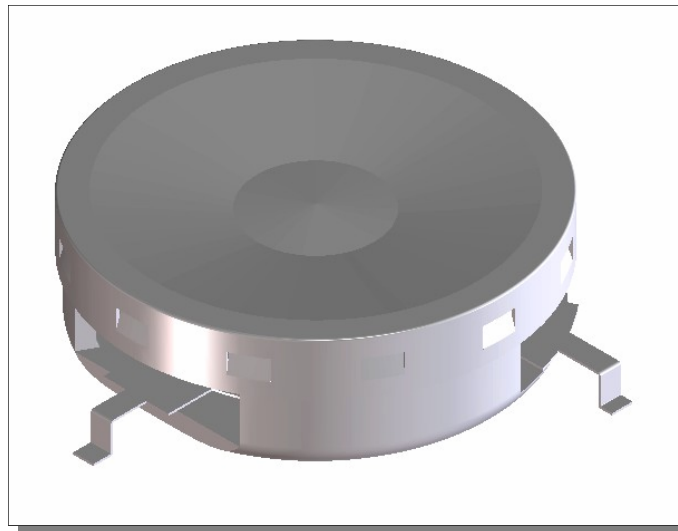
**MAFRIN0449**  
Version 2

**Features**

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

**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**

$T = T_{op}^1, Z_0 = 50 \text{ Ohms}$

Parameter	Test Conditions	Units	Min	Typ @25°C	Max
Frequency Range		MHz	860		872
Insertion Loss	860 MHz—872 MHz	dB		0.21	0.25
Isolation	860 MHz—872 MHz	dB	23.0	29.0	
Return Loss	860 MHz—872 MHz, all ports	dB	23.0	28.0	
Circulation			Clockwise		

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

**Absolute Maximum Ratings**

Parameter	Absolute Maximum
Forward Power, CW	100 Watts
Reverse Power, CW	100 Watts
Peak Power	100 Watts
Operating Temperature	-10°C to +85°C
Storage Temperature	-40°C to +100°C

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**Ordering Information**

Part Number	Packaging
MAFRIN0449	Tray

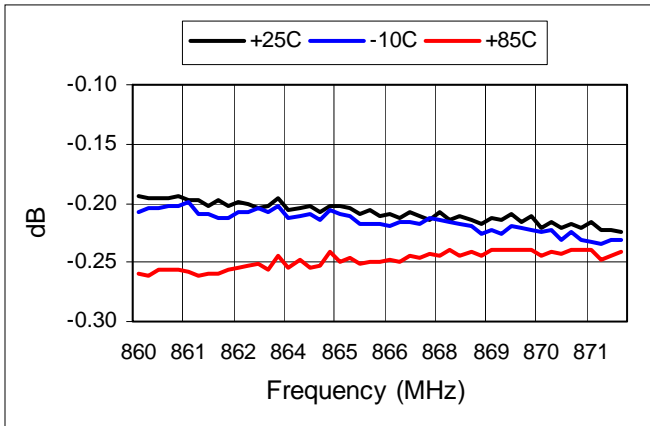
**Environmental Specifications**

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.

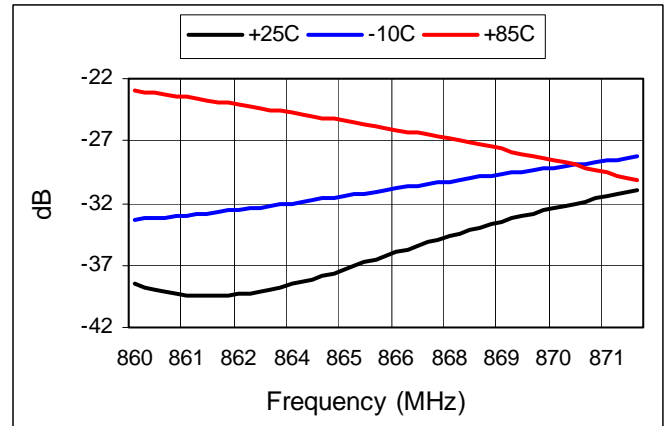
**S-Parameters**

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

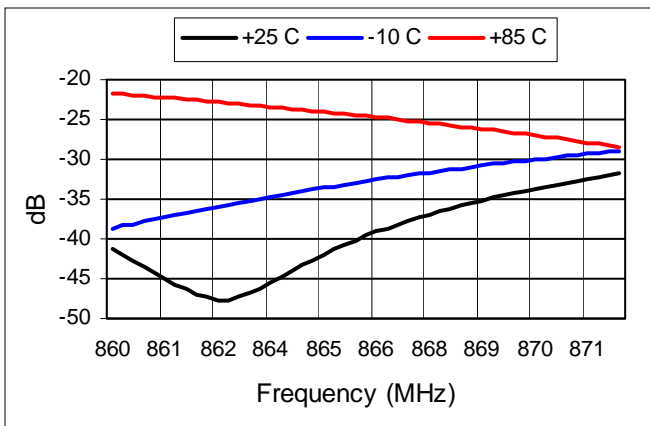
**Insertion Loss (S21)**



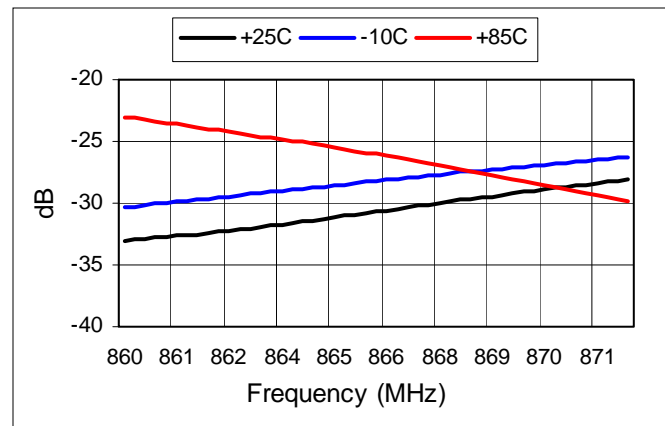
**Isolation (S12)**



**Return Loss (S11)**



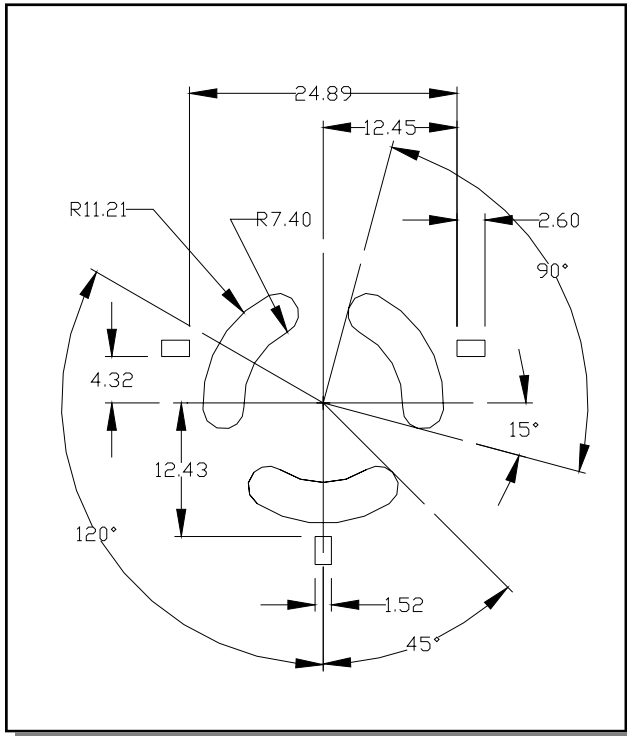
**Return Loss (S22)**



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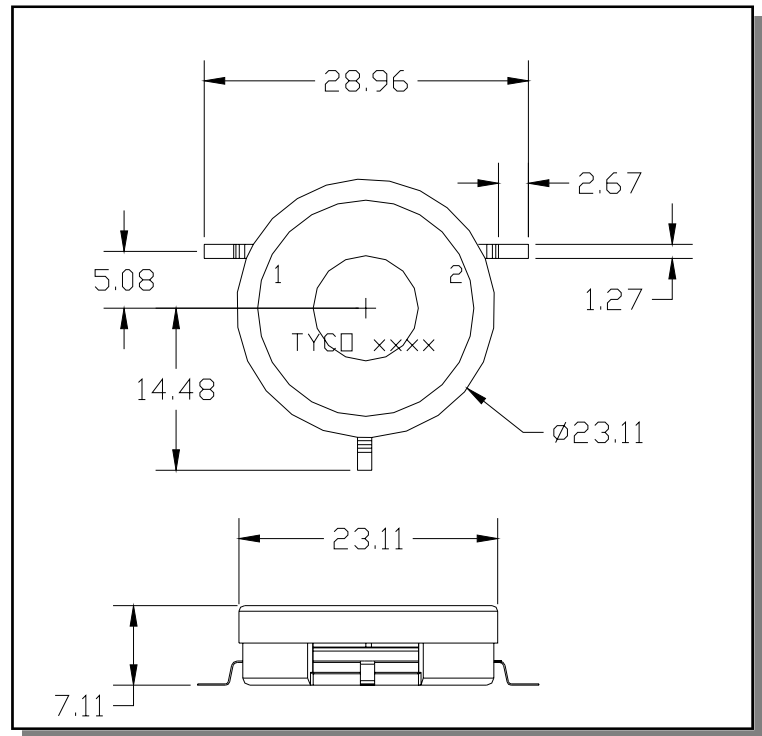
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**Recommended PCB Layout**



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 SnPb 90/10 plating.
4. Cover: CRS with SnPb 90/10 plating.
5. Leads: Copper.