

**Surface Mount Robust Lead Circulator
902 MHz—928 MHz**

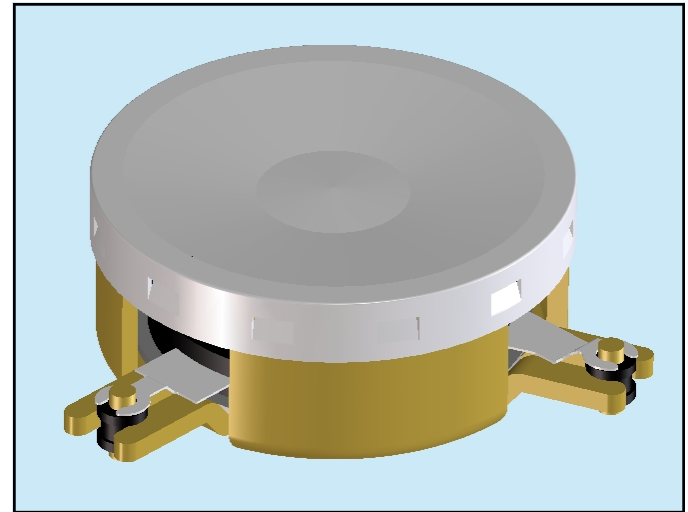
**MAFRIN0493
V2**

Features

- Designed for RFID market
- 22dB Isolation typical
- 0.25dB Insertion Loss
- Low cost package
- 260°C Reflow Compatible
- RoHS* Compliant Version of the MAFRIN0332

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	0.35
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	20.0	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.

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Ordering Information

Part Number	Packaging
MAFRIN0493	Tape and Reel

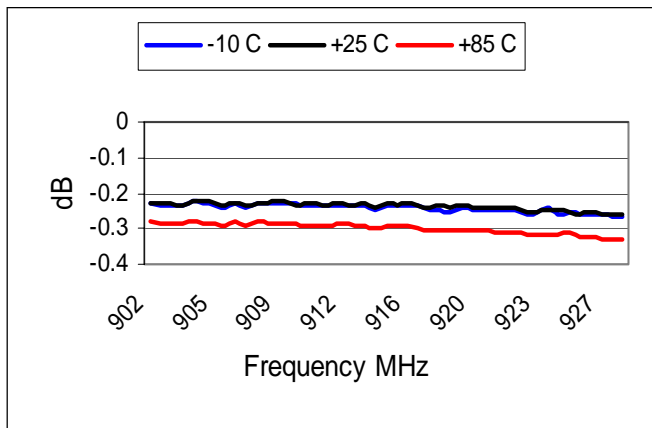
Environmental Specifications

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.

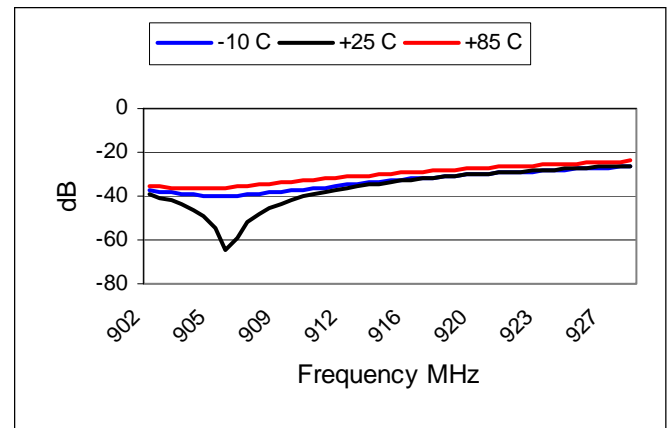
S-Parameters

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

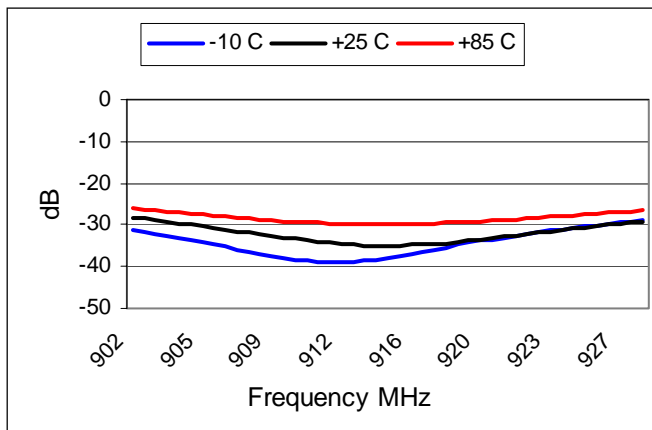
Insertion Loss (S21)



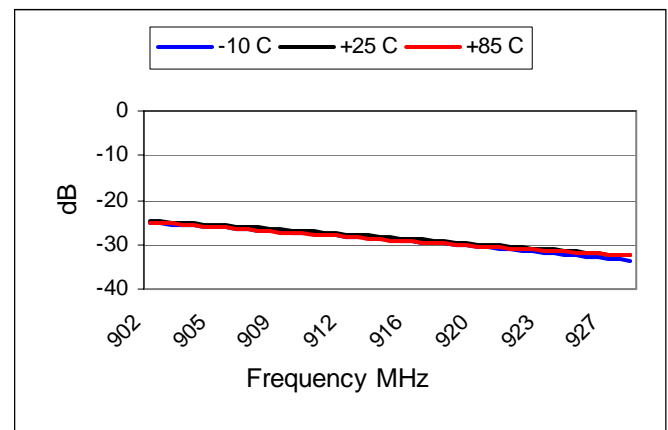
Isolation (S12)



Return Loss (S11)



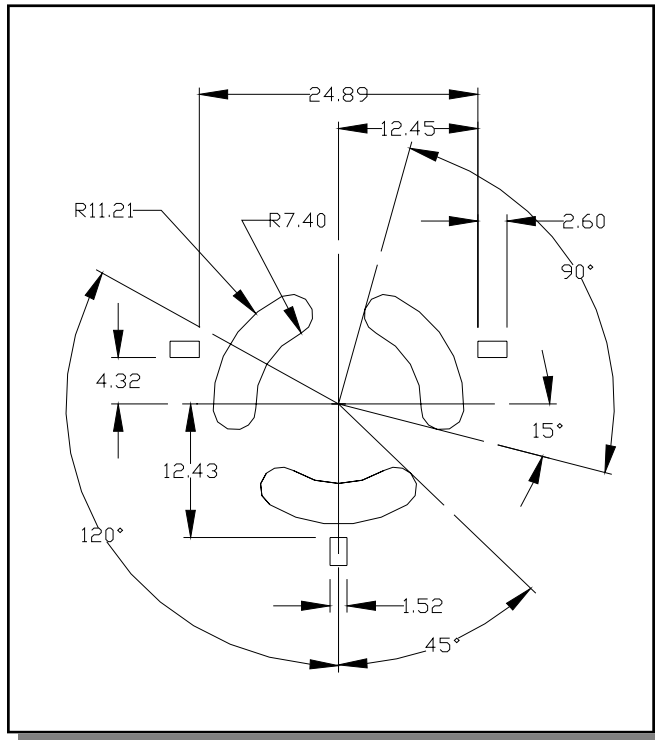
Return Loss (S22)



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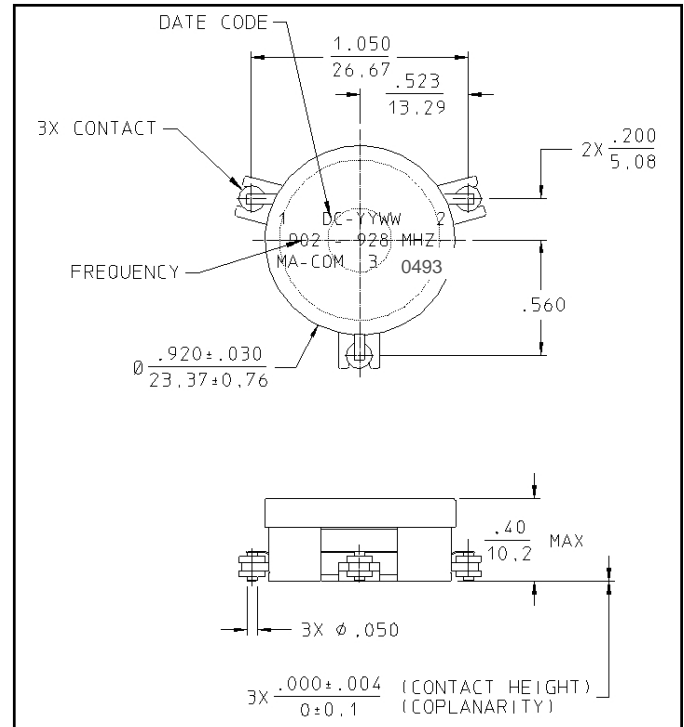
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Recommended PCB Layout



1. Dimensions in mm.
2. Tolerances: ± 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 Gold over Nickel Plate.
4. Cover: CRS with Nickel plating.
5. Leads: Copper.