

# RoHS Compliant



MAFRIN0493 V2

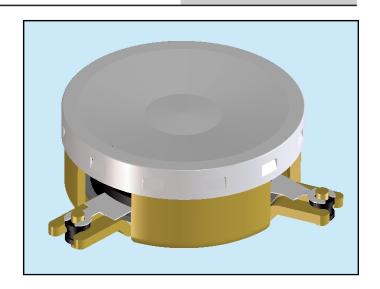
# Surface Mount Robust Lead Circulator 902 MHz—928 MHz

#### **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 $T_A = +25$ °C, $Z_0 = 50$ Ohms

Parameter	Test Conditions	Units	Min	Тур	Max
Frequency Range	Over T <sub>op</sub> <sup>1</sup>	MHz	902		928
Insertion Loss	902 MHz—928 MHz, over T <sub>op</sub> <sup>1</sup>	dB		0.21	0.35
Isolation	902 MHz—928 MHz, over T <sub>op</sub> <sup>1</sup>	dB	22.0	29.0	
Return Loss	902 MHz—928 MHz, all ports, over T <sub>op</sub> <sup>1</sup>	dB	20.0	28.0	
Circulation	Over T <sub>op</sub> <sup>1</sup>			CW	

<sup>1.</sup> 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		

<sup>1.</sup> Operation of this device above any one of these parameters may cause permanent damage.

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

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<sup>•</sup> **Europe** Tel: 44.1908.574.200 / Fax: 44.1908.574.300

Asia/Pacific Tel: 81.44.844.8296 / Fax: 81.44.844.8298



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# **Ordering Information**

Part Number	Packaging
MAFRIN0493	Tape and Reel

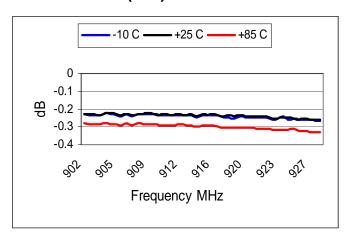
# **Environmental Specifications**

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.

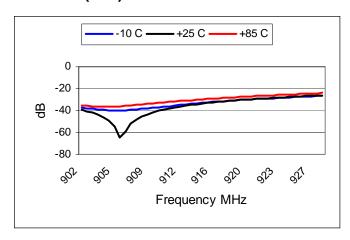
#### **S-Parameters**

S-parameters are available on the M/A Com website at: S-Parameters

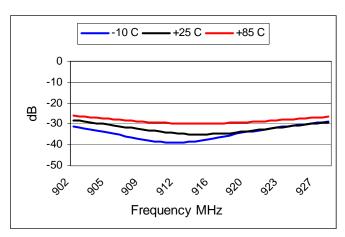
# **Insertion Loss (S21)**



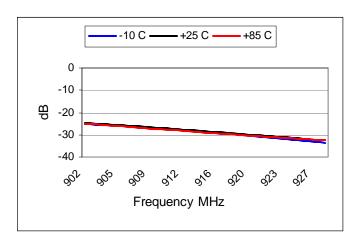
# Isolation (S12)



# Return Loss (S11)



# Return Loss (S22)



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<sup>2</sup> 



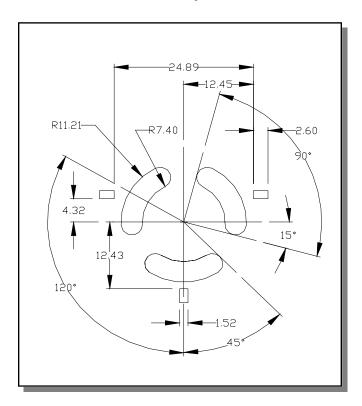
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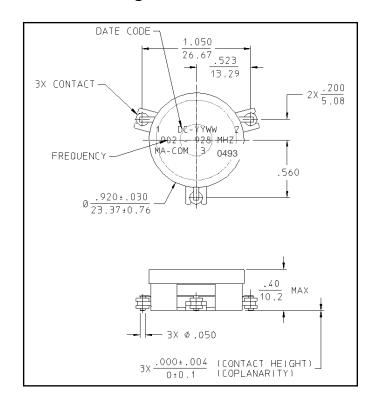
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# **Recommended PCB Layout**



- 1. Dimensions in mm.
- 2. Tolerances: ± 0.2 mm unless otherwise noted.
- 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.

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