

# RoHS Compliant



MAFRIN0494 V1

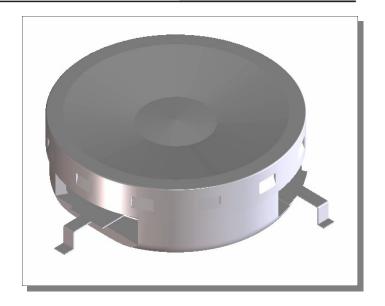
# Single Junction Gull Wing Circulator 860 MHz—960 MHz

#### **Features**

- · Designed for RFID market
- 22dB Isolation typical
- 0.25dB Insertion Loss
- Low cost package
- 260°C Reflow Compatible
- RoHS\* Compliant Version of the MAFRIN0370

# **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	860		960
Insertion Loss	860 MHz—960 MHz, over T <sub>op</sub> <sup>1</sup>	dB		0.21	0.40
Isolation	860 MHz—960 MHz, over T <sub>op</sub> <sup>1</sup>	dB	18.0	29.0	
Return Loss	860 MHz—960 MHz, all ports, over T <sub>op</sub> <sup>1</sup>	dB	18.0	28.0	
Circulation	Over T <sub>op</sub> <sup>1</sup>			CW	

<sup>1.</sup> See "Absolute Maximum Ratings" for Top.

# **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

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# **Ordering Information**

Part Number	Packaging
MAFRIN0494	Tape and Reel

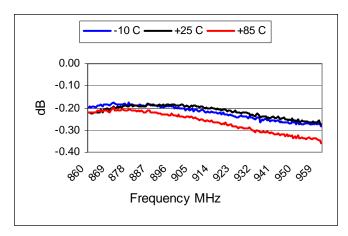
# **Environmental Specifications**

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.

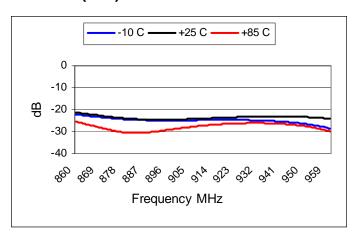
#### **S-Parameters**

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

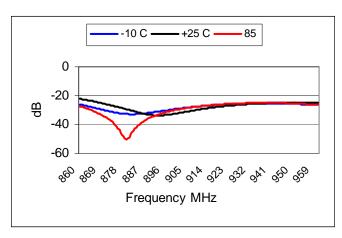
# **Insertion Loss (S21)**



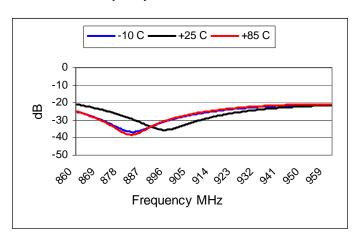
# Isolation (S12)



# Return Loss (S11)



### Return Loss (S22)



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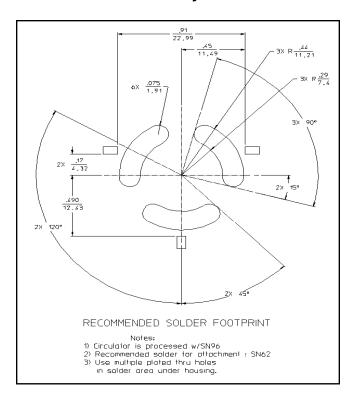
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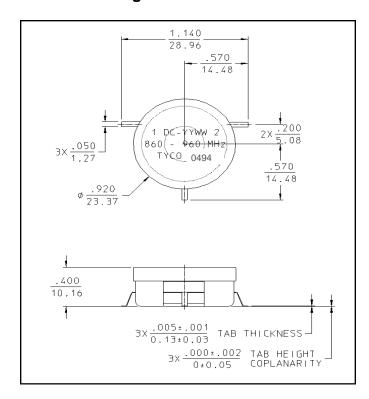
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# **Recommended PCB Layout**



- 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 Sn 100% plating.
- 4. Cover: CRS with Sn 100% plating.
- 5. Leads: Copper.

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