

PRELIMINARY DATA SHEET

# MAFR-000608-000001: 1200-1400 MHz Single Junction Drop-In Circulator

## Applications

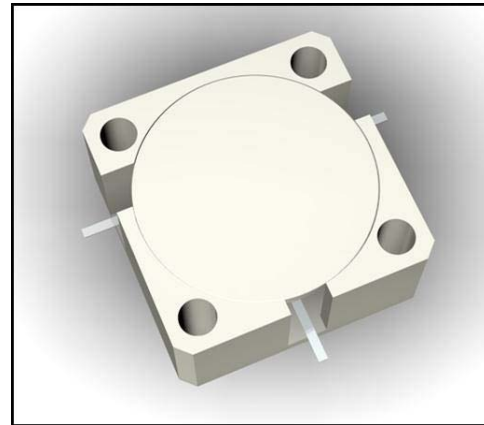
- Radar systems
- Power amplifiers

## Features

- BeO free
- Operating frequency range: 1200 MHz to 1400 MHz



Skyworks Green™ products are compliant with all applicable legislation and are halogen-free. For additional information, refer to *Skyworks Definition of Green™*, document number SQ04-0074.



## Description

The MAFR-000608-000001 is a single-junction circulator designed for radar and Power Amplifier (PA) applications. It operates over the frequency range of 1200 MHz to 1400 MHz. Insertion loss is less than 0.30 dB over an operating temperature range of  $-40\text{ }^{\circ}\text{C}$  to  $+85\text{ }^{\circ}\text{C}$ .

The MAFR-000608-000001 comes in an industry-recognized package designed for drop-in assembly.

A block diagram of the MAFR-000608-000001 is shown in Figure 1. The absolute maximum ratings of the MAFR-000608-000001 are provided in Table 1.

Electrical specifications are provided in Table 2. Plating information is shown in Table 3.

Figure 2 shows the package dimensions.

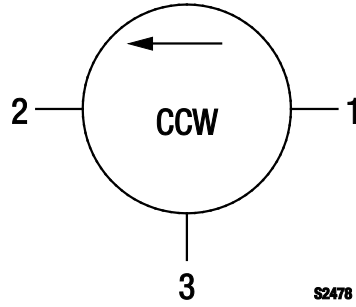


Figure 1. MAFR-000608-000001 Block Diagram

Table 1. MAFR-000608-000001 Absolute Maximum Ratings

| Parameter             | Symbol            | Minimum | Maximum | Units |
|-----------------------|-------------------|---------|---------|-------|
| Average power         | P <sub>AVG</sub>  |         | 200     | W     |
| Peak power            | P <sub>PEAK</sub> |         | 1500    | W     |
| Operating temperature | T <sub>OP</sub>   | -40     | +85     | °C    |
| Storage temperature   | T <sub>ST</sub>   | -55     | +125    | °C    |

**Note:** Exposure to maximum rating conditions for extended periods may reduce device reliability. There is no damage to device with only one parameter set at the limit and all other parameters set at or below their nominal value. Exceeding any of the limits listed here may result in permanent damage to the device.

Table 2. MAFR-000608-000001 Electrical Specifications (Note 1)

(T<sub>OP</sub> = -40 °C to +85 °C)

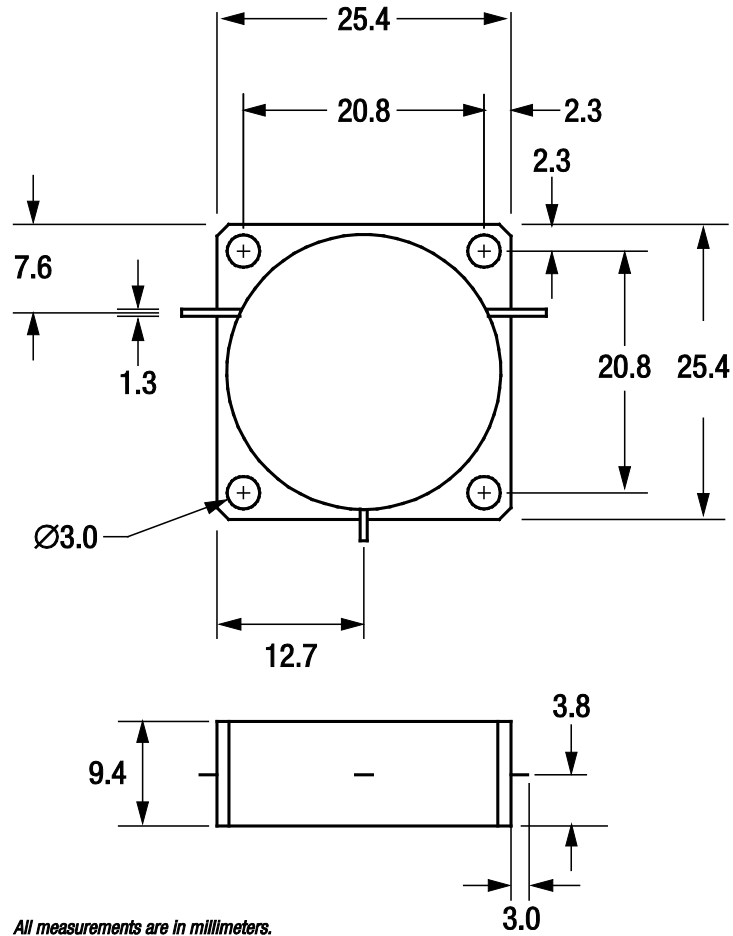
| Parameter       | Symbol | Test Condition | Min  | Typical | Max  | Units |
|-----------------|--------|----------------|------|---------|------|-------|
| Frequency range | f      |                | 1200 |         | 1400 | MHz   |
| Impedance       |        |                |      | 50      |      | Ω     |
| Insertion loss  | IL     |                |      |         | 0.30 | dB    |
| Isolation       | ISO    |                | 20   |         |      | dB    |
| Return loss     | RL     |                | 20   |         |      | dB    |

**Note 1:** Performance is guaranteed only under the conditions listed in this Table.

**Note 2:** See Skyworks Application Note, *Intermodulation Distortion Measurements of Ferrites*, document number 201537 for further details.

Table 3. MAFR-000608-000001 Plating

| Section | Material | Plating |
|---------|----------|---------|
| Leads   | Copper   | Silver  |
| Housing | Steel    | Nickel  |



All measurements are in millimeters.

Tolerance:  $\pm 0.2$  mm unless otherwise noted.

Lead thickness is 0.12 mm.

Model number, lot code, and port designation printed on top side of device.

S2569a

Figure 2. MAFR-000608-000001 Package Dimensions

## Ordering Information

| Model Name  | Manufacturing Part Number | Evaluation Board Part Number |
|---|---------------------------|------------------------------|
| MAFR-000608-000001 Single Junction Drop-In Circulator | MAFR-000608-000001        | MAFX-999999-000PPR           |

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