

DATA SHEET

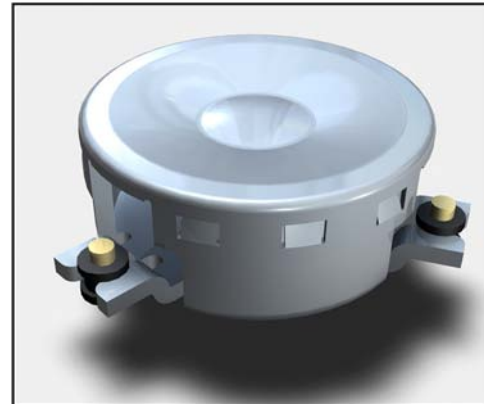
MAFR-000533-000001: 1840-2055 MHz Single-Junction Robust Lead Circulator

Applications

- TD-SCDMA systems
- Wireless infrastructure

Features

- BeO free
- Operating frequency range: 1840 MHz to 2055 MHz
- Insertion loss: 0.25 dB
- Isolation: 20 dB
- Return loss: 20 dB
- Small, surface mount package
- Shipped on tape and reel



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-000533-000001 is a single-junction circulator designed for wireless infrastructure applications. It operates over the frequency range of 1840 MHz to 2055 MHz. Insertion loss is 0.25 dB typical over an operating temperature range of -40°C to $+85^{\circ}\text{C}$.

The MAFR-000533-000001 comes in an industry-standard surface mount package and is designed for automated SMT placement.

A block diagram of the MAFR-000533-000001 is shown in Figure 1. The absolute maximum ratings of the MAFR-000533-000001 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 and recommended PCB footprint. Tape and reel dimensions are provided in Figure 3.

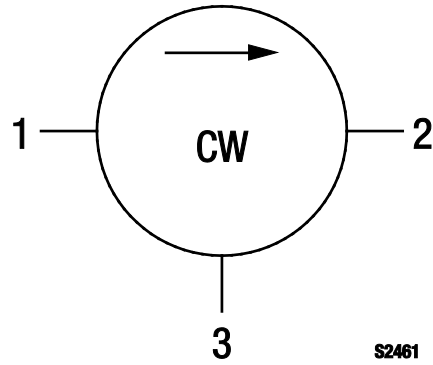


Figure 1. MAFR-000533-000001 Block Diagram

Table 1. MAFR-000533-000001 Absolute Maximum Ratings

Parameter	Symbol	Minimum	Maximum	Units
Average power	P _{AVR}		140	W
Peak power	P _{PEAK}		500	W
Operating temperature	T _{OP}	-40	+85	°C
Storage temperature	T _{ST}	-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-000533-000001 Electrical Specifications (Note 1)
(T_{OP} = -40 °C to +85 °C)

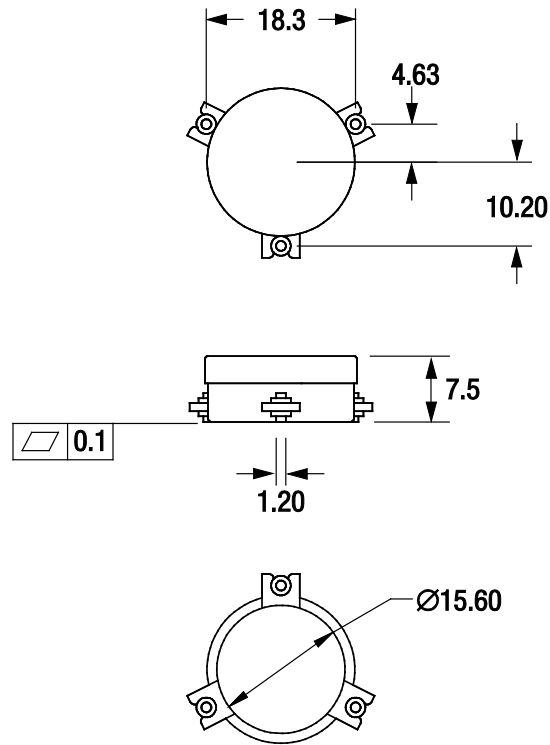
Parameter	Symbol	Test Condition	Min	Typical	Max	Units
Frequency range	f		1840		2055	MHz
Impedance				50		Ω
Insertion loss	IL	1880 to 2025 MHz 1840 to 2055 MHz			0.25 0.35	dB dB
Isolation	I _{SO}		20	22		dB
Return loss	R _L		20	22		dB
3 rd Order Intermodulation Distortion (Note 2)	IMD3	2x 15 W CW tones, 5 MHz spacing, 1880 to 2025 MHz			-70	dBc

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-000533-000001 Plating

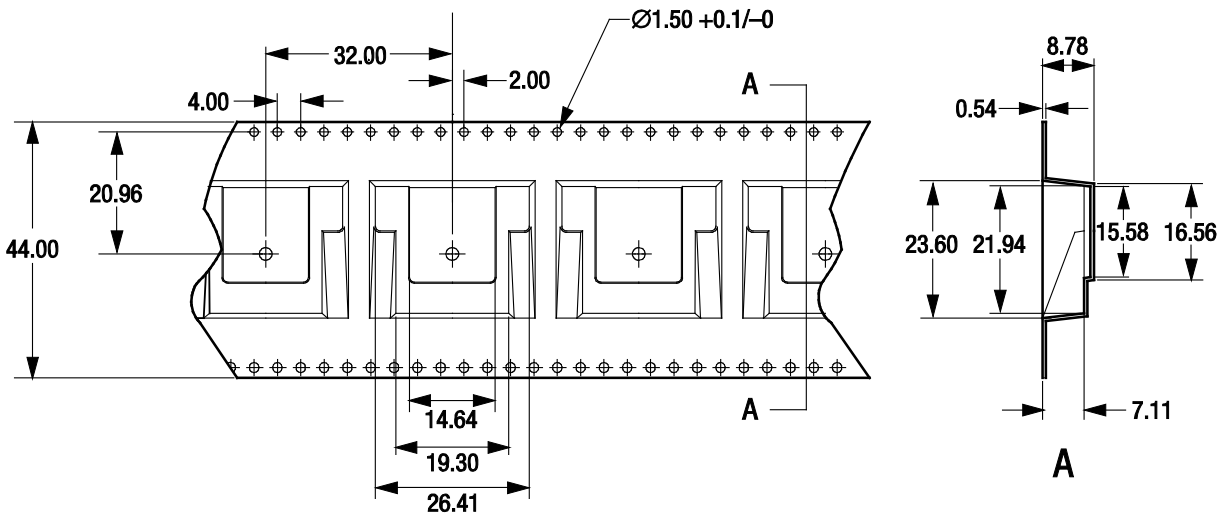
Section	Material	Plating
Leads	Bronze	Gold
Housing	Steel	Silver



All measurements are in millimeters

S3019

Figure 2. MAFR-000533-000001 Package Dimensions



All measurements are in millimeters.

S3053

Figure 3. MAFR-000533-000001 Tape and Reel Dimensions

Ordering Information

Model Name	Manufacturing Part Number	Evaluation Board Part Number
MAFR-000533-000001 Single Junction Lead Circulator	MAFR-000533-000001	MAFX-000020-XXXXXX

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