

DATA SHEET

SKYFR-001739: 2110 to 2200 MHz Single-Junction Robust Lead Circulator

Applications

- Wireless infrastructure
- Power amplifiers

Features

- Small surface-mount package
- Operating frequency range: 2110 MHz to 2200 MHz
- BeO free
- RoHS compliant
- Very low insertion loss
- Parts delivered 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 SKYFR-001739 is a single-junction, surface-mount circulator designed for wireless infrastructure and power-amplifier applications. It operates over the frequency range of 2110 MHz to 2200 MHz with an operating temperature range of 0 °C to +110 °C.

The SKYFR-001739 comes in an industry-standard surface-mount package and is designed for automated SMT placement.

A block diagram of the SKYFR-001739 is shown in Figure 1.

For tape and reel information, refer to the *Tape and Reel Guidelines for Isolators and Circulators* Application Note.

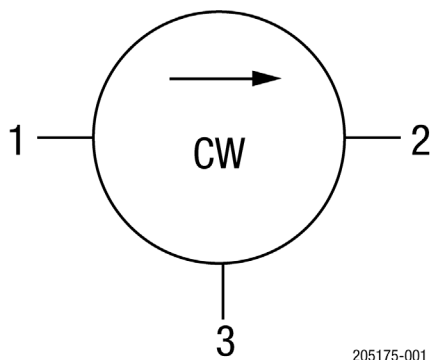


Figure 1. SKYFR-001739 Block Diagram

Electrical and Mechanical Specifications

The absolute maximum ratings of the SKYFR-001739 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 PCB footprint information.

Table 1. SKYFR-001739 Absolute Maximum Ratings¹

Parameter	Symbol	Minimum	Maximum	Units
Average power	P _{AVG}		20	W
Peak power	P _{PK}		100	W
Reverse power	P _{AVG}		20	W
Operating temperature	T _{OP}	-40	+105	°C
Storage temperature	T _{STOR}	-55	+125	°C

¹ 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. SKYFR-001739 Electrical Specifications^{1,2}

Parameter	Symbol	Test Condition	Min	Typ	Max	Units
Frequency range	f		2110		2200	MHz
Impedance				50		Ω
Insertion loss	IL				0.25	dB
Isolation	ISO		20			dB
Return loss	RL		20			dB
Attenuation		2 x fo		20		dB
Attenuation		3 x fo		10		dB
Attenuation		n x fo		5		dB
Harmonics		2 x fo, 1 x 10 W CW tones		60		dB
Harmonics		3 x fo, 1 x 10 W CW tones		60		dB
Group delay			0.5		2.0	ns
Intermodulation distortion ³	IMD	2 x 5 W CW tones	60	65		dBc

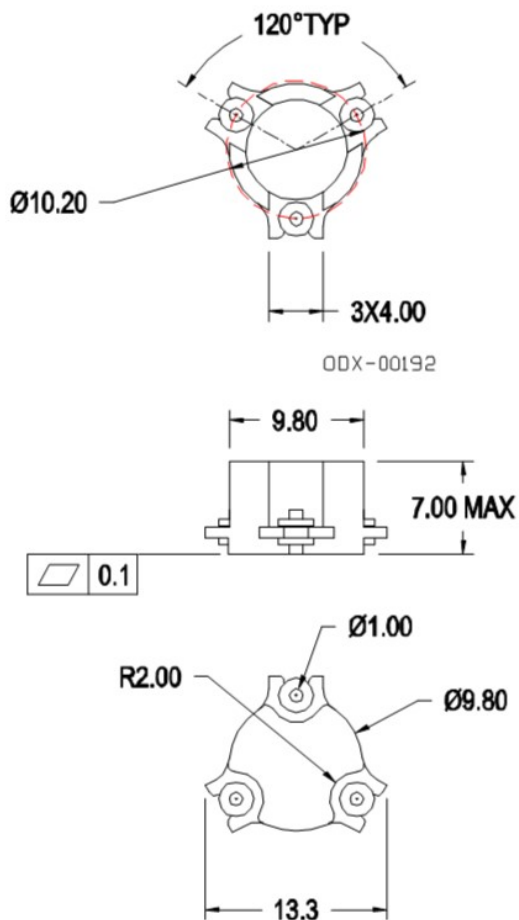
¹ Performance is guaranteed under the conditions listed in this table and over the operating temperature range.

² Part tested on PCB of 0.508 mm Rogers R04350B, trace width 1.07 mm wide, 1 oz copper.

³ See Skyworks Application Note, *Intermodulation Distortion Measurements of Ferrites*, document number 201537 for further details.

Table 3. SKYFR-001739 Plating Specification

Section	Base Material	Plating
Pins	Brass	Silver
Housing	Steel	Silver



Notes:

1. All dimensions in millimeters.
2. Tolerance: ±0.2 mm unless otherwise specified.
3. Coplanarity specification: 0.1 mm maximum.

Figure 2. SKYFR-001739 Package Dimensions and PCB Footprint

Ordering Information

Part Number	Product Description	Evaluation Board Part Number
SKYFR-001739	2110 to 2200 MHz Single-Junction Robust Lead Circulator	TBD

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