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SKYFR-001390: 2300—2400 MHz Single Junction Robust Lead Circulator

Applications

- Wireless infrastructure
- Power amplifiers



Features

- Small surface mount package
- Operating frequency range: 2300 to 2400 MHz
- BeO free
- RoHS compliant
- Tape & Reel

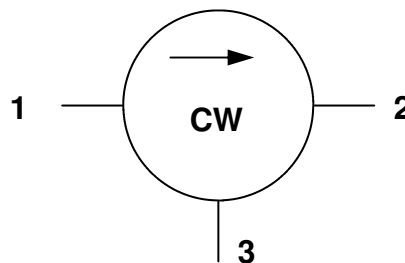
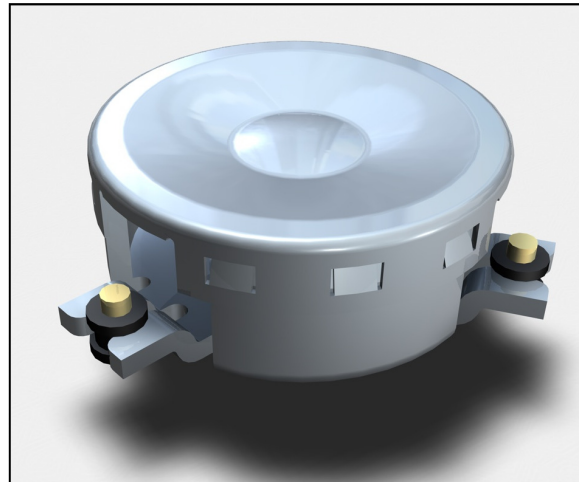


Figure 1. Block Diagram

Table 1. Absolute Maximum Ratings

Parameter	Symbol	Test Condition	Min	Max	Units
Average power	P_{AVG}			20	W
Peak power	P_{PK}			100	W
Operating temperature range	T_{OP}		-40	+125	°C
Storage temperature range	T_{STOR}		-55	+125	°C

Note: Exceeding any of the limits listed here may result in permanent damage to the device or may reduce device reliability.

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Table 2. Electrical Specifications (Note 1)

Parameter	Symbol	Test Condition	Min	Typical	Max	Units
Frequency range	f		2300		2400	MHz
Impedance				50		Ω
Insertion loss	IL	S ₂₁ , S ₃₂ , S ₁₃ , -40°C to +125°C		0.15	0.25	dB
Isolation	ISO	S ₁₂ , S ₂₃ , S ₃₁ , -40°C to -125°C	20	22		dB
Isolation	ISO	S ₁₂ , S ₂₃ , S ₃₁ , -10°C to +105°C	21	23		dB
Return loss	RL	S ₁₁ , S ₂₂ , S ₃₃ , -40°C to +125°C	20	22		dB
Return loss	RL	S ₁₁ , S ₂₂ , S ₃₃ , -10°C to +105°C	21	23		dB
Group delay					2.0	ns
Intermodulation distortion (Note 2)	IMD	2 x 5W CW tones, 1MHz spacing	60	65		dBc

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

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

Note 3: Part tested on PCB-00077, 0.508mm Rogers RO4350B, trace width 1.07mm wide, 1oz copper.

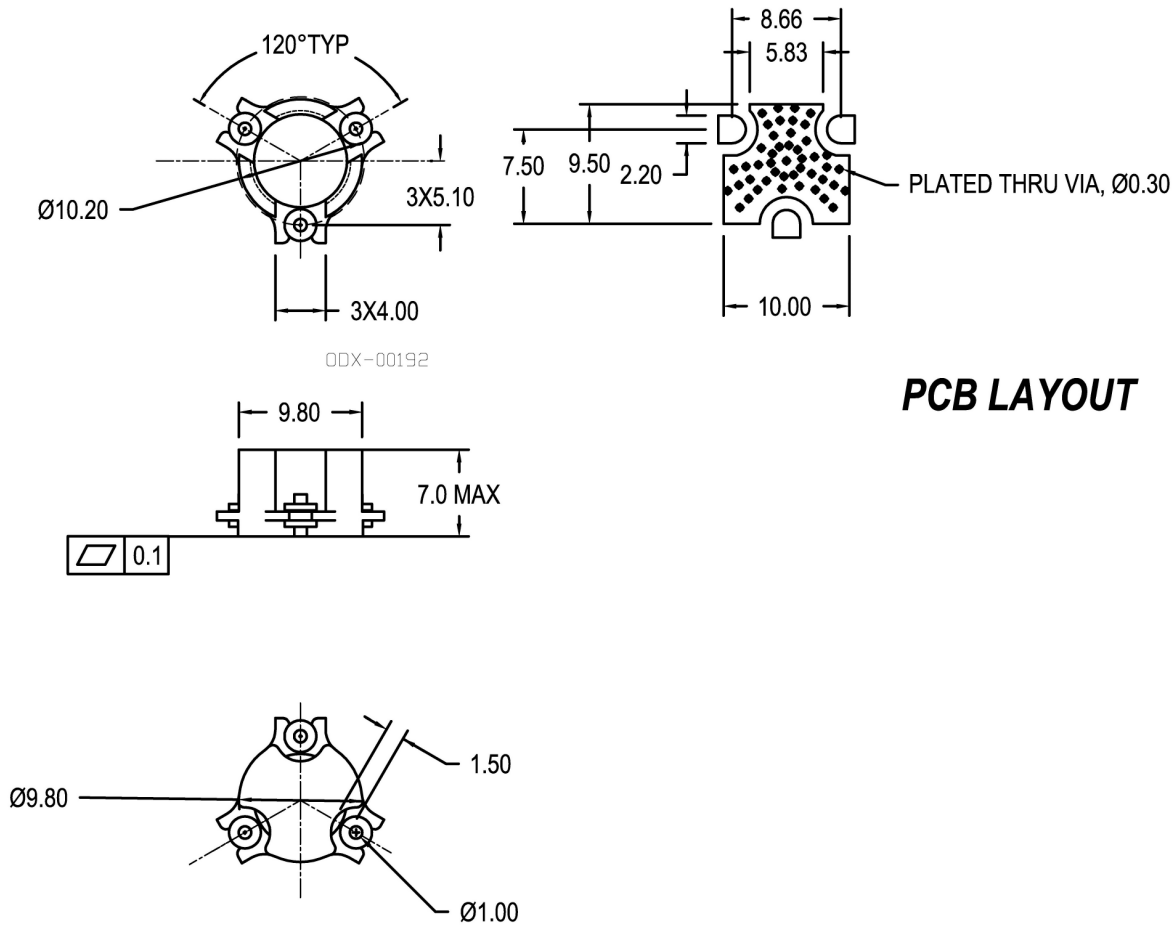
Table 3. Plating Specification

Section	Base Material	Plating
Pins	Brass	Silver
Housing	Steel	Silver

Table 4. Ordering Information

Manufacturing Part Number	Evaluation Board Part Number
SKYFR-001390	TFX-00118

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PCB LAYOUT

All dimensions in millimeters.
 Tolerance: $\pm 0.2\text{mm}$ unless otherwise specified.
 Coplanarity specification: 0.1mm maximum.
 Model number, lot code and port designation printed on top side of device.

Figure 2. Package Dimensions and Recommended PCB Layout

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