

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

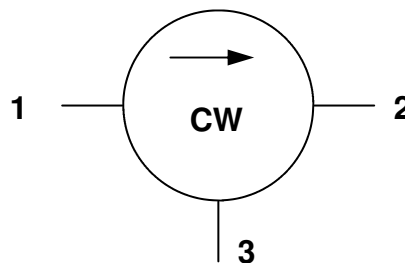
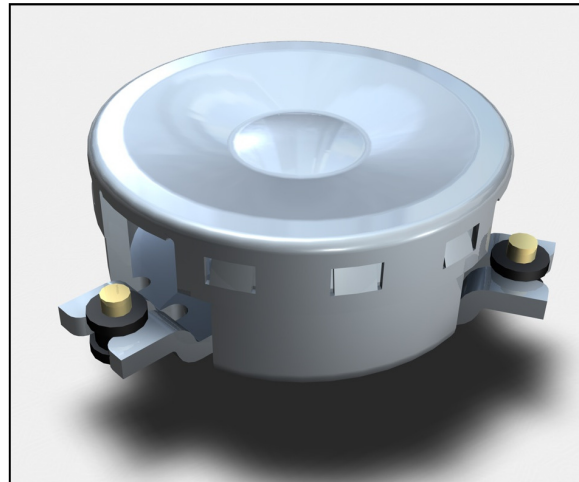


Figure 1. Block Diagram

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.

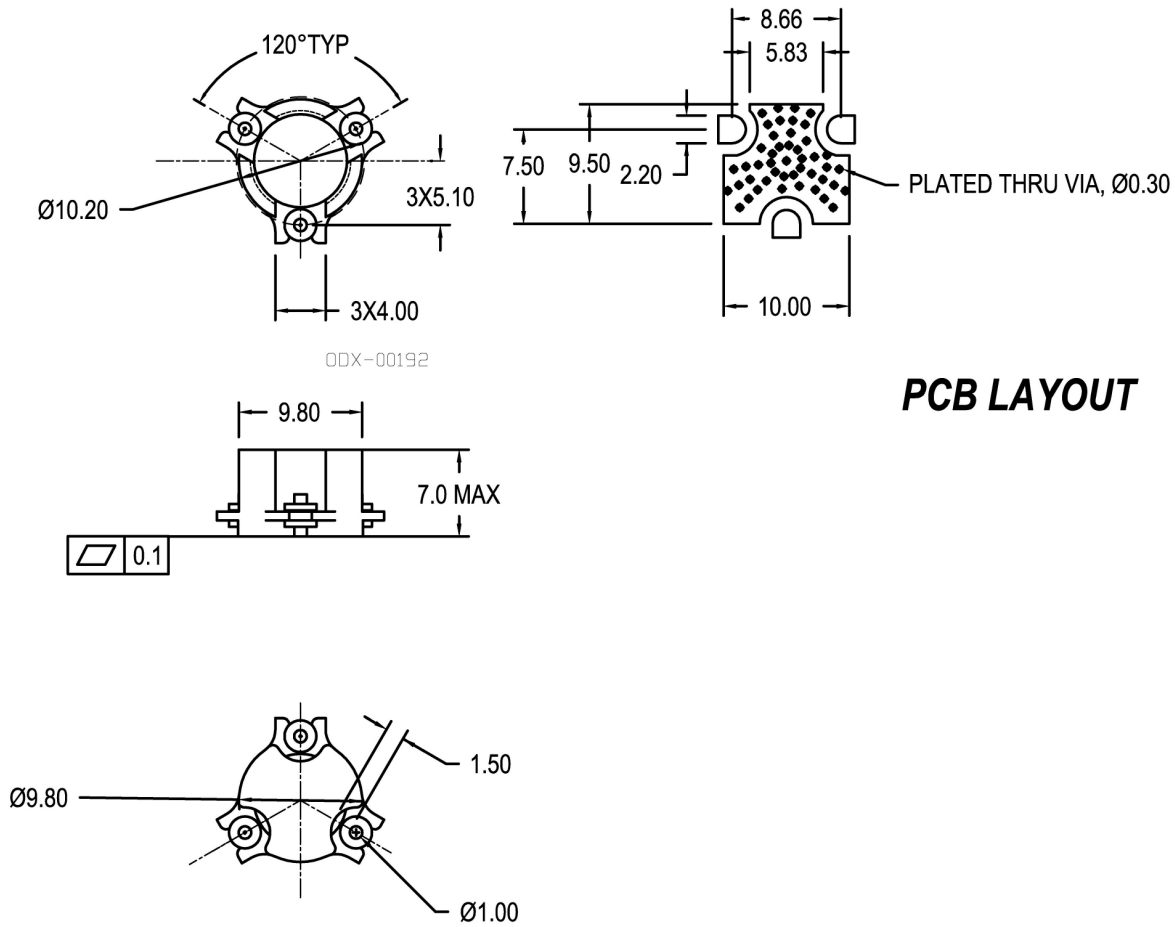
Table 3. Plating Specification

| 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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