

SKYFR-000782: 2110-2170 MHz Single Junction Drop-In Circulator

Applications

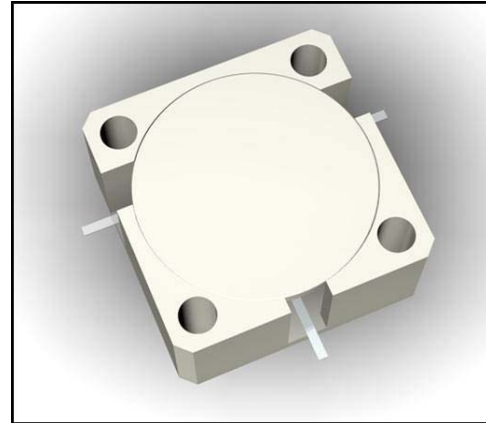
- Wireless infrastructure
- Power amplifiers

Features

- BeO free
- Operating frequency range: 2110 MHz to 2170 MHz
- Excellent insertion loss performance



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-000782 is a single-junction circulator designed for wireless infrastructure applications. It operates over the frequency range of 2110 MHz to 2170 MHz. Insertion loss is less than 0.12 dB over an operating temperature range of -40°C to $+95^{\circ}\text{C}$.

The SKYFR-000782 comes in an industry-recognized package designed for drop-in assembly.

A block diagram of the SKYFR-000782 is shown in Figure 1. The absolute maximum ratings of the SKYFR-000782 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.

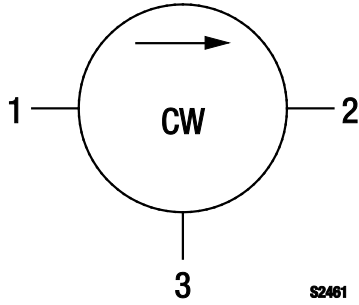


Figure 1. SKYFR-000782 Block Diagram

Table 1. SKYFR-000782 Absolute Maximum Ratings

| Parameter | Symbol | Minimum | Maximum | Units |
|-----------------------|-------------------|---------|---------|-------|
| Average power | P _{AVG} | | 200 | W |
| Peak power | P _{PEAK} | | 1000 | W |
| Operating temperature | T _{OP} | -40 | +95 | °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. SKYFR-000782 Electrical Specifications (Note 1)
(T_{OP} = -40 °C to +95 °C)

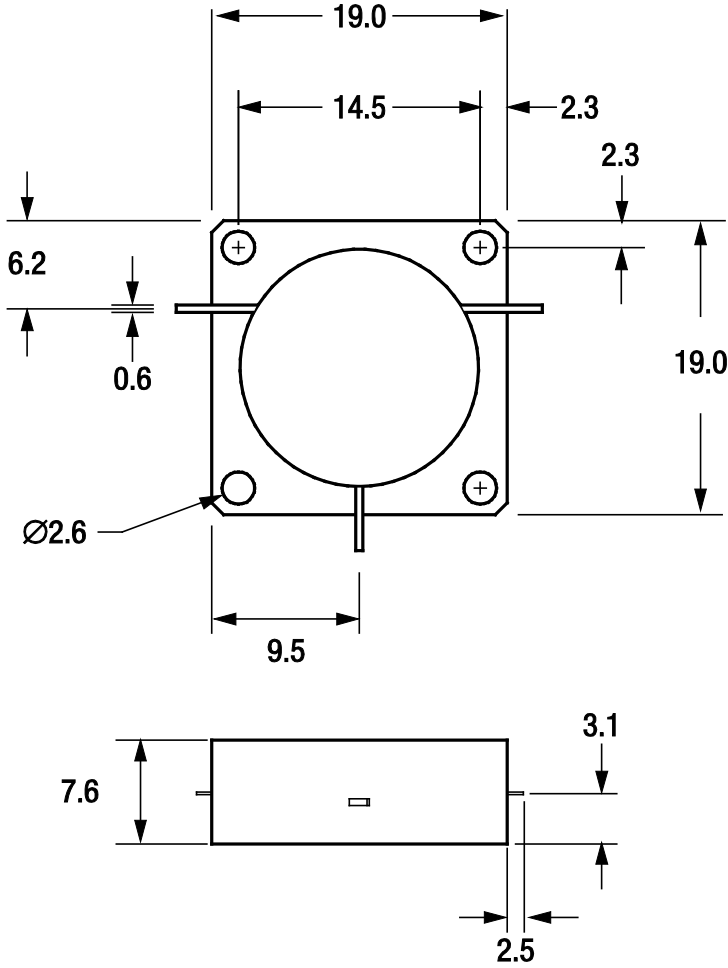
| Parameter | Symbol | Test Condition | Min | Typical | Max | Units |
|---|-----------------|----------------------------------|------|---------|------|-------|
| Frequency range | f | | 2110 | | 2170 | MHz |
| Impedance | | | | 50 | | Ω |
| Insertion loss | IL | | | 0.08 | 0.12 | dB |
| Isolation | I _{SO} | | 23 | | | dB |
| Return loss | RL | | 23 | | | dB |
| 3 rd Order Intermodulation Distortion (Note 2) | IMD3 | 2 x 40 W CW tones, 5 MHz spacing | -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. SKYFR-000782 Plating

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



All measurements are in millimeters.
Tolerance: ± 0.2 mm unless otherwise noted.
Model number, lot code, and port designation printed on top side of device.

S2980

Figure 2. SKYFR-000782 Package Dimensions

Ordering Information

| Model Name | Manufacturing Part Number | Evaluation Board Part Number |
|---|---------------------------|------------------------------|
| SKYFR-000782 Single Junction Drop-In Circulator | SKYFR-000782 | MAFX-999999-000PPR |

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