DATA SHEET

SKYFR-000812: 2095-2185 MHz Single Junction Robust Lead Isolator

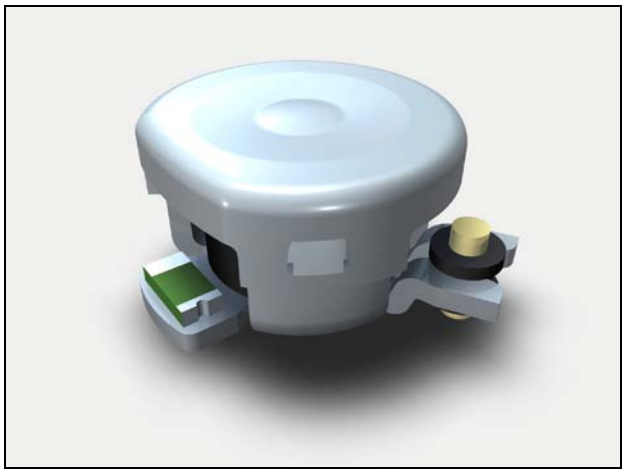
Applications

- Wireless infrastructure
- Power amplifiers

Features

- BeO free
- Small, surface mount package
- Operating frequency range: 2095 MHz to 2185 MHz
- 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-000812 is a single-junction, surface mount isolator designed for wireless infrastructure applications. It operates over the frequency range of 2095 MHz to 2185 MHz. Insertion loss is less than 0.35 dB over an operating temperature range of –40 °C to +105 °C.

The SKYFR-000812 comes in an industry-standard surface mount package and is designed for automated SMT placement.

A block diagram of the SKYFR-000812 is shown in Figure 1. The absolute maximum ratings of the SKYFR-000812 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 Figure 3 provides the tape and reel dimensions.

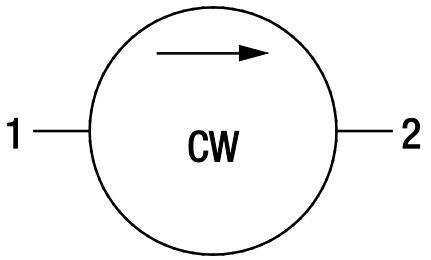


Figure 1. SKYFR-000812 Block Diagram

Table 1. SKYFR-000812 Absolute Maximum Ratings

Parameter	Symbol	Minimum	Maximum	Units
Average power	P_{AVG}		20	W
Peak power	P_{PK}		100	W
Reverse power	P_R		5	W
Operating temperature	T_{OP}	–40	+105	°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-000812 Electrical Specifications (Note 1)
(T_{OP} = –40 °C to +105 °C)

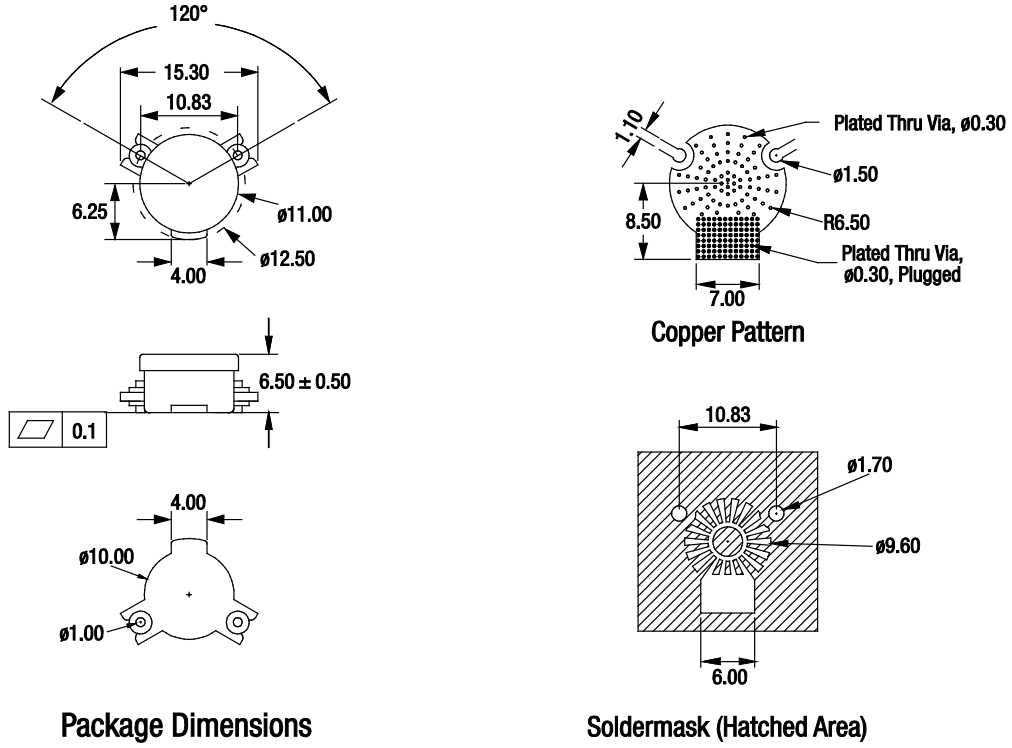
Parameter	Symbol	Test Condition	Min	Typical	Max	Units
Frequency range	f		2095		2185	MHz
Impedance				50		Ω
Insertion loss	IL	Port 1 to port 2			0.35	dB
Isolation	Iso	Port 2 to port 1	17	20		dB
Return loss	RL	Port 1 and port 2	16.8	20.0		dB
Intermodulation Distortion (Note 2)	IMD	2 x 2 W CW tones, 5 MHz spacing, within 2110 to 2170 MHz band	–60			dBc
Phase flatness		Over 2110 to 2170 MHz band			1	deg
Harmonics products		2 W tone			–57	dBc

Note 1: Performance is guaranteed only under the conditions listed in this Table.
Test fixture PCB, Rogers 4350B, 0.508 mm thick, 1.10 mm line width, 1.5 mm pin pad diameter.

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

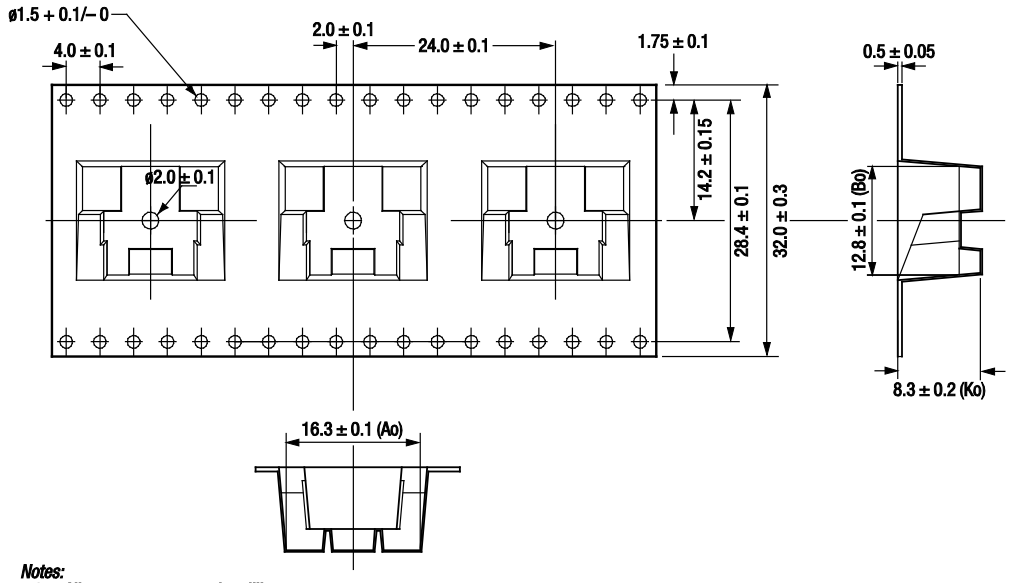
Table 3. SKYFR-000812 Plating Specification

Section	Material	Plating
Pins	Bronze	Gold
Housing	Steel	Silver



All measurements are in millimeters S3362

Figure 2. SKYFR-000812 Package Dimensions and PCB Footprint



Notes:
1. *All measurements are in millimeters.*
2. *Ten sprocket hole pitch cumulative tolerance* ± 0.2 mm.
3. *Carrier camber not to exceed 1 mm in 100 mm.*
4. *Ao and Bo measured on a plane 0.3 mm above the bottom of the pocket.*
5. *Ko measured from a plane on the inside bottom of the pocket to the top surface of the carrier.*

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Figure 3. SKYFR-000812 Tape and Reel Dimensions

Ordering Information

Model Name	Manufacturing Part Number	Evaluation Board Part Number
SKYFR-000812 Single Junction Lead Isolator	SKYFR-000812	PCB-00022