

DATA SHEET

SKYFR-000709: 2110-2170 MHz Single Junction Robust Lead Circulator

Applications

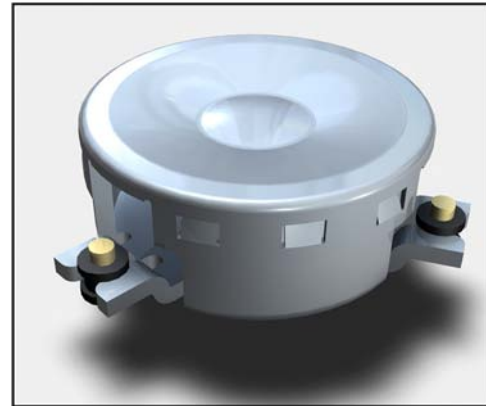
- TD-LTE systems
- Wireless infrastructure

Features

- BeO free
- Small, surface mount package
- Operating frequency range: 2110 MHz to 2170 MHz
- Shipped 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-000709 is a single-junction circulator designed for wireless infrastructure applications. It operates over the frequency range of 2110 to 2170 MHz. Insertion loss is less than 0.32 dB over an operating temperature range of -40°C to $+115^{\circ}\text{C}$.

The SKYFR-000709 comes in an industry-standard surface mount package and is designed for automated SMT placement.

A block diagram of the SKYFR-000709 is shown in Figure 1. The absolute maximum ratings of the SKYFR-000709 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 recommended PCB footprint. Tape and reel dimensions are provided in Figure 3.

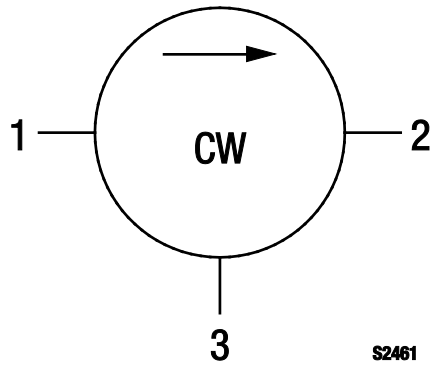


Figure 1. SKYFR-000709 Block Diagram

Table 1. SKYFR-000709 Absolute Maximum Ratings

Parameter	Symbol	Minimum	Maximum	Units
Average power	P _{AVG}		80	W
Peak power	P _{PEAK}		500	W
Operating temperature	T _{OP}	-40	+115	°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-000709 Electrical Specifications (Note 1)
(T_{OP} = -40 °C to +115 °C)

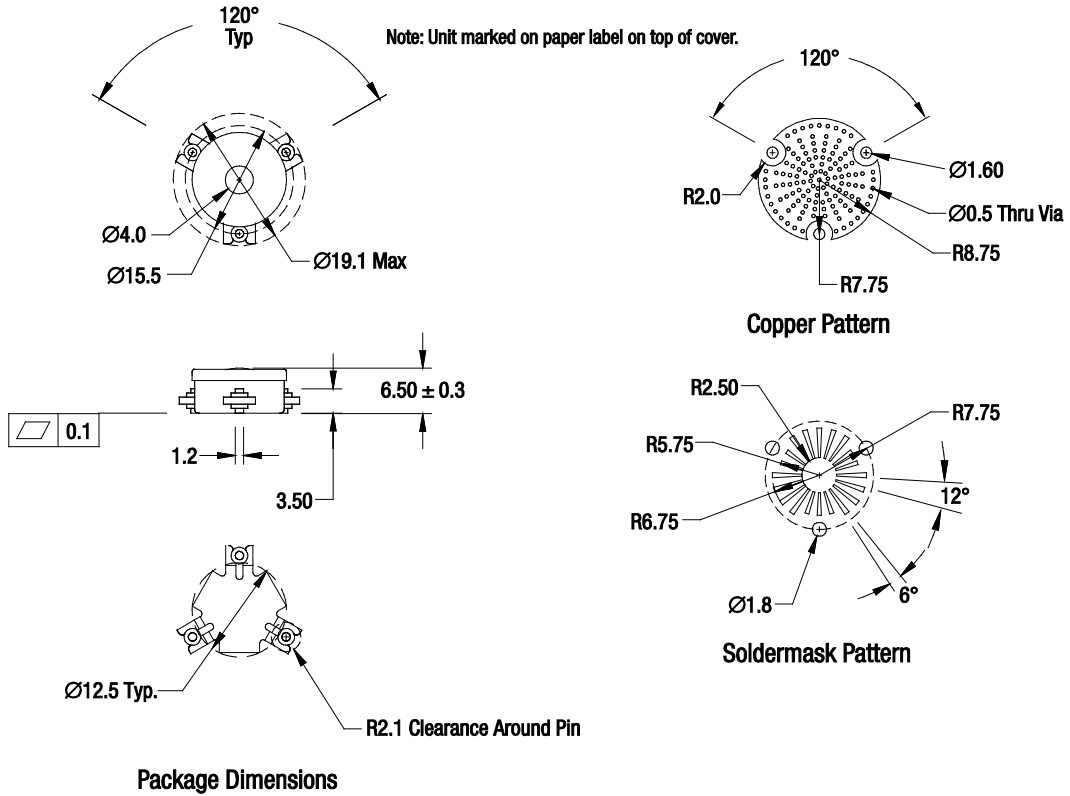
Parameter	Symbol	Test Condition	Min	Typical	Max	Units
Frequency range	f		2110		2175	MHz
Impedance				50		Ω
Insertion loss	IL			0.25	0.32	dB
Isolation	I _{SO}		20	23		dB
Return loss	RL		20	23		dB
Harmonic attenuation		4220 MHz to 4340 MHz	10	20		dB
3 rd Order Intermodulation Distortion (Note 2)	IMD3	2 x 40 W CW tones, 5 MHz spacing		-62	-58	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-000709 Plating

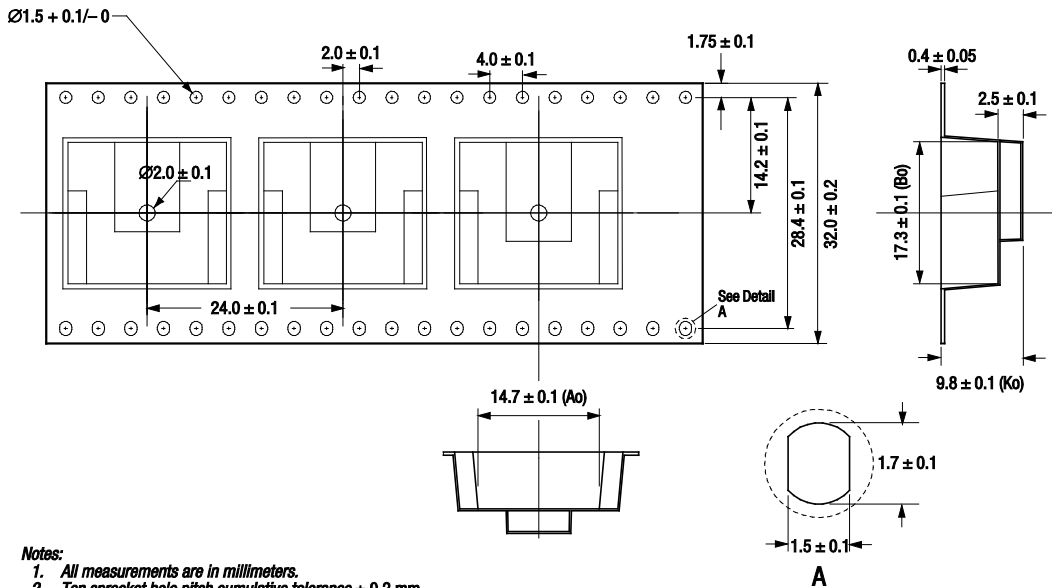
Section	Material	Plating
Pins	Bronze	Gold
Housing	Steel	Silver



All measurements are in millimeters.
Tolerance: $x = \pm 0.1$ mm, $xx = \pm 0.05$ mm unless otherwise noted.

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Figure 2. SKYFR-000709 Package Dimensions and PCB Footprint



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Figure 3. SKYFR-000709 Tape and Reel Dimensions

Ordering Information

Model Name	Manufacturing Part Number	Evaluation Board Part Number
SKYFR-000709 Single Junction Lead Circulator	SKYFR-000709	MAFX-000015-RL00FR

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