

DATA SHEET

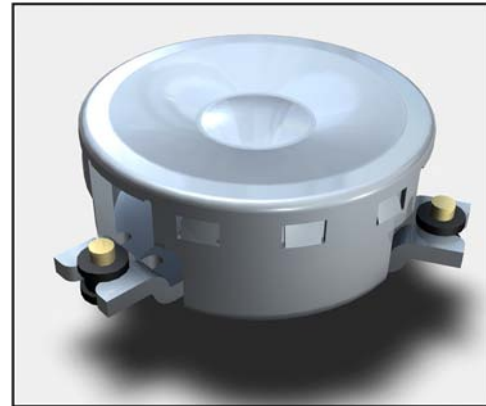
# SKYFR-000827: 2300-2400 MHz Single Junction Robust Lead Circulator

## Applications

- Wireless infrastructure
- Power amplifiers

## Features

- BeO free
- Very low insertion loss
- Small, surface mount package
- Operating frequency range: 2300 MHz to 2400 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-000827 is a single-junction, surface mount circulator designed for wireless infrastructure applications. It operates over the frequency range of 2300 MHz to 2400 MHz. Insertion loss is less than 0.15 dB over an operating temperature range of  $-40^{\circ}\text{C}$  to  $+105^{\circ}\text{C}$ .

The SKYFR-000827 comes in an industry-standard surface mount package and is designed for automated SMT placement.

A block diagram of the SKYFR-000827 is shown in Figure 1. The absolute maximum ratings of the SKYFR-000827 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.

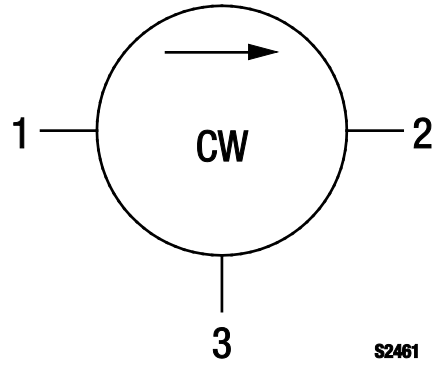


Figure 1. SKYFR-000827 Block Diagram

Table 1. SKYFR-000827 Absolute Maximum Ratings

Parameter	Symbol	Minimum	Maximum	Units
Average power	P <sub>AVG</sub>		200	W
Peak power	P <sub>PEAK</sub>		650	W
Operating temperature	T <sub>OP</sub>	-40	+105	°C
Storage temperature	T <sub>ST</sub>	-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-000827 Electrical Specifications (Note 1)  
(T<sub>OP</sub> = -40 °C to +105 °C)

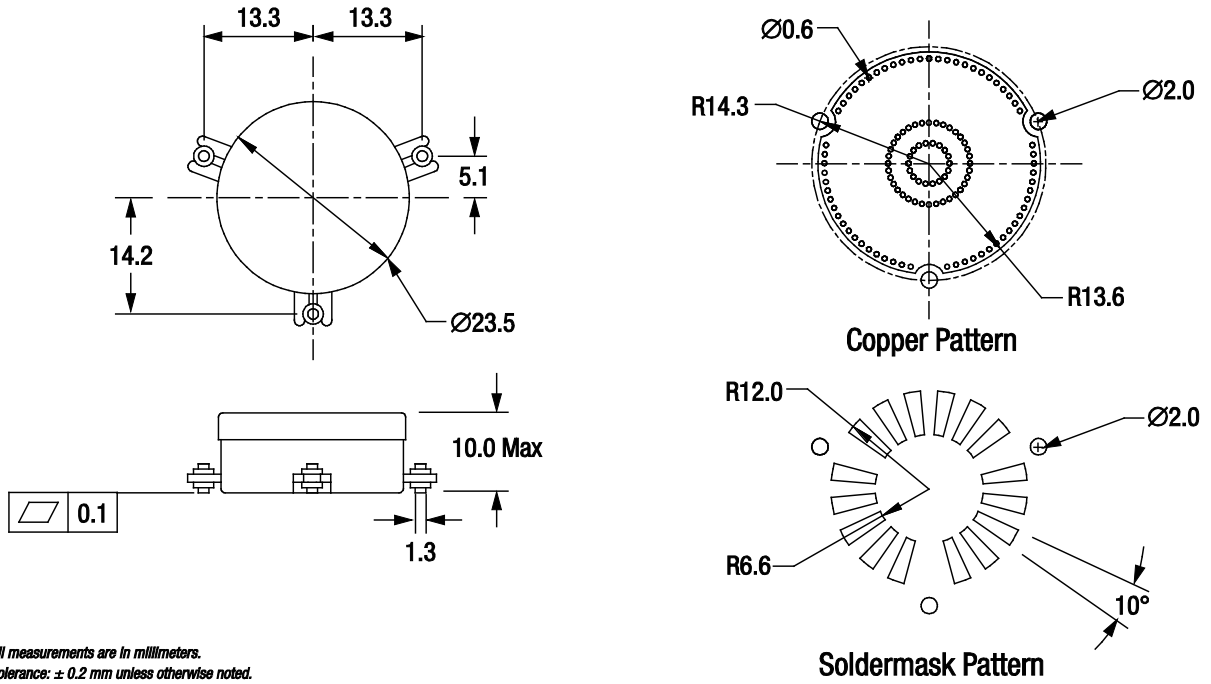
Parameter	Symbol	Test Condition	Min	Typical	Max	Units
Frequency range	f		2300		2400	MHz
Impedance				50		Ω
Insertion loss	IL			0.10	0.15	dB
Isolation	I <sub>SO</sub>		20			dB
Return loss	RL		20			dB
3 <sup>rd</sup> Order Intermodulation Distortion (Note 2)	IMD3	2 x 40 W CW tones, 5 MHz spacing	-65			dBc
2 <sup>nd</sup> harmonic	2fo		10			dB

**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.

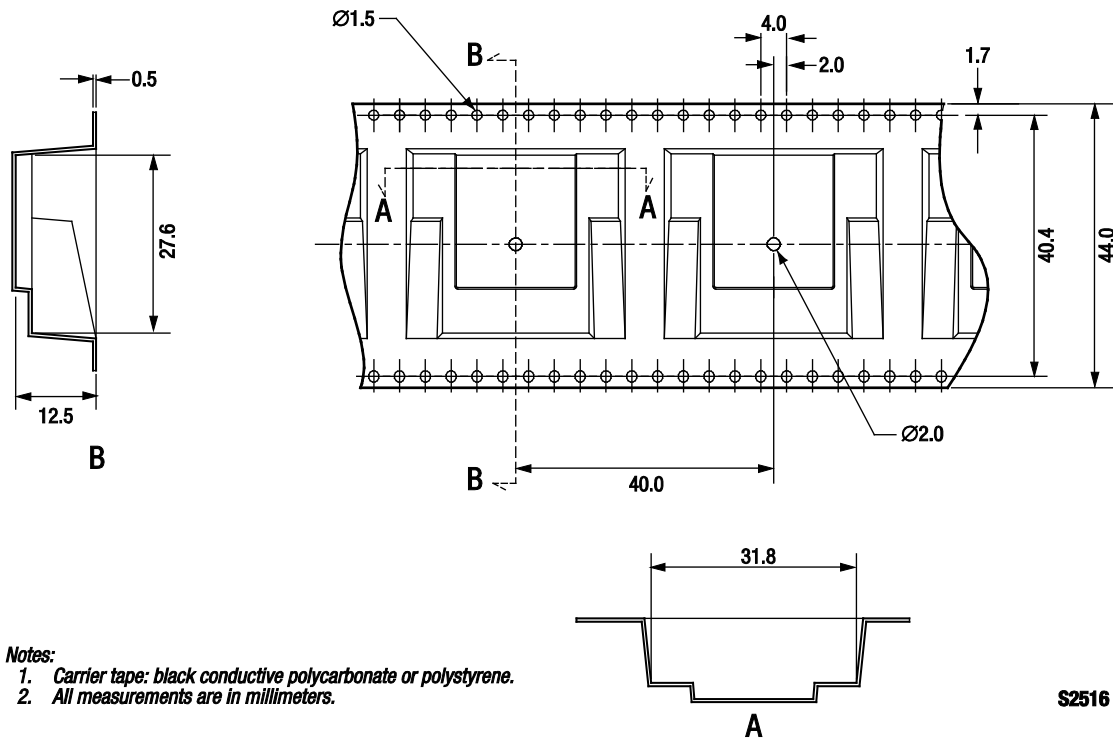
Table 3. SKYFR-000827 Plating

Section	Material	Plating
Leads	Bronze	Gold
Housing	Steel	Silver



S2499

Figure 2. SKYFR-000827 Package Dimensions and PCB Footprint



S2516

Figure 3. SKYFR-000827 Tape and Reel Dimensions

**Ordering Information**

Model Name	Manufacturing Part Number	Evaluation Board Part Number
SKYFR-000827 Single Junction Lead Circulator	SKYFR-000827	MAFX-000025-RL00FR

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