

DATA SHEET

SKYFR-000738: 925-960 MHz Single Junction Robust Lead Circulator

Applications

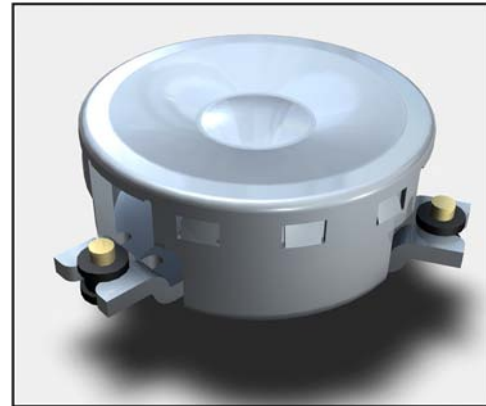
- Power amplifiers
- Wireless infrastructure

Features

- BeO free
- Small, surface mount package
- Operating frequency range: 925 MHz to 960 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-000738 is a single-junction circulator designed for wireless infrastructure applications. It operates over the frequency range of 925 to 960 MHz. Insertion loss is less than 0.30 dB over an operating temperature range of $-40\text{ }^{\circ}\text{C}$ to $+105\text{ }^{\circ}\text{C}$.

The SKYFR-000738 comes in an industry-standard surface mount package and is designed for automated SMT placement.

A block diagram of the SKYFR-000738 is shown in Figure 1. The absolute maximum ratings of the SKYFR-000738 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.

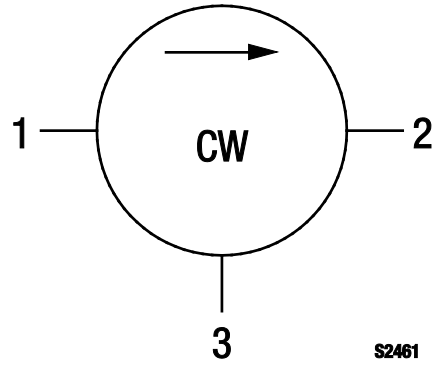


Figure 1. SKYFR-000738 Block Diagram

Table 1. SKYFR-000738 Absolute Maximum Ratings

Parameter	Symbol	Minimum	Maximum	Units
Average power	P _{AVG}		200	W
Peak power	P _{PEAK}		500	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-000738 Electrical Specifications (Note 1)
(T_{OP} = -40 °C to +105 °C)

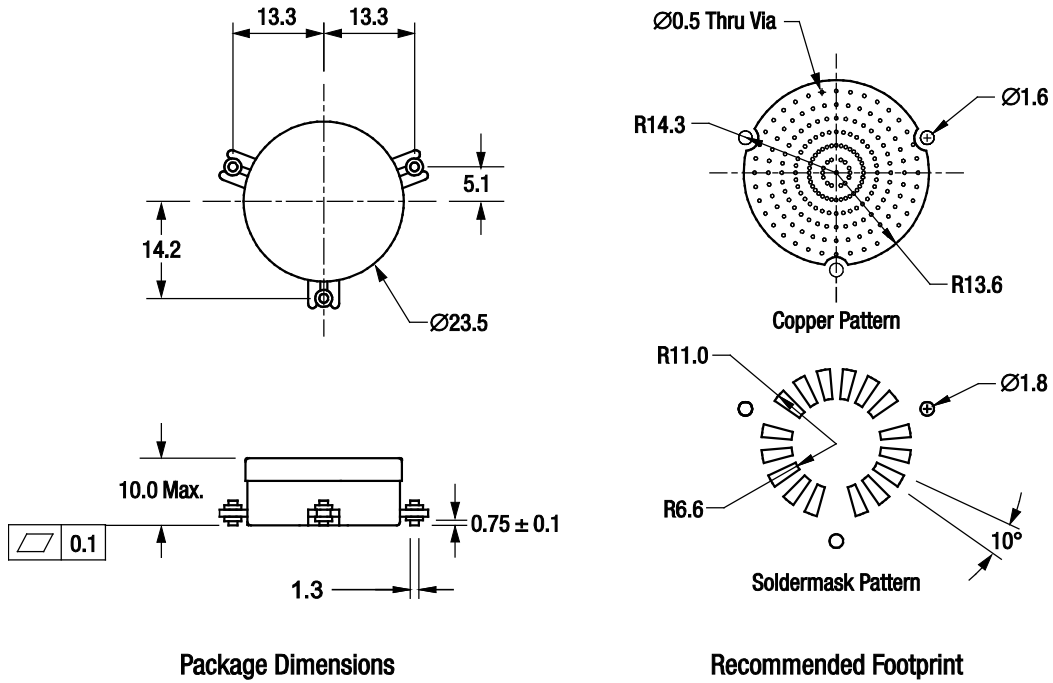
Parameter	Symbol	Test Condition	Min	Typical	Max	Units
Frequency range	f		925		960	MHz
Impedance				50		Ω
Insertion loss	IL				0.30	dB
Isolation	I _{SO}		22			dB
Return loss	R _L		22			dB
Second harmonic	2f _o		10			dB
3 rd Order Intermodulation Distortion (Note 2)	IMD3	2 x 25 W CW tones, 5 MHz spacing			-65	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-000738 Plating

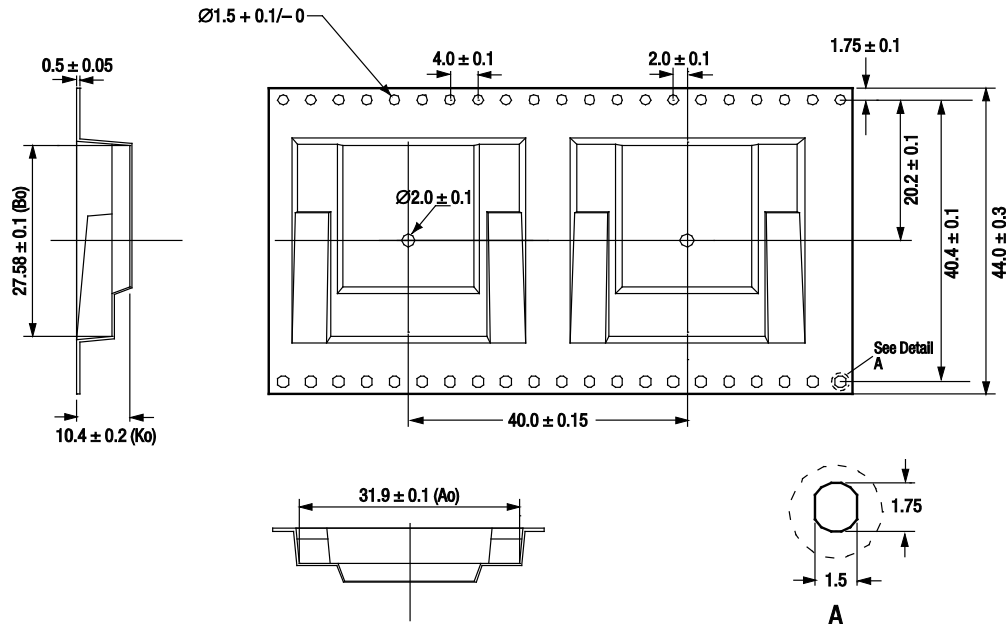
Section	Material	Plating
Pins	Bronze	Gold
Housing	Steel	Silver



All measurements are in millimeters.
 Tolerance: $x \pm 0.1$ mm, $xx \pm 0.05$ mm unless otherwise noted.
 Model number, lot code, and part designation printed on top side of device.

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Figure 2. SKYFR-000738 Package Dimensions and PCB Footprint



- Notes:
- All measurements are in millimeters.
 - Ten sprocket hole pitch cumulative tolerance ± 0.2 mm.
 - Carrier camber not to exceed 1 mm in 100 mm.
 - Ao and Bo measured on a plane 0.3 mm above the bottom of the pocket.
 - 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-000738 Tape and Reel Dimensions

Ordering Information

Model Name	Manufacturing Part Number	Evaluation Board Part Number
SKYFR-000738 925-960 MHz Single Junction Lead Circulator	SKYFR-000738	MAFX-000025-RL00FR

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