DATA SHEET

SKYFR-000788: 2490-2710 MHz Single Junction Robust Lead Circulator

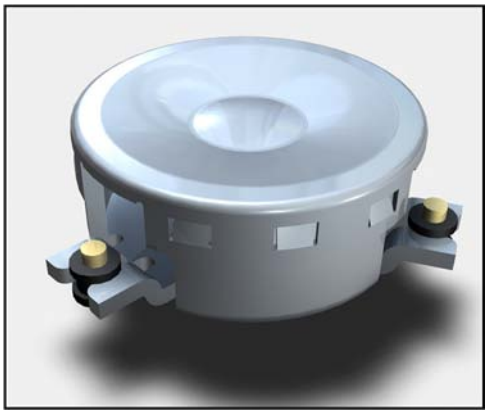
Applications

- Power amplifiers
- Wireless infrastructure

Features

- BeO free
- Small, surface mount package
- Operating frequency range: 2490 MHz to 2710 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-000788 is a single-junction circulator designed for wireless infrastructure applications. It operates over the frequency range of 2490 to 2710 MHz. Insertion loss is less than 0.30 dB over an operating temperature range of –40 °C to +95 °C.

The SKYFR-000788 comes in an industry-standard surface mount package and is designed for automated SMT placement.

A block diagram of the SKYFR-000788 is shown in Figure 1. The absolute maximum ratings of the SKYFR-000788 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.

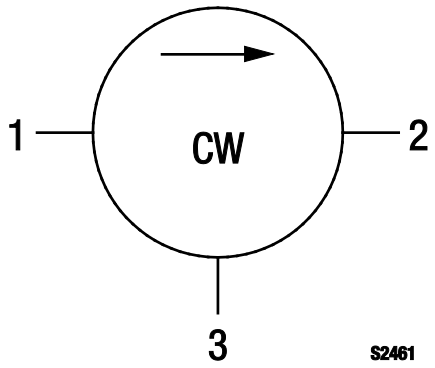


Figure 1. SKYFR-000788 Block Diagram

Table 1. SKYFR-000788 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	+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-000788 Electrical Specifications (Note 1)
(T_{OP} = –40 °C to +95 °C)

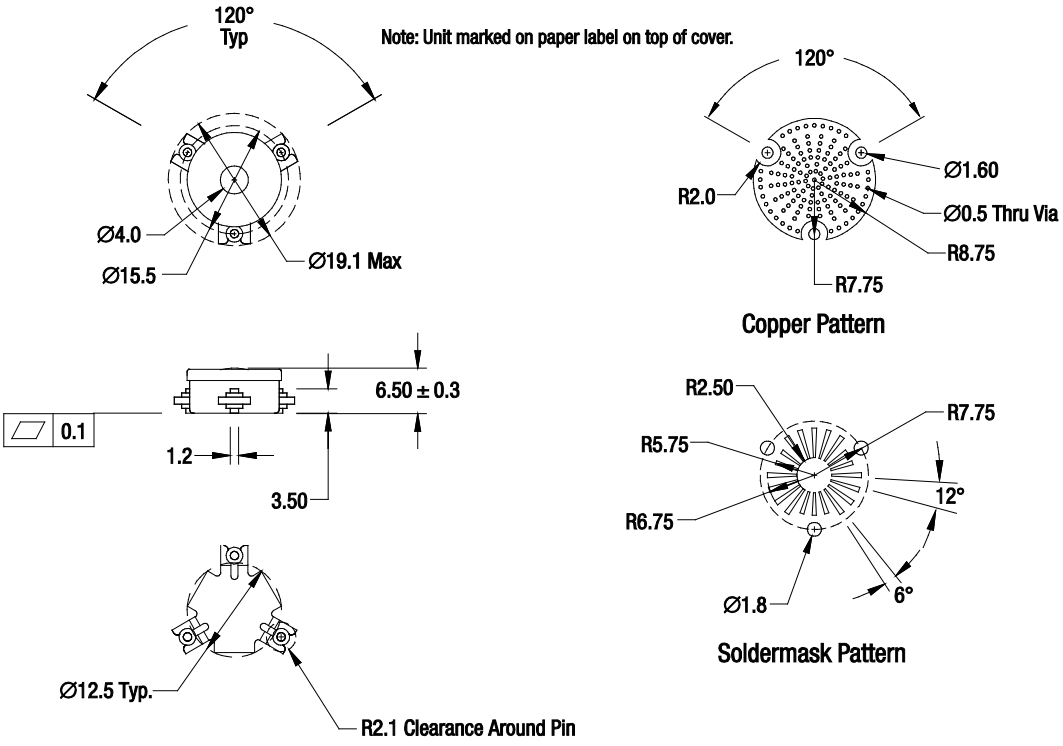
Parameter	Symbol	Test Condition	Min	Typical	Max	Units
Frequency range	f		2490		2710	MHz
Impedance				50		Ω
Insertion loss	IL				0.30	dB
Insertion loss ripple	ILp-p				0.10	db
Isolation	Iso		23			dB
Return loss	RL		21			dB
Intermodulation Distortion (Note 2)	IMD	2 x (+44.8 dBm) CW tones, 5 MHz spacing			–66	dBc
Harmonics		+47.8 dBm output signal	10		–57	dBc
Phase flatness vs frequency		Peak-to-peak, any 50 MHz bandwidth			1.0	deg

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-000788 Plating

Section	Material	Plating
Pins	Bronze	Gold
Housing	Steel	Silver



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

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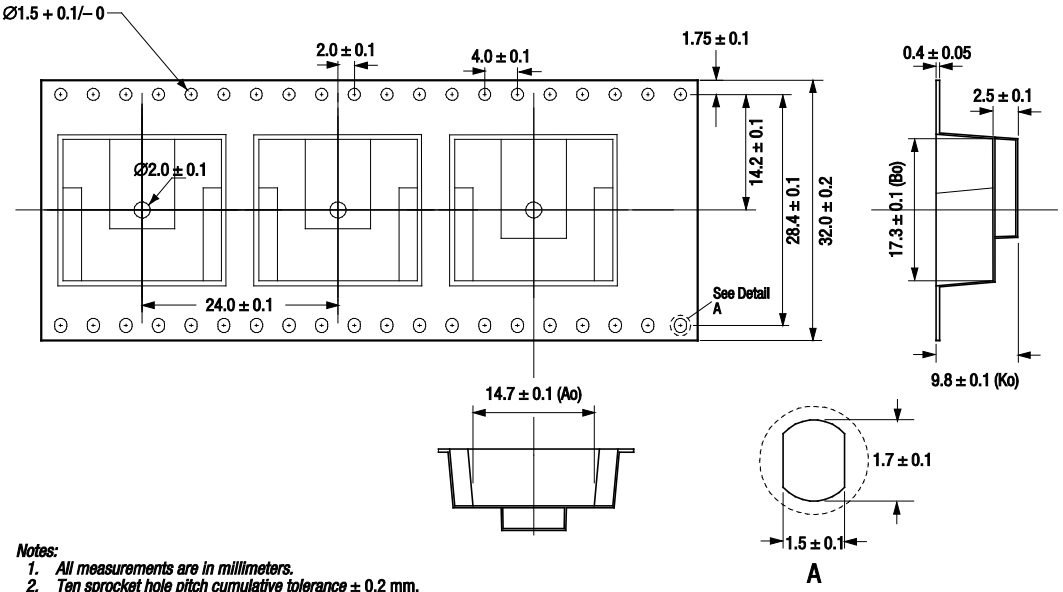
Figure 2. SKYFR-000788 Package Dimensions and PCB Footprint



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-000788 Tape and Reel Dimensions

Ordering Information

Model Name	Manufacturing Part Number	Evaluation Board Part Number
SKYFR-000788 Single Junction Lead Circulator	SKYFR-000788	MAFX-000015-RLOOFR