SUNTSU

Multilayer Ceramic Band Pass Filter

SRFBF-1BJ1J-GPBA

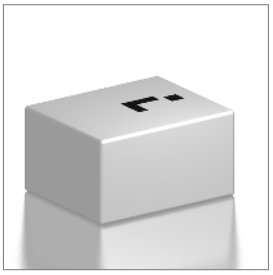
1.10mm x 0.90mm

Features

- Miniature Foorprint
- Low Insertion Loss
- LTCC Process

Applications

- GPS
- RF Application



Part Numbering Guide

S RF BF - 1BJ 1J - GP BA

SUNTSU	RF COMPONENT	BAND PASS FILTER	* PACKAGE SIZE	* INSERT LOSS (dB)	APPLICATION	FREQUENCY BAND
			1BJ = 1.10mm x 0.90mm	1J = 1.9dB	GP : GPS	BA : 1550-1610

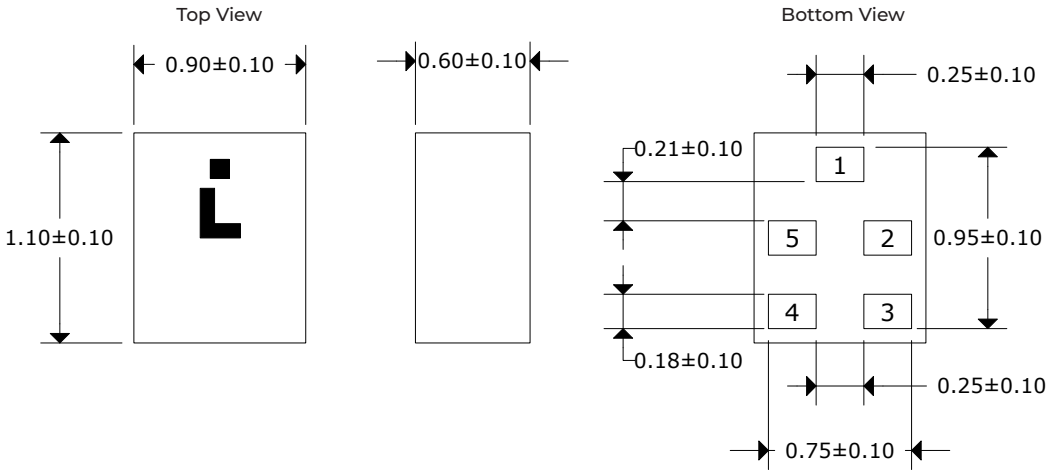
RoHS COMPLIANT

* Where letters denote decimal location (A=.0, B=.1, C=.2, etc.); e.g. B5=0.15, 3A5=3.05, 9A=9.0

Electrical Parameters	Units	Minimum	Typical	Maximum	Remarks
Frequency	MHz	1550		1610	
Insertion Loss	dB			1.9	
VSWR				2.0	
Impedance	Ω		50		
Operating Temperature Range	°C	-40		85	
Storage Temperature Range	°C	-40		85	
Attenuation @ 960MHz	dB	25			
Attenuation @ 1850MHz	dB	8			
Attenuation @ 1990MHz	dB	15			
Attenuation @ 2170MHz	dB	20			
Attenuation @ 2400~2500MHz	dB	35			
Attenuation @ 3400~3800MHz	dB	35			

Outline Drawing

All dimensions are in millimeters (mm) unless otherwise noted. Drawings are not to scale.



PIN	FUNCTION
1	INPUT
2	GND
3	GND
4	OUTPUT
5	GND

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Specifications are subject to change without notice.

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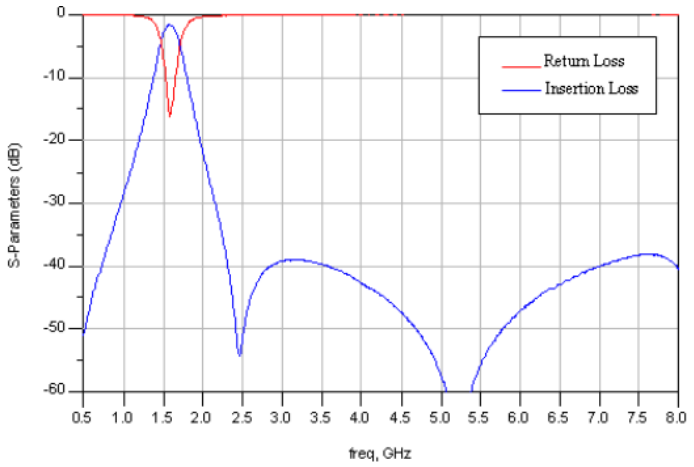
Typical Electrical Chart



Land Pattern

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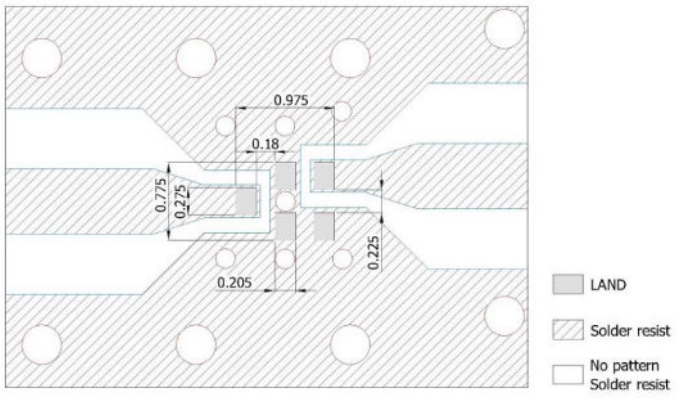
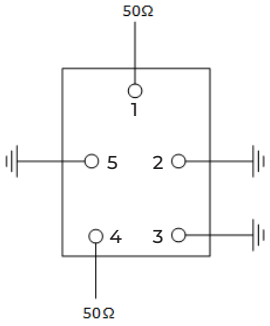
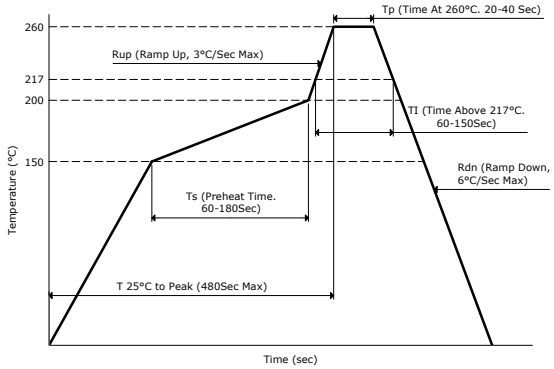


Line width to be designed to match 50Ω characeristic impedance, depending on PCB material and thickness.

Test Circuit



Reflow Profile



Tape and Reel Dimensions

3,000 pcs/reel

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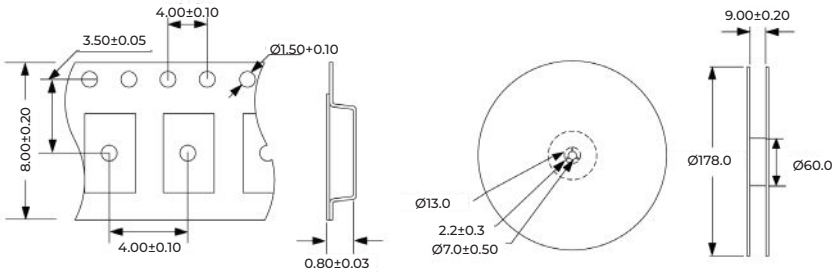

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Reliability Test		
Test Item	Test Conditions/Test Method	Specification
Solderability **JIS C 0050-4.6** **JESD22-B102D**	*Solder bath temperature : 235±5°C *Immersion time : 2±0.5 sec Solder : Sn3Ag0.5Cu for lead-free	At least 95% of a surface of each terminal electrode must be covered by fresh solder.
Leaching (Resistance to dissolution of metallization) **IEC 60068-2-58**	*Solder bath temperature : 260±5°C *Leaching immersion time : 30±0.5 sec Solder : SN63A	Loss of metallization on the edges of each electrode shall not exceed 25%
Resistance to soldering heat **JIS C 0050-5.4**	*Preheating temperature : 120~150°C, 1 minute *Solder temperature : 270±5°C *Immersion time : 10±1 sec Solder : Sn3Ag 0.5Cu for lead-free Measurement to be made after keeping at room temperature for 24±2 hrs.	No mechanical damage. Eletrical specification shall satisfy the descriptions in electrical characteristics under the operational temperature ranger within -40~85°C. Loss of metallization on the edges of each electrode shall not exceed 25%
Drop Test **JIS C 0044**	*Height : 75 cm *Test surface : Rigid surface of concrete or steel. *Times : 6 surfaces for each unit; 2 times each side.	No mechanical damage. Electrical specification shall satisfy the description in electrical characteristics under the operational temperature range within -40~85°C.
Vibration **JIS C 0040**	*Frequency : 10Hz~55Hz~10Hz (1 min) *Total amplitude : 1.5mm *Test times : 6hrs (two hrs each in three mutually perpendicular directions)	No mechanical damage. Eletrical specification shall satisfy the descriptions in electrical characteristics under the operational temperature range within -40~85°C.
Adhesive Strength of Termination **JIS C 0051-7.4.3**	*Pressurizing force : 5N(≤603) ; 10N(>0603) *Test time : 10±1 sec	No remarkable damage or removal of the termination
Bending Test **JIS C 0051-7.4.1**	The middle part of substrate shall be pressurized by means of the pressurizing rod at a rate of about 1mm/s per second until the deflection becomes 1mm/s and then pressure shall be maintained for 5±1 sec. Measurement to be made after keeping at room temperature for 24±2 hours.	No mechanical damage. Eletrical specification shall satisfy the descriptions in electrical characteristics under the operational temperature range within -40~85°C.
Temperature Cycle **JIS C 0025**	1. 30±3 minutes at -40°C±3°C 2. 10~15 minutes at room temperature 3. 30±3 minutes at 85°C±3°C 4. 10~15 minutes at room temperaure Total 100 continuous cycles Measurement to be made after keeping at room temperature for 24±2 hous.	No mechanical damage. Eletrical specification shall satisfy the descriptions in electrical characteristics under the operational temperature range within -40~85°C.
High Temperature **JIS C 0021**	*Temperature : 85°C±2°C *Test duration : 1000+24/-0 hours Measurement to be made after keeping at room temperature for 24±2 hours.	No mechanical damage. Eletrical specification shall satisfy the descriptions in electrical characteristics under the operational temperature range within -40~85°C.
Humidity (steady conditions) **JIS C 0022**	*Humidity : 90% to 95% Relative Humidity *Temperature : 40°C±2°C *Time : 1000+24/-0 hours Measurement to be made after keeping at room temperature for 24±2 hours. **500hrs measuring the first data then 1000hrs data	No mechanical damage. Eletrical specification shall satisfy the descriptions in electrical characteristics under the operational temperature range within -40~85°C.
Low Temperature **JIS C 0020**	*Temperature : -40°C±2°C *Test duration : 1000+24/-0 hours Measurement to be made after keeping at room temperature for 24±2 hours.	No mechanical damage. Eletrical specification shall satisfy the descriptions in electrical characteristics under the operational temperature range within -40~85°C.

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