

# BF 4532 Series

Multilayer Chip Band-Pass Filters

## Features

- ❖ Ultra small SMD type with low loss at pass-band and high attenuation at stop-band.
- ❖ RoHS compliant.

## Applications

- ❖ 0.95 ~ 3.0 GHz wireless communication systems, including DECT/PACS/PHS/GSM/DCS phones, WLAN card, Bluetooth modules, Hyper-LAN, etc.



## Specifications

Part Number	Passband Frequency (MHz)	Impedance (ohm)	Insertion Loss @ BW (dB)	Returnloss @ BW (dB)	Full Band Ripple @ BW (dB)	24 MHz Ripple @ BW (dB)	Frequency (MHz)	Attenuation (dB)
BF4532-A2R0NAA_	950~3000	75	2.5max.	11 min.	2.0max	0.3max.	54 ~ 750	30 min.
							750 ~806	15 min.
							4200~6100	30 min.
							6100~6205	23 min.

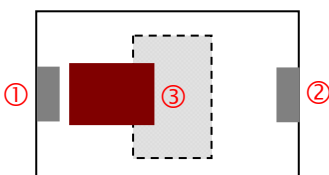
Q'ty/Reel (pcs) : 1,000  
 Operating Temperature Range : -40 ~ +85 °C  
 Storage Temperature Range : -40 ~ +85 °C  
 Storage Period : 12 months max.  
 Power Capacity : 1W max.

## Part Number

**BF**   **4532**   -   **A**   **2R0**   **NAA**   **□**   **/LF**  
 ①   ②   ③   ④   ⑤   ⑥   ⑦

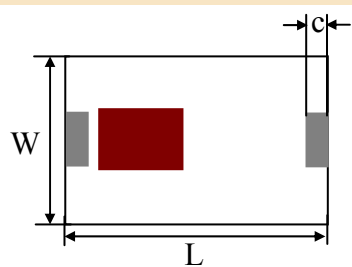
① Type	BF : Band-Pass Filter	② Dimensions ( L x W )	4.5 x 3.2 mm
③ Material Code	A	④ Frequency Range	2R0=2000 MHz
⑤ Specification Code	NAA	⑥ Packaging	T: Tape & Reel B: Bulk
⑦ Soldering	/LF=lead-free		

## Terminal Configuration

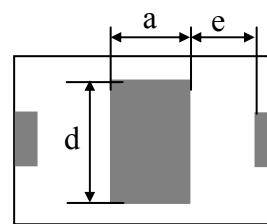
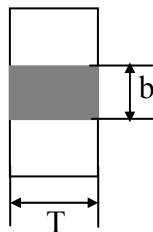


No.	Terminal Name	No.	Terminal Name
①	IN	③	GND
②	OUT		

## Dimensions



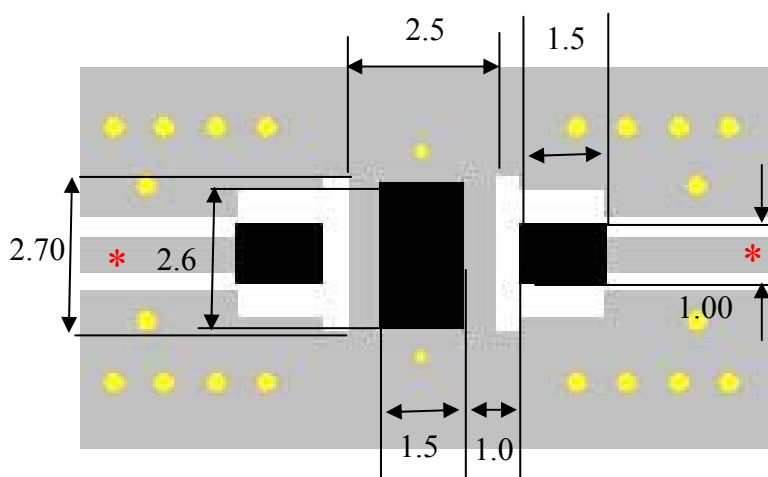
<Top View>



<Bottom View>

Unit : mm

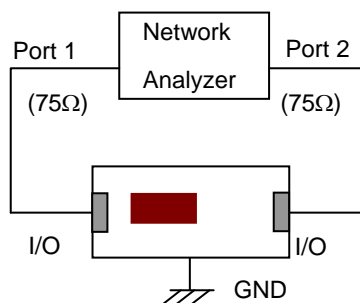
Mark	L	W	T	a	b	c	d	e
Dimensions	4.5 ± 0.2	3.2 ± 0.2	1.5 ± 0.1	1.5 ± 0.15	0.8 ± 0.2	0.3 ± 0.2	2.6 ± 0.15	1.1 ± 0.2



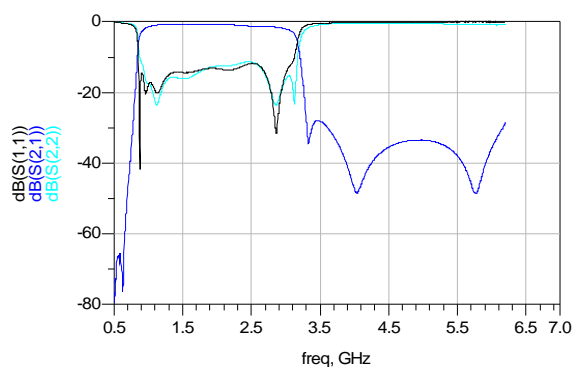
- Solder Resist
- Land
- Through-hole ( $\phi 0.2 \cdot 0.3$ )

\*Line width should be designed to match 50Ω characteristic impedance, depending on PCB material and thickness.

## Measuring Diagram



## Electrical Characteristics (T=25°C)

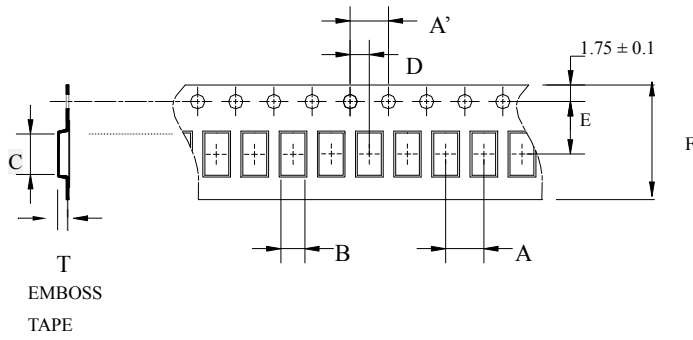


### Notes

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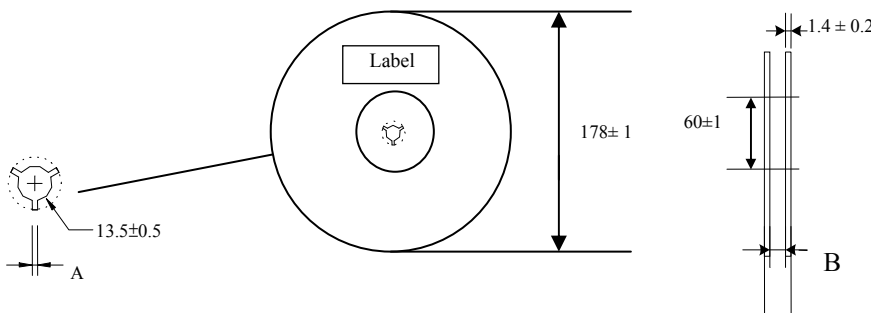
## Taping Specifications

### ❖Tape & Reel Dimensions (Unit: mm) vs. Quantity (pcs)



Type	A	A'	B	C	D	E	F	T	Quantity/per reel	Tape material
4532	8.0± 0.1	4.0± 0.1	3.66± 0.1	4.95± 0.1	2.0± 0.1	5.5± 0.1	12.0± 0.1	1.75± 0.10	1,000pcs	Plastic (Embossed)

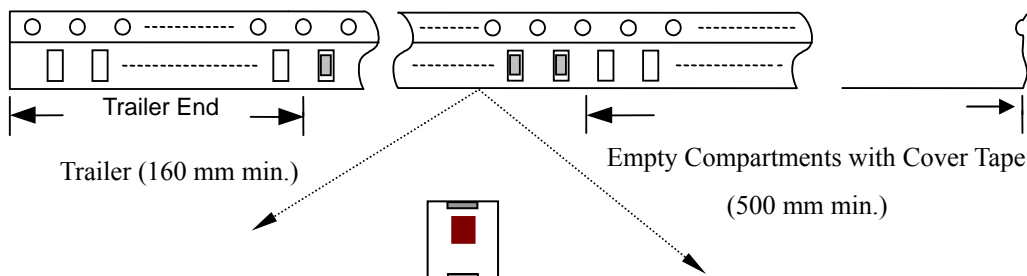
### ❖Reel Dimensions (Unit: mm)



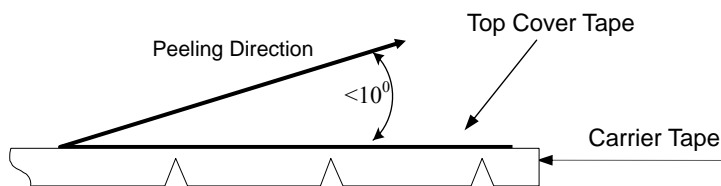
Label: Customer's Name,  
ACX P/N, Q'ty, Date,  
ACX Corp.

Type	A	B
4532	2.3±0.5	17.0±0.5

### ❖Leader and Trailer Tape



❖ **Peel-off Force**



Peel-off force should be in the range of 0.1 – 0.6 N at a peel-off speed of  $300 \pm 10$  mm/min .

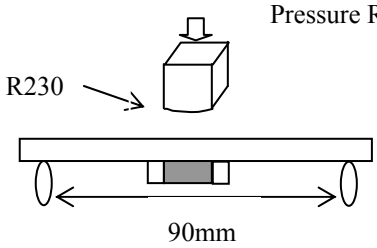
❖ **Storage Conditions**

- (1) Temperature: 5 ~35°C, relative humidity (RH): 45~75%.
- (2) Non-corrosive environment

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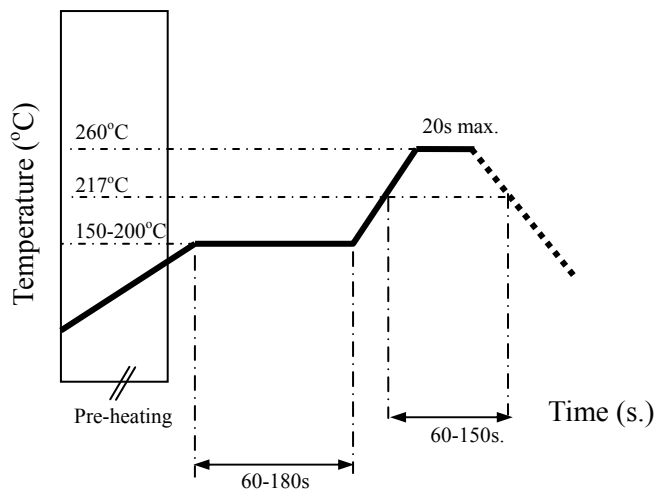
## Mechanical & Environmental Characteristics

Item	Requirements	Procedure
Solderability	<ol style="list-style-type: none"> <li>No apparent damage</li> <li>More than 95% of the terminal electrode shall be covered with new solder</li> </ol>	<ol style="list-style-type: none"> <li>Preheat: <math>120 \pm 5^\circ\text{C}</math></li> <li>Solder: <math>245 \pm 5^\circ\text{C}</math> for <math>5 \pm 1</math> sec</li> </ol>
Soldering strength (Termination Adhesion)	<ol style="list-style-type: none"> <li>1kg minimum</li> </ol>	<ol style="list-style-type: none"> <li>Solder specimen onto test jig.</li> <li>Apply push force at 0.5mm/s until electrode pads are peeled off or ceramic are broken. Pushing force is applied to longitude direction</li> </ol>
Deflection (Substrate Bending)	<ol style="list-style-type: none"> <li>No apparent damage</li> </ol>	<ol style="list-style-type: none"> <li>Solder specimen onto test jig (FR4, 0.8mm) using the recommend soldering profile.</li> <li>Apply a bending force of 1 mm deflection</li> </ol> 
Heat/Humidity Resistance	<ol style="list-style-type: none"> <li>No apparent damage</li> <li>Fulfill the electrical specification after test</li> </ol>	<ol style="list-style-type: none"> <li>Temperature: <math>85 \pm 2^\circ\text{C}</math></li> <li>Humidity: 90% ~ 95% RH</li> <li>Duration: <math>1000 \pm 48</math>hrs</li> <li>Recovery: 1-2hrs</li> </ol>
Thermal shock (Temperature Cycle)	<ol style="list-style-type: none"> <li>No apparent damage</li> <li>Fulfill the electrical specification after test</li> </ol>	<ol style="list-style-type: none"> <li>One cycle/step 1 : <math>125 \pm 5^\circ\text{C}</math> for 30 min step 2 : <math>-40 \pm 5^\circ\text{C}</math> for 30 min</li> <li>No of cycles : 100</li> <li>Recovery: 1-2 hrs</li> </ol>
Low Temperature Resistance	<ol style="list-style-type: none"> <li>No apparent damage</li> <li>Fulfill the electrical specification after test</li> </ol>	<ol style="list-style-type: none"> <li>Temperature: <math>-40 \pm 5^\circ\text{C}</math></li> <li>Duration: <math>500 \pm 24</math>hrs</li> <li>Recovery: 1-2hrs</li> </ol>

## Soldering Conditions

### ❖ Typical Soldering Profile for Lead-free Process

Reflow Soldering :



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