

# BF 5532 Series

## Multilayer Chip Band-Pass Filters

### Features

- ❖ Small SMD type with low loss at pass-band and high attenuation at stop-band.
- ❖ Plating Shielding-metal on component faces.
- ❖ HF & RoHS compliant.

### Applications

- ❖ Wireless communication systems.



### Specifications (at 25°C)

| Part Number      | Freq. Range (MHz) | Insertion Loss @ BW (dB) | Ripple @BW (dB)     | VSWR @ BW | Frequency (MHz) | Attenuation (dB) |
|------------------|-------------------|--------------------------|---------------------|-----------|-----------------|------------------|
| BF5532-R5R5NURA6 | 5170 ~ 5800       | 2.7 typ. / 3.0 max.      | 1.5 typ. / 2.0 max. | 2.0 max.  | 450 ~ 1900      | 45 min.          |
|                  |                   |                          |                     |           | 1900 ~ 2496     | 40 min.          |
|                  |                   |                          |                     |           | 2496 ~ 2690     | 40 min.          |
|                  |                   |                          |                     |           | 3300 ~ 4200     | 30 min.          |
|                  |                   |                          |                     |           | 4200 ~ 4400     | 30 min.          |
|                  | 5800 ~ 5825       | 3.3 typ. / 3.5 max.      | 0.5 typ. / 1.0 max. | 2.0 max.  | 5945 ~ 5985     | 40 min.          |
|                  |                   |                          |                     |           | 5985 ~ 6125     | 40 min.          |
|                  |                   |                          |                     |           | 6125 ~ 7125     | 50 min.          |
|                  |                   |                          |                     |           | 7125 ~ 8500     | 50 min.          |
|                  |                   |                          |                     |           | 10340 ~ 11650   | 50 min.          |
|                  |                   |                          |                     |           | 15510 ~ 17475   | 33 min.          |

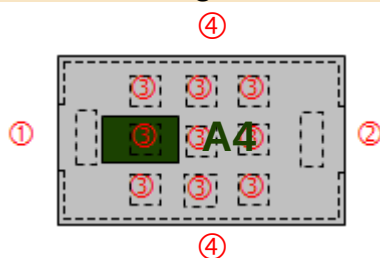
Q'ty/Reel (pcs) : 1000  
 Operating Temperature Range : -40 ~ +85 °C  
 Storage Temperature Range : -40 ~ +85 °C  
 Storage Period : 12 months max.  
 Power Capacity : 3W max.

## Part Number

BF   5532   -   R   5R5   NURA6   □   /LF  
①   ②   ③   ④   ⑤   ⑥   ⑦

|                      |                       |                        |                           |
|----------------------|-----------------------|------------------------|---------------------------|
| ① Type               | BF : Band-Pass Filter | ② Dimensions ( L × W ) | 5.5 × 3.2 mm              |
| ③ Material Code      | R                     | ④ Frequency Range      | 5R5=5500MHz               |
| ⑤ Specification Code | NURA6                 | ⑥ Packaging            | T: Tape & Reel<br>B: Bulk |
| ⑦ Soldering          | /LF=lead-free         |                        |                           |

## Terminal Configuration

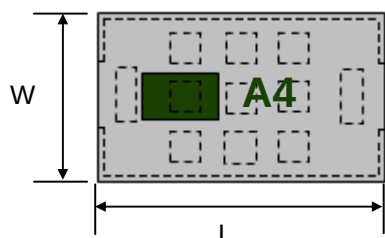


<Top View>

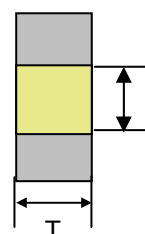
| No. | Terminal Name | No. | Terminal Name |
|-----|---------------|-----|---------------|
| ①   | IN/OUT        | ③   | GND           |
| ②   | OUT/IN        | ④   | GND           |

## Dimensions and Recommended PC Board Pattern

Unit : mm



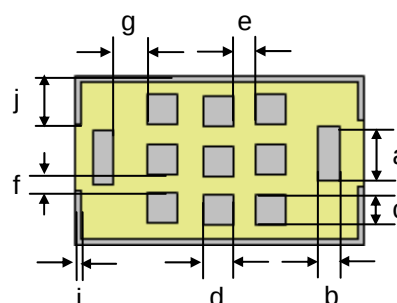
<Top View>



<Side View>



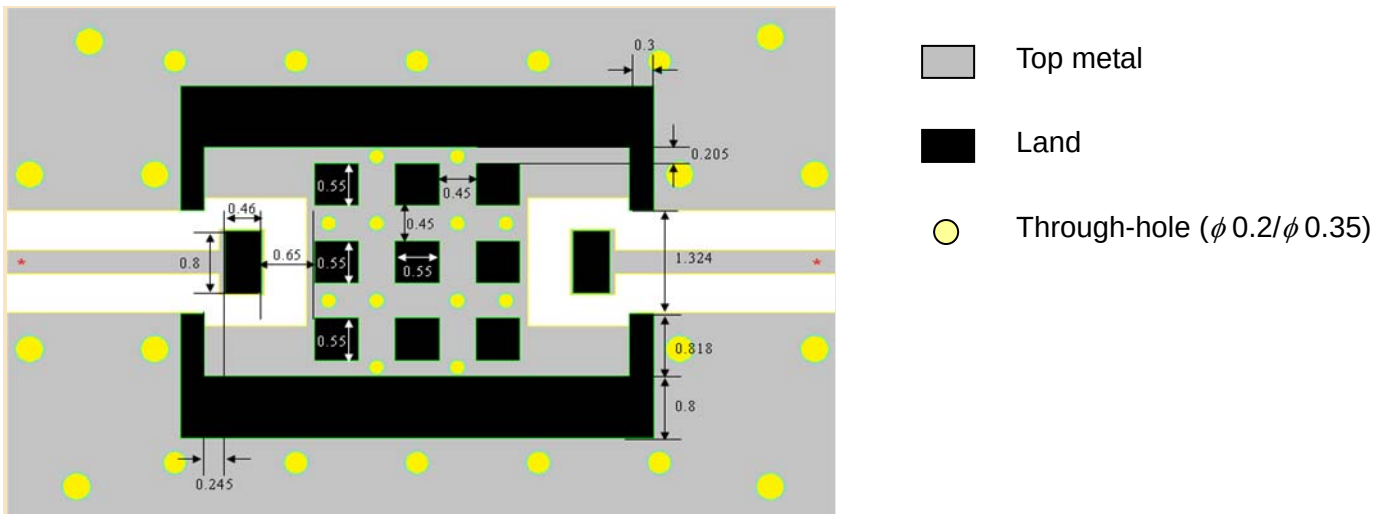
<Side View>



<Bottom View>

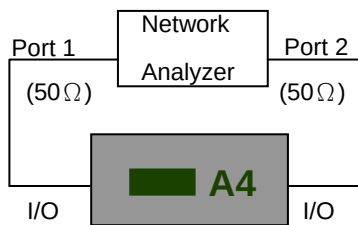
| Mark       | L     | W     | T    | a     | b     | c     | d     | e     | f     | g     | h     |
|------------|-------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|
| Dimensions | 5.5 ± | 3.2 ± | 2.2  | 0.8 ± | 0.3 ± | 0.5 ± | 0.5 ± | 0.5 ± | 0.5 ± | 0.7 ± | 1.2 ± |
|            | 0.2   | 0.2   | max. | 0.2   | 0.2   | 0.2   | 0.2   | 0.2   | 0.2   | 0.2   | 0.2   |

| Mark       | i            | j           |
|------------|--------------|-------------|
| Dimensions | 0.25<br>max. | 1.2<br>max. |

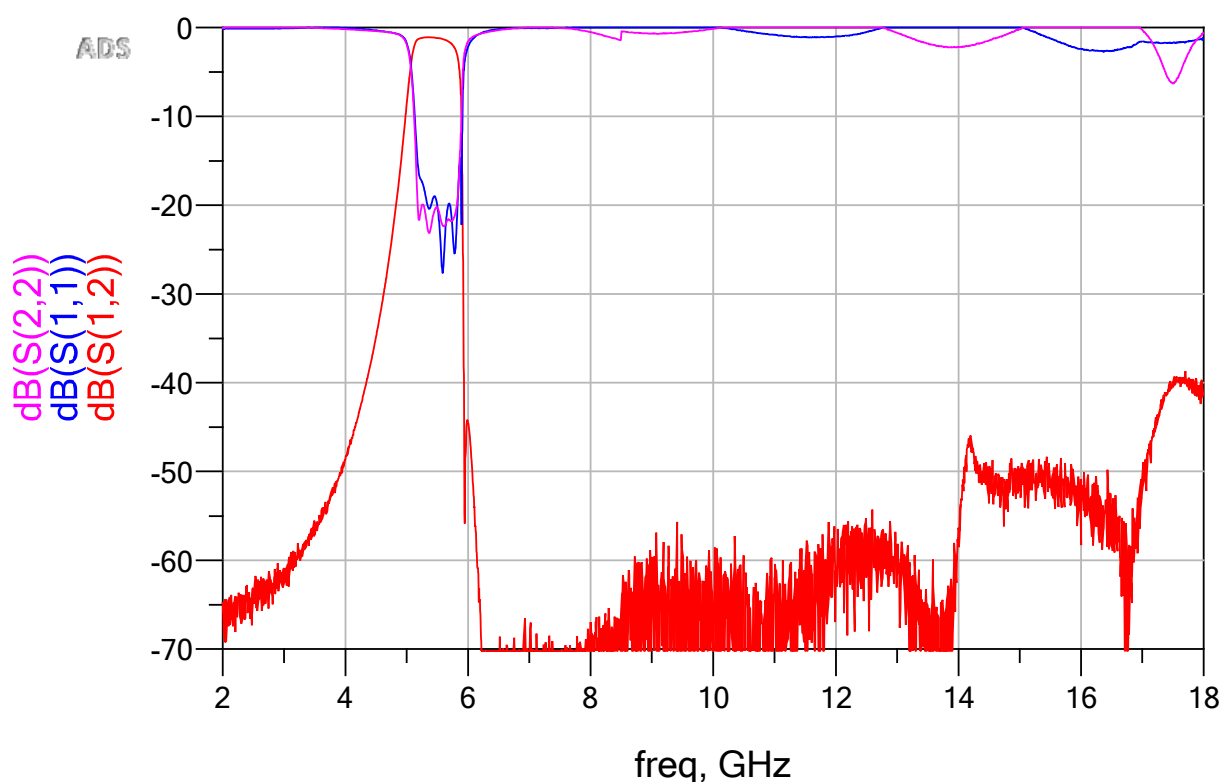


\* Line width should be designed to match  $50\Omega$  characteristic impedance, depending on PCB material and thickness.

## Measuring Diagram



## Electrical Characteristics (T=25°C)

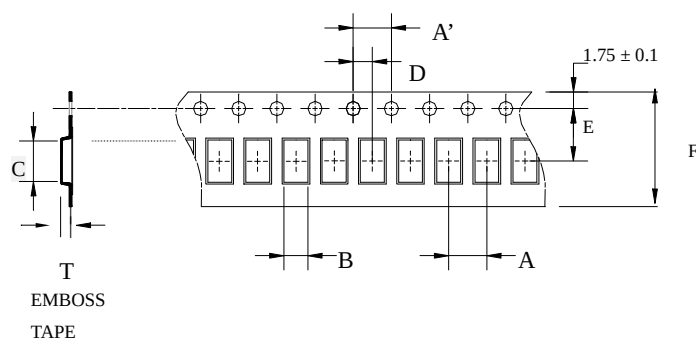


### Notes

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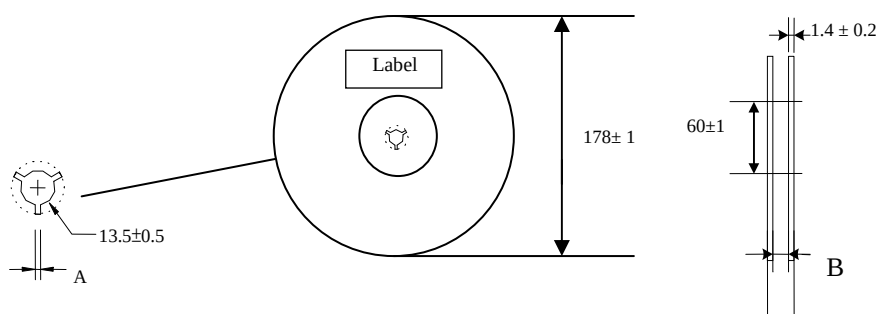
## Taping Specifications

### ❖Tape & Reel Dimensions (Unit: mm)



| Type | A       | A'      | B        | C        | D       | E       | F        | T        | Quantity/per reel | Tape material      |
|------|---------|---------|----------|----------|---------|---------|----------|----------|-------------------|--------------------|
| 5532 | 8.0±0.1 | 4.0±0.1 | 3.50±0.1 | 5.80±0.1 | 2.0±0.1 | 5.5±0.1 | 12.0±0.1 | 2.2±0.10 | 1,000pcs          | Plastic (Embossed) |

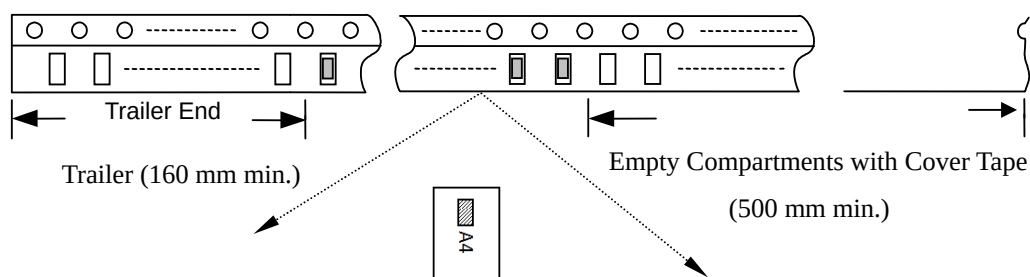
### ❖Reel Dimensions (Unit: mm)



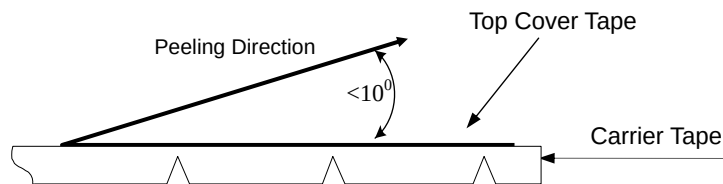
Label: Customer's Name,  
ACX P/N, Q'ty, Date,  
ACX Corp.

| Type | A       | B        |
|------|---------|----------|
| 5532 | 2.3±0.5 | 17.0±0.5 |

### ❖Leader and Trailer Tape



#### ❖ Peel-off Force



Peel-off force should be in the range of 0.2N – 1.2N at a peel-off speed of  $300 \pm 10$  mm/min .

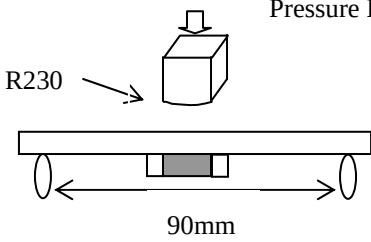
#### ❖ Storage Conditions

- (1) Temperature:  $5 \sim 35^{\circ}\text{C}$  , relative humidity (RH): 45~75%.
- (2) Non-corrosive environment

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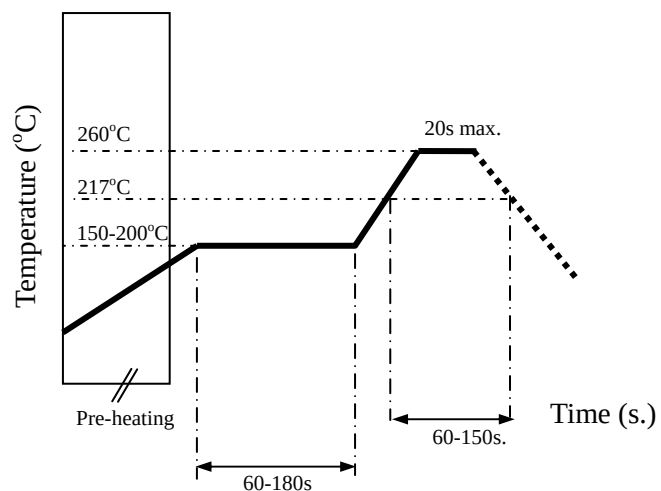
## Mechanical & Environmental Characteristics

| 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<br>(Termination Adhesion) | <ol style="list-style-type: none"> <li>10N 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<br>(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, 1.6mm) 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<br>(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<br/>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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### Advanced Ceramic X Corp.

No.165 Hanyang Road, Hsinchu Industrial District, Hsinchu Hsien, Taiwan, 30350

TEL: 886-3-5987008 FAX: 886-3-5987001

E-mail: [acx@acxc.com.tw](mailto:acx@acxc.com.tw)

<http://www.acxc.com.tw>