

# BF1608 Series

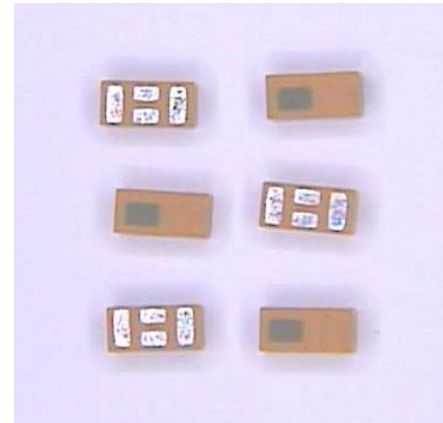
Multilayer Chip Band-Pass Filters

## Features

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

## Applications

- ❖ 1.8-2.0GHz wireless communication systems.



## Specifications

| Part Number            | Frequency Range (MHz) | Insertion Loss @ BW (dB) | VSWR @ BW | Frequency     | Attenuation (dB) |
|------------------------|-----------------------|--------------------------|-----------|---------------|------------------|
| <b>BF1608-L1R9NDB_</b> | 1880~2025             | 1.75 typ./ 1.9 max.      | 2 max.    | 1545~1610 MHz | 20 min.          |
|                        |                       |                          |           | 2400~2500 MHz | 25 min.          |
|                        |                       |                          |           | 5150~5850 MHz | 25 min.          |

Q'ty/Reel (pcs) : 4,000

Operating Temperature Range : -40 ~ +85 °C

Storage Temperature Range : -40 ~ +85 °C

Storage Period : 12 months max.\*

\*12 months in vacuum sealed bag and 1 week after opened. Please keep unused parts in vacuum sealed bags.

Solder Paste : SAC 305 type is recommended.

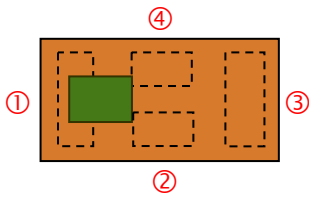
Power Capacity : 3 W max.

## Part Number

**BF**   **1608**   -   **L**   **1R9**   **NDB**   **□**   **/LF**  
 ①   ②   ③   ④   ⑤   ⑥   ⑦

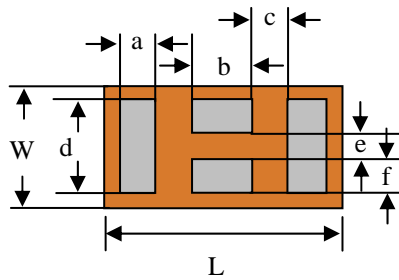
|                      |                       |                        |                           |
|----------------------|-----------------------|------------------------|---------------------------|
| ① Type               | BF : Band Pass Filter | ② Dimensions ( L x W ) | 1.6 x 0.8 mm              |
| ③ Material Code      | L                     | ④ Frequency Range      | 1R9=1900MHz               |
| ⑤ Specification Code | NDB                   | ⑥ Packaging            | T: Tape & Reel<br>B: Bulk |
| ⑦ Soldering          | /LF=lead-free         |                        |                           |

## Terminal Configuration



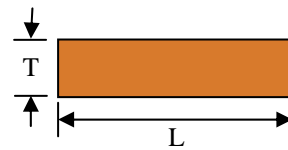
| No. | Terminal Name | No. | Terminal Name |
|-----|---------------|-----|---------------|
| ①   | IN/OUT        | ③   | IN/OUT        |
| ②   | GND           | ④   | GND           |

## Dimensions and Recommended PC Board Pattern



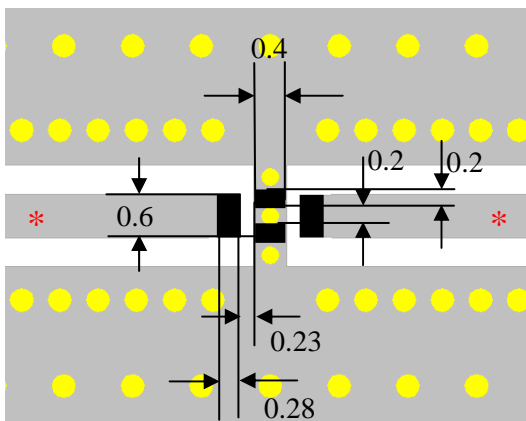
< Bottom View >

Unit : mm



< Side View >

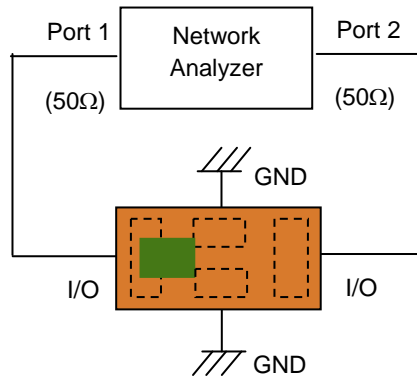
| Mark       | L             | W             | T           | a              | b             | c             | d            | e             | f             |
|------------|---------------|---------------|-------------|----------------|---------------|---------------|--------------|---------------|---------------|
| Dimensions | 1.6 ±<br>0.15 | 0.8 ±<br>0.15 | 0.7<br>Max. | 0.23 ±<br>0.05 | 0.40 ±<br>0.1 | 0.23 ±<br>0.1 | 0.6 ±<br>0.1 | 0.2 ±<br>0.05 | 0.2 ±<br>0.05 |



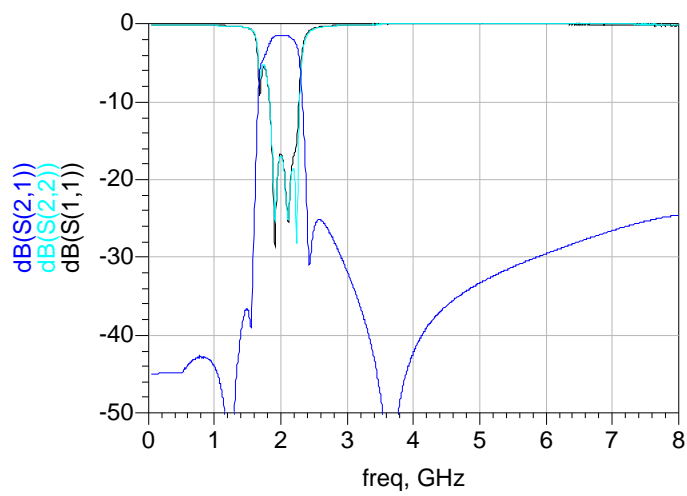
- Solder Resist
- Land
- Through-hole ( $\phi$  0.3, 0.23)

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

## Measuring Diagram



## Typical Electrical Characteristics (T=25°C)

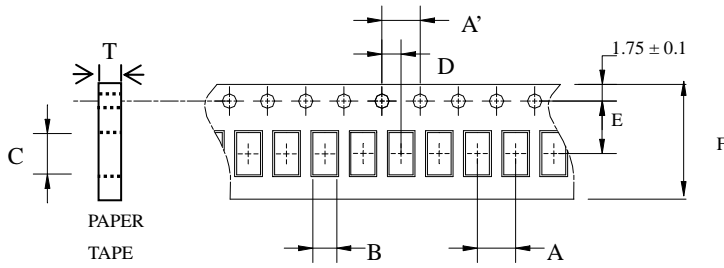


## Notes

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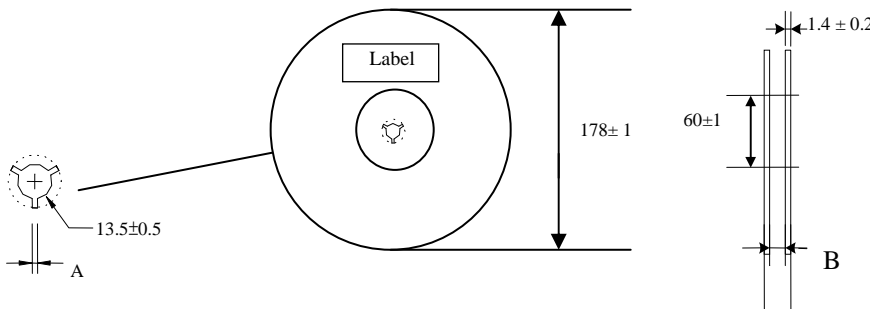
## Taping Specifications

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



| Type | A    | A'   | B     | C     | D    | E    | F    | T     | Quantity/reel | Tape material |
|------|------|------|-------|-------|------|------|------|-------|---------------|---------------|
| 1608 | 4.0± | 4.0± | 1.10± | 1.92± | 2.0± | 3.5± | 8.0± | 0.75± | 4,000pcs      | Paper         |
|      | 0.1  | 0.1  | 0.1   | 0.1   | 0.1  | 0.1  | 0.1  | 0.05  |               |               |

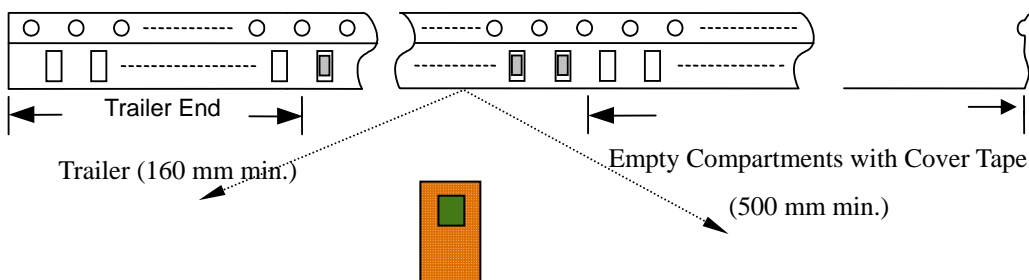
### ❖Reel Dimensions (Unit: mm)



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

| Type | A       | B       |
|------|---------|---------|
| 1608 | 2.3±0.5 | 9.0±0.3 |

### ❖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 .

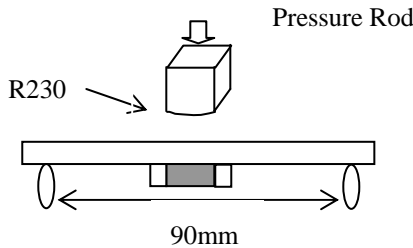
❖ **Storage Conditions**

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

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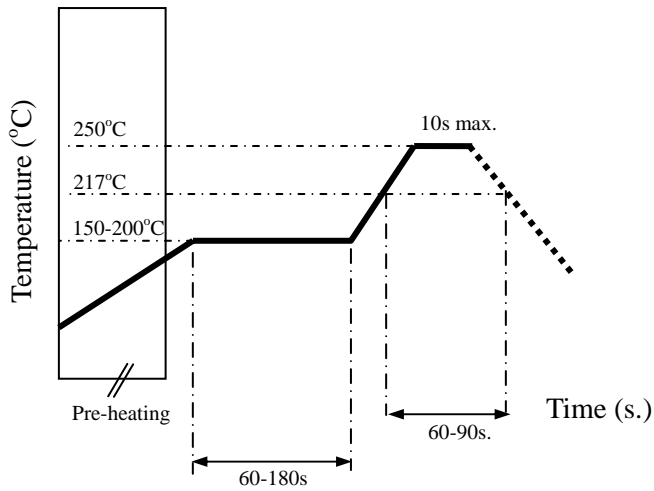
## Mechanical & Environmental Characteristics

| Item   | Requirements   | Procedure  |
|--|--|--|
| Solderability                                | <ol style="list-style-type: none"> <li>No apparent damage</li> <li>More than 75% 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>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> <li>Fulfill the electrical specification</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 2mm 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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