

# BF 3216 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

- ❖ Wireless communication systems



## Specifications

Part Number	Passband Frequency (MHz)	Insertion Loss @ BW (dB)	Return loss @ BW (dB)	Group Delay (ns)	Group Delay Variation (ns)	Pass Band Ripple (dB)	Frequency (MHz)	Attenuation (dB)
<b>BF3216-A6R0NAA_</b>	4500 ~ 7500	3.0 typ. / 4.5 max.	13 typ. / 10 min.	1.0 typ. / 2.0 max.	0.5 typ. / 1.2 max.	1.9 typ. / 3.0 max.	DC ~ 3300	25 typ. / 20 min.
							3300 ~4200	19 typ. / 12 min.
							8200~9300	41 typ. / 35 min.
							9300~9800	57 typ. / 45 min.
							9800~12000	50 typ. / 35 min.

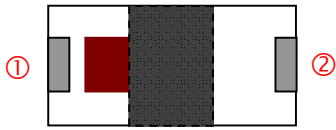
Q'ty/Reel (pcs) : 3000  
 Operating Temperature Range : -40 ~ +85 °C  
 Storage Temperature Range : -40 ~ +85 °C  
 Storage Period : 12 months max.  
 Power Capacity : 3W max.

## Part Number

**BF**   **3216**   -   **A**   **6R0**   **NAA**   **□**   **/LF**  
 ①   ②   ③   ④   ⑤   ⑥   ⑦

① Type	BF : Band-Pass Filter	② Dimensions ( L × W )	3.2 × 1.6 mm
③ Material Code	A	④ Frequency Range	6R0=6000MHz
⑤ Specification Code	NAA	⑥ Packaging	T: Tape & Reel B: Bulk
⑦ Soldering	/LF=lead-free		

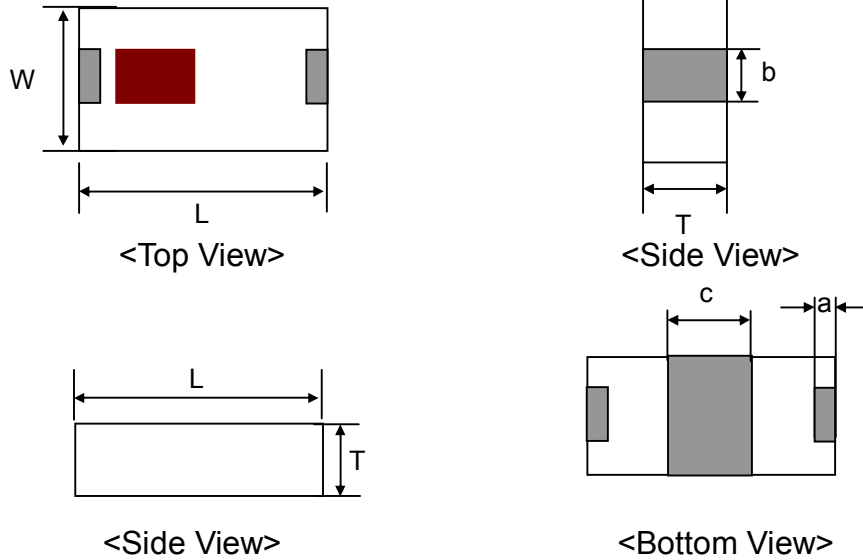
## Terminal Configuration



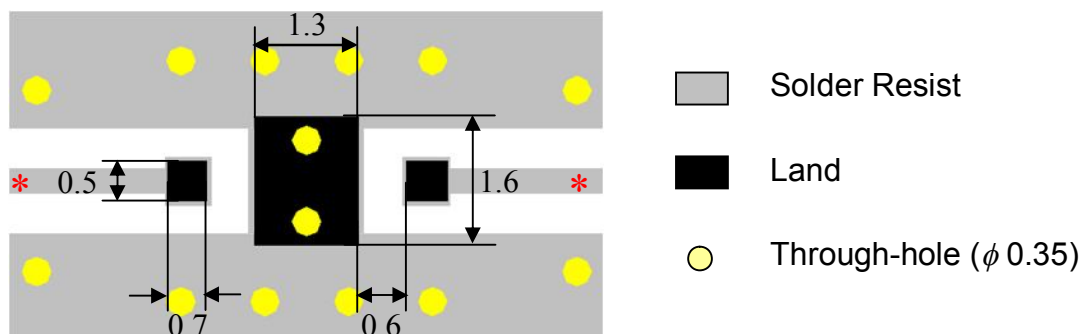
No.	Terminal Name	No.	Terminal Name
①	IN	③	GND
②	OUT		

## Dimensions and Recommended PC Board Pattern

Unit: mm

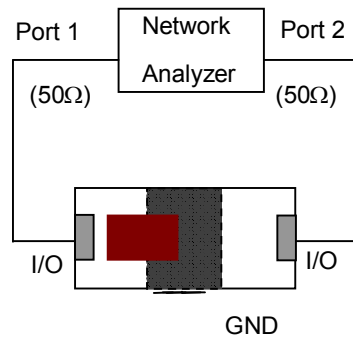


Mark	L	W	T	a	b	c
Dimensions	3.2 ±	1.6 ±	1.3 ±	0.35 ±	0.5 ±	1.3 ±
	0.2	0.15	0.1	0.1	0.1	0.2

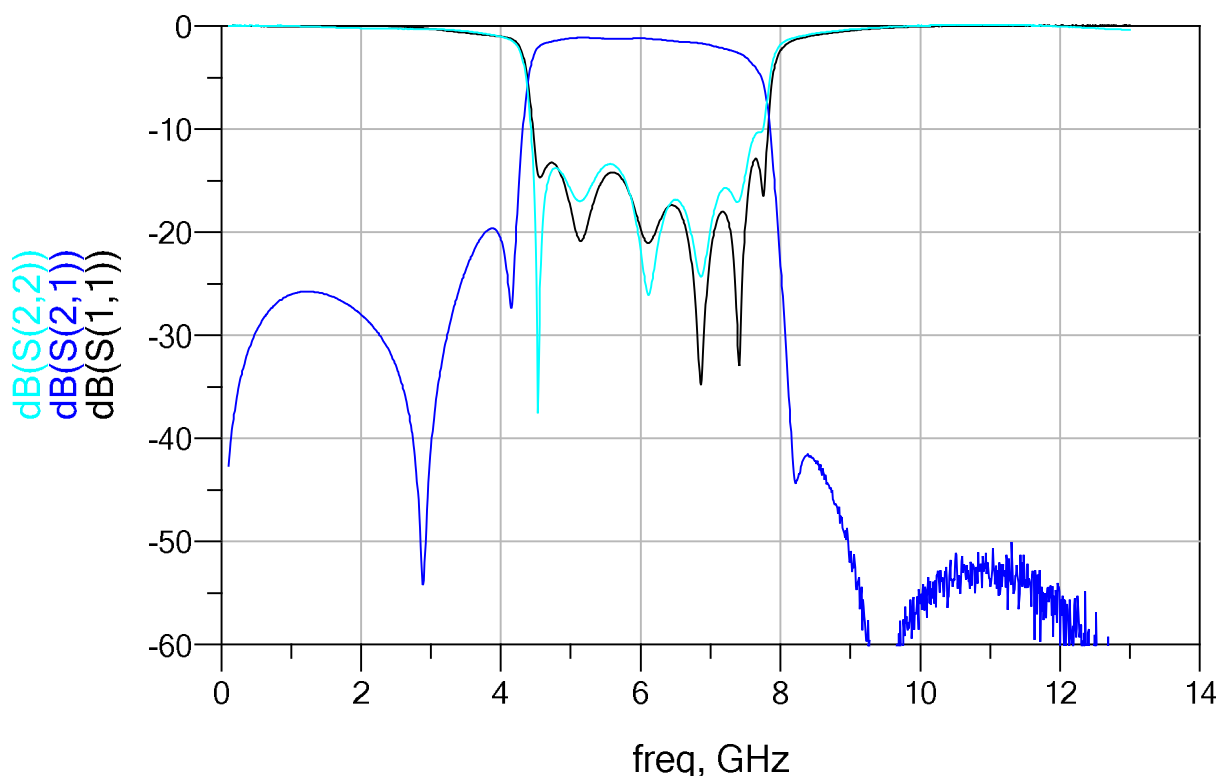


\* Line width should be designed to match  $50\Omega$  characteristic impedance, depending on PCB material and thickness.

## Measuring Diagram



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

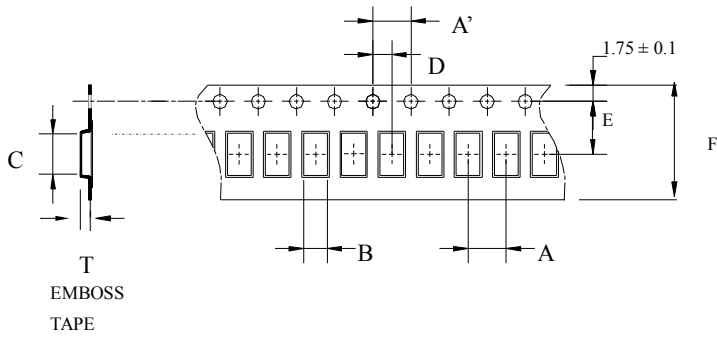


### Notes

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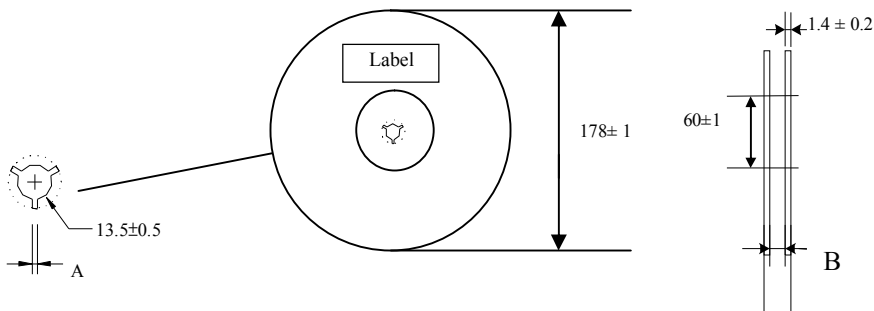
## Taping Specifications

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



Type	A	A'	B	C	D	E	F	T	Quantity/reel	Tape material
3216	4.0±	4.0±	1.95±	3.50±	2.0±	3.5±	8.0±	1.60±	3,000pcs	Plastic (Embossed)
	0.1	0.1	0.1	0.1	0.05	0.1	0.1	0.10		

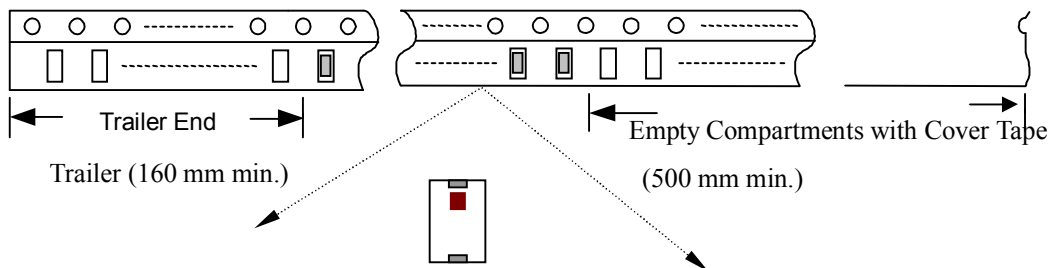
### ❖Reel Dimensions (Unit: mm)



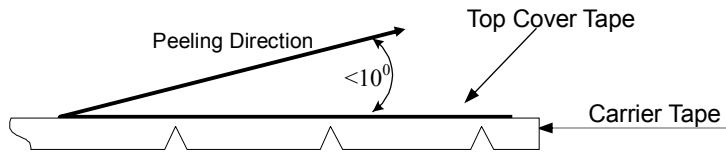
Label: Customer's Name,  
ACX P/N, Q'ty, Date,  
ACX Corp.

Type	A	B
3216	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 .

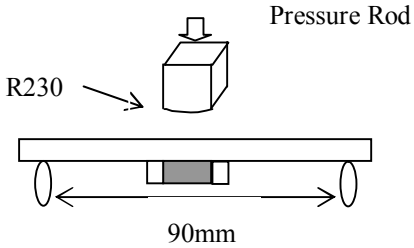
❖ **Storage Conditions**

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

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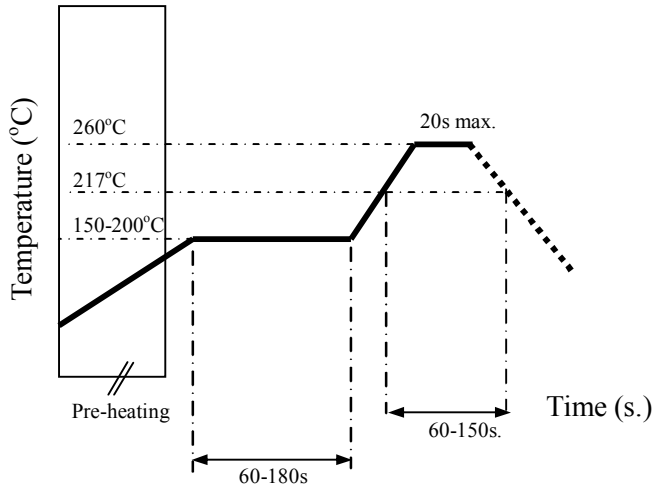
## Mechanical & Environmental Characteristics

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 (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 (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 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 (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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