

# BF 2012 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	Frequency Range (MHz)	Insertion Loss @ BW (dB)	Return Loss @ BW (dB)	Frequency	Attenuation (dB)
BF2012-R3R8NAA_	3300~ 4200	1.2 typ. / 1.4 max.	10 min.	DC ~ 2170MHz	40 min.
				2300 ~ 2700MHz	30 min.
				5500 ~ 5850MHz	20 min.

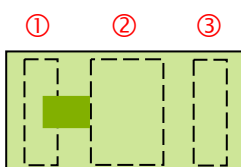
Q'ty/Reel (pcs)	: 4,000
Operating Temperature Range	: -40 ~ +85 °C
Storage Temperature Range	: -40 ~ +85 °C
Storage Period	: 12 months max.
Power Capacity	: 3W max.
MSL	: Level 1
ESD HBM	: ±2000V

## Part Number

BF   2012   -   R   3R8   NAA   □   /LF  
 ①   ②   ③   ④   ⑤   ⑥   ⑦

① Type	BF : Band-Pass Filter	② Dimensions ( L x W )	2.0 x 1.25 mm
③ Material Code	R	④ Frequency Range	3R8=3800MHz
⑤ Specification Code	NAA	⑥ Packaging	T: Tape & Reel B: Bulk
⑦ Soldering	/LF=lead-free		

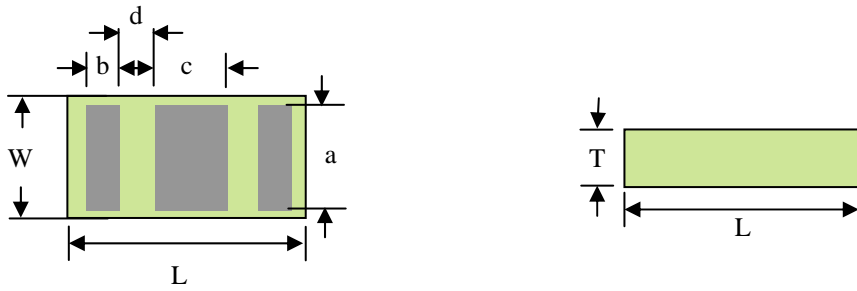
## Terminal Configuration



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

## Dimensions and Recommended PC Board Pattern

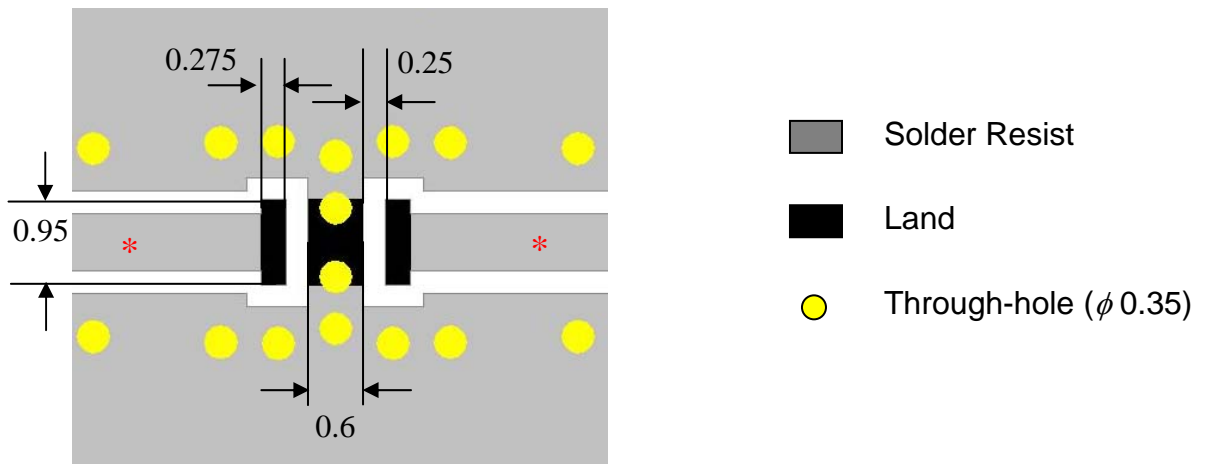
Unit : mm



< Bottom View >

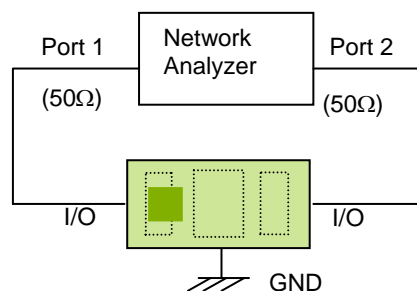
< Side View >

Mark	L	W	T	a	b	c	d
Dimensions	2.0 ± 0.15	1.25 ± 0.10	0.7 max.	0.95 ± 0.1	0.275 ± 0.1	0.6 ± 0.1	0.25 ± 0.05

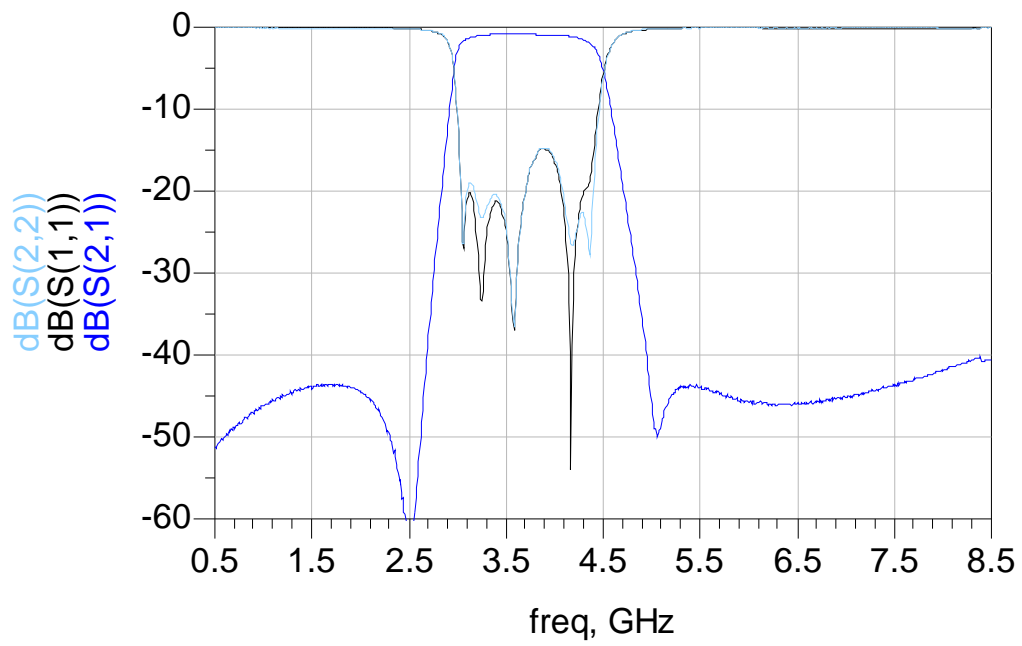


\* Line width should be designed to match 50 Ω characteristic impedance, depending on PCB material and thickness.

## Measuring Diagram



Electrical Characteristics (T=25°C)

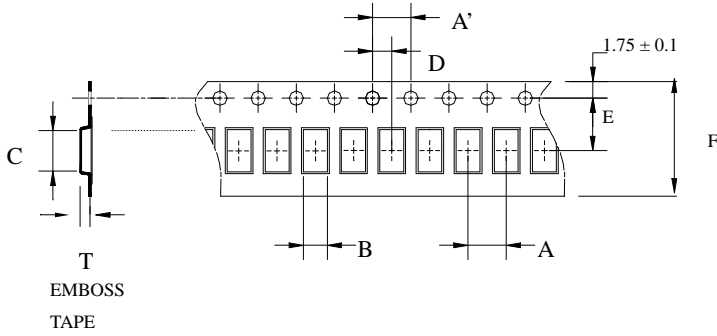


Notes

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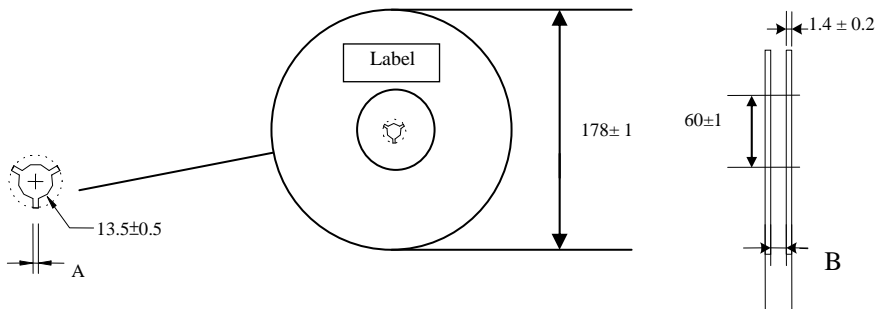
## Taping Specifications

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



Type	A	A'	B	C	D	E	F	T	Quantity/reel	Tape material
2012	4.0± 0.1	4.0± 0.1	1.35± 0.05	2.15± 0.05	2.0± 0.05	3.5± 0.1	8.0± 0.1	0.65± 0.05	4,000pcs	Plastic (Embossed)

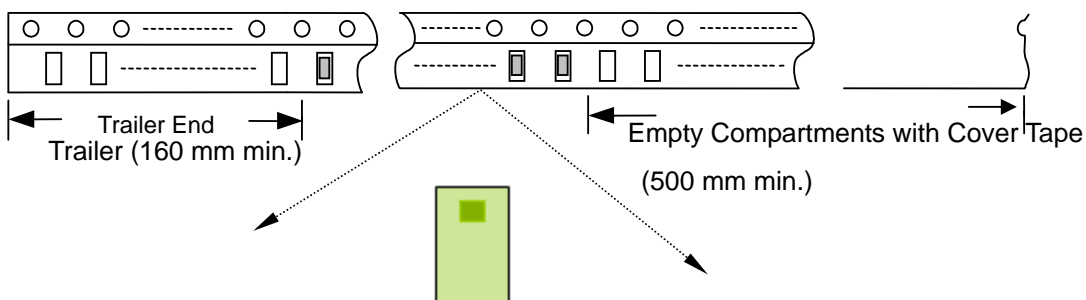
### ❖ Reel Dimensions (Unit: mm)



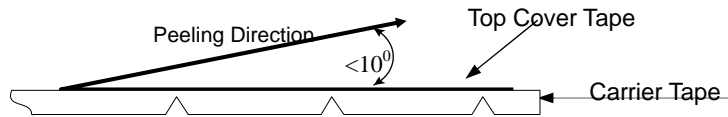
Label: Customer's Name,  
ACX P/N, Q'ty, Date,  
ACX Corp.

Type	A	B
2012	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 .

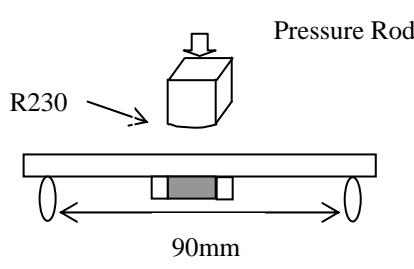
❖ **Storage Conditions**

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

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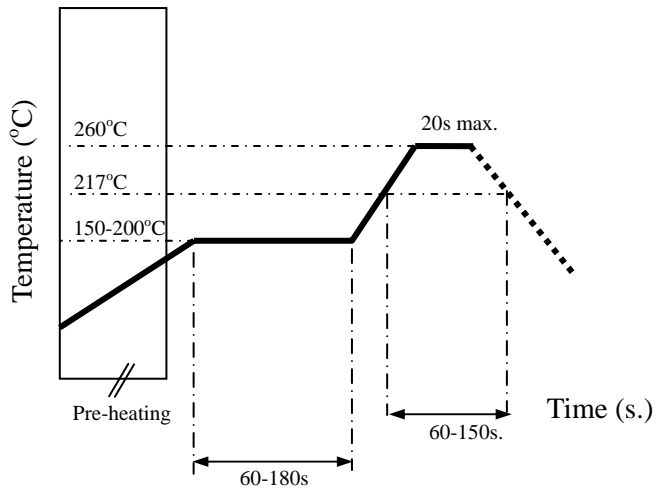
## Mechanical & Environmental Characteristics

Item	Requirements	Procedure
Solderability	<ol style="list-style-type: none"> <li>No apparent damage</li> <li>More than 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, 1.6 mm) 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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