

BF 3216 Series (Preliminary)

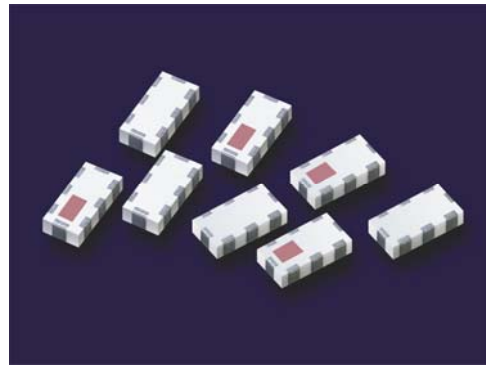
Multilayer Chip Band-Pass Filters

Features

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

Applications

- ❖ 0.8 ~ 6 GHz wireless communication systems, including DECT/PACS/PHS/GSM/DCS phones, WLAN card, Bluetooth modules, Hyper-LAN, etc.



Specifications

Part Number	Freq. Range (MHz)	Insertion Loss @ BW (dB)	VSWR @ BW	Frequency	Attenuation (dB)
BF3216-E5R1FAA_	3100 ~ 7160	1.6 max.	2.0 max.	824 ~ 960MHz	25 min.
				1710 ~ 1990MHz	25 min.
				2400 ~ 2500MHz	15 min.
				10100 ~ 10600MHz	20 min.

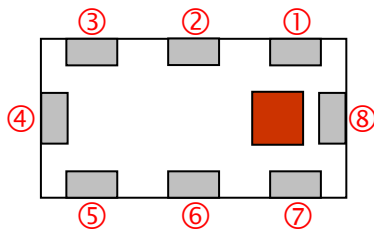
Q'ty/Reel (pcs) : 3,000
 Operating Temperature Range : -40 ~ +85 °C
 Storage Temperature Range : -40 ~ +85 °C
 Storage Period : 12 months max.
 Power Capacity : 1W max.

Part Number

BF **3216** - **E** **5R1** **FAA** **□** **/LF**
 ① ② ③ ④ ⑤ ⑥ ⑦

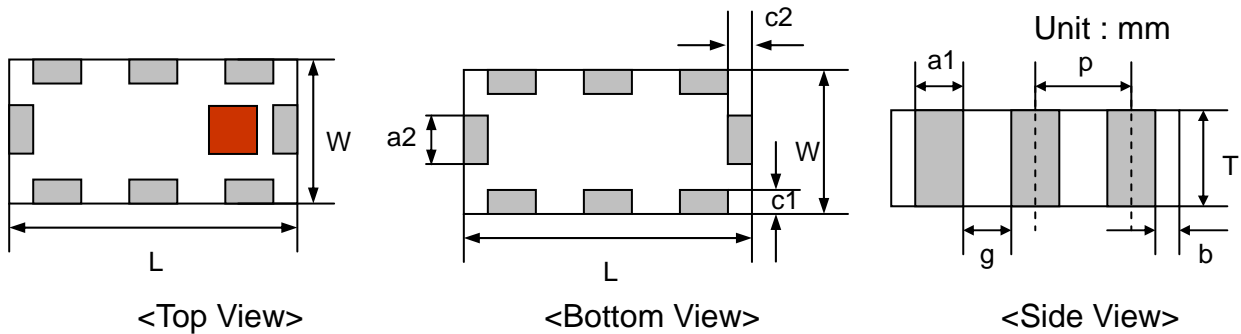
① Type	BF : Band-Pass Filter	② Dimensions (L x W)	3.2 x 1.6 mm
③ Material Code	E	④ Frequency Range	5R1=5100MHz
⑤ Specification Code	FAA	⑥ Packaging	T: Tape & Reel B: Bulk
⑦ Soldering	/LF=lead-free		

Terminal Configuration

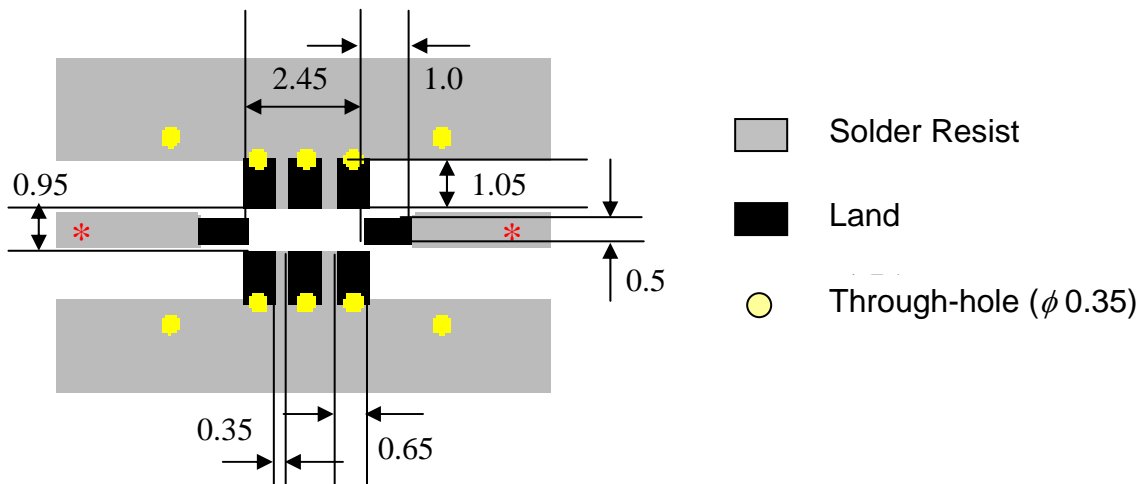


No.	Terminal Name	No.	Terminal Name
①	GND	⑤	GND
②	GND	⑥	GND
③	GND	⑦	GND
④	I/O	⑧	I/O

Dimensions and Recommended PC Board Pattern

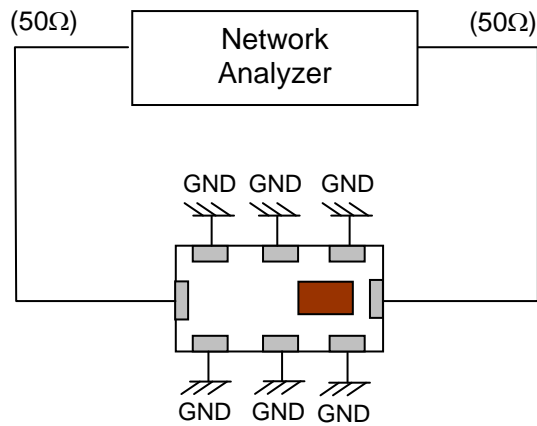


Mark	L	W	T	a1	a2	b	c1	c2	g	p
Dimensions	3.2 ± 0.15	1.6 ± 0.15	0.95 ± 0.1	0.55 ± 0.15	0.5 ± 0.15	0.325 ± 0.15	$0.3 + 0.1 / -0.2$	0.3 ± 0.2	0.45 ± 0.15	1.0 ± 0.1

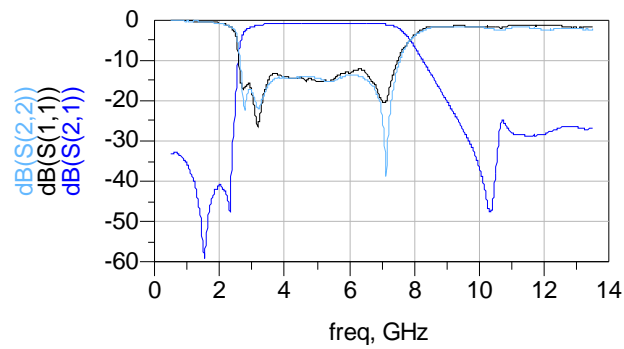


* Line width should be designed to match 50 Ω characteristic impedance, depending on PCB material and thickness.

Measuring Diagram



Electrical Characteristics (T=25°C)

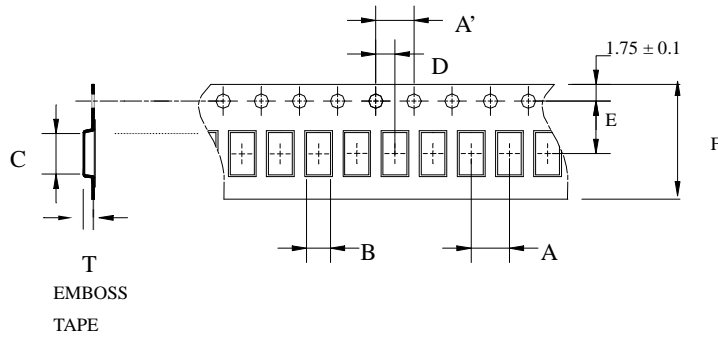


Notes

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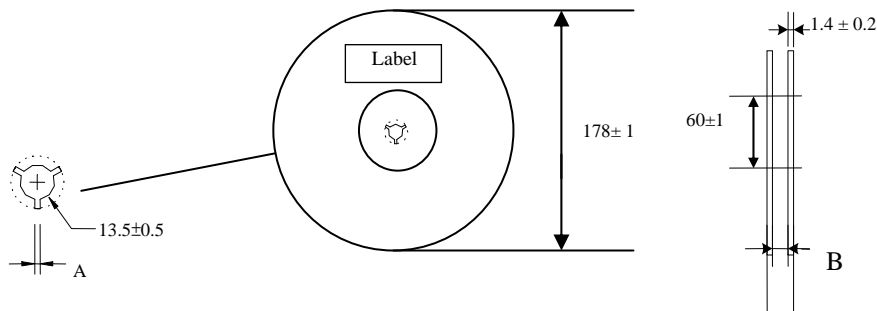
Taping Specifications

❖Tape Dimensions (Unit: mm) & Quantity



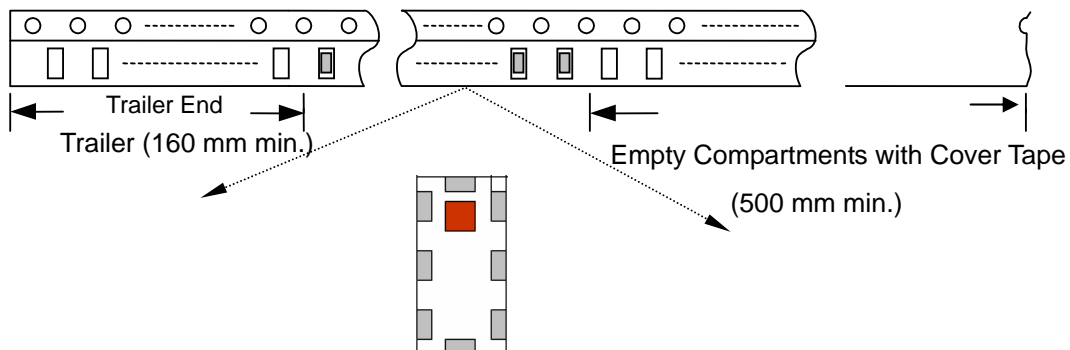
Type	A	A'	B	C	D	E	F	T	Quantity/reel	Tape material
3216	4.0± 0.1	4.0± 0.1	1.85± 0.1	3.50± 0.1	2.0± 0.1	3.5± 0.1	8.0± 0.1	1.27± 0.05	3,000pcs	Plastic (Embossed)

❖Reel Dimensions (Unit: mm)

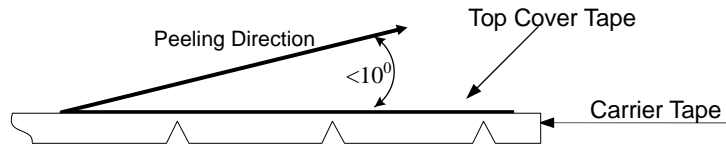


Type	A	B
3216	2.3±0.5	9.0±0.3

❖Leader and Trailer Tape (Plastic material)



❖ **Peel-off Force**



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

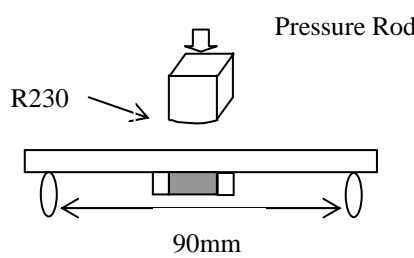
❖ **Storage Conditions**

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

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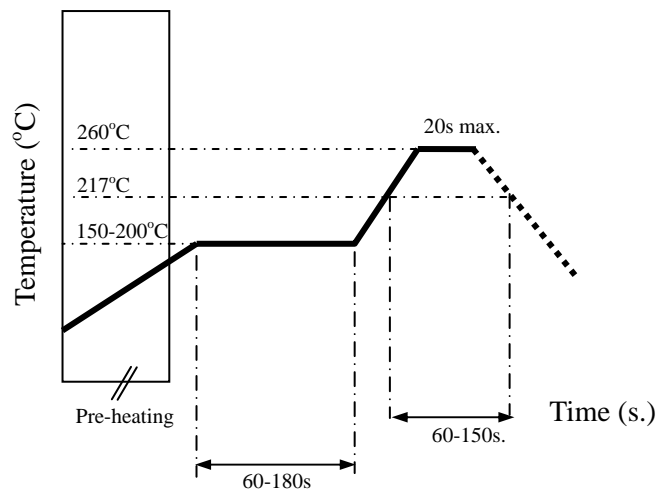
Mechanical & Environmental Characteristics

Item	Requirements	Procedure
Solderability	<ol style="list-style-type: none"> No apparent damage More than 95% of the terminal electrode shall be covered with new solder 	<ol style="list-style-type: none"> Preheat: $120 \pm 5^\circ\text{C}$ Solder: $245 \pm 5^\circ\text{C}$ for 5 ± 1 sec
Soldering strength (Termination Adhesion)	<ol style="list-style-type: none"> 10N minimum 	<ol style="list-style-type: none"> Solder specimen onto test jig. Apply push force at 0.5mm/s until electrode pads are peeled off or ceramic are broken. Pushing force is applied to longitude direction
Deflection (Substrate Bending)	<ol style="list-style-type: none"> No apparent damage 	<ol style="list-style-type: none"> Solder specimen onto test jig (FR4, 1.6m) using the recommend soldering profile. Apply a bending force of 2mm deflection 
Heat/Humidity Resistance	<ol style="list-style-type: none"> No apparent damage Fulfill the electrical specification after test 	<ol style="list-style-type: none"> Temperature: $85 \pm 2^\circ\text{C}$ Humidity: 90% ~ 95% RH Duration: 1000 ± 48hrs Recovery: 1-2hrs
Thermal shock (Temperature Cycle)	<ol style="list-style-type: none"> No apparent damage Fulfill the electrical specification after test 	<ol style="list-style-type: none"> One cycle/step 1 : $125 \pm 5^\circ\text{C}$ for 30 min step 2 : $-40 \pm 5^\circ\text{C}$ for 30 min No of cycles : 100 Recovery: 1-2 hrs
Low Temperature Resistance	<ol style="list-style-type: none"> No apparent damage Fulfill the electrical specification after test 	<ol style="list-style-type: none"> Temperature: $-40 \pm 5^\circ\text{C}$ Duration: 500 ± 24hrs Recovery: 1-2hrs

Soldering Conditions

❖ Typical Soldering Profile for Lead-free Process

Reflow Soldering :



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