

BF 1411 Series

Multilayer Chip Band-Pass Filters

Features

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



Applications

- ❖ 2.4 GHz wireless communication systems, including, WLAN card, Bluetooth modules, etc.

Specifications

Part Number	Freq. Range (MHz)	Insertion Loss @BW(dB)	Return Loss @ BW(dB)	Frequency	Attenuation (dB)
BF1411-L2R4NCA_	2400 ~ 2500	0.95 typ. / 1.0 max.@25 °C 1.2 max.@105 °C	14 typ. / 10 min.	50~ 960 MHz	34 typ. / 15 min.
				1710 ~ 1990 MHz	15 typ. / 10 min.
				3600 MHz	16.5 typ. / 15 min.
				4800~5000 MHz	33 typ. / 30 min.
				5000~7200 MHz	31 typ. / 25 min.

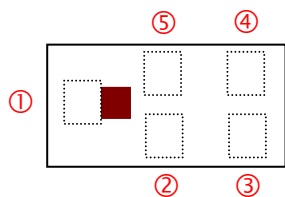
Q'ty/Reel (pcs) : 4000
 Operating Temperature Range : -40 ~ +105 °C
 Storage Temperature Range : -40 ~ +85 °C
 Storage Period : 12 months max.*
 *12 months in vacuum sealed bag and 1 week after opened. Please keep unused parts in vacuum sealed bags.
 Solder Paste : SAC 305 type is recommended.
 Power Capacity : 3W max.

Part Number

BF 1411 - L 2R4 NCA □ /LF
 ① ② ③ ④ ⑤ ⑥ ⑦

① Type	BF : Band-Pass Filter	② Dimensions (L × W)	1.4 × 1.1 mm
③ Material Code	L	④ Frequency Range	2R4=2400MHz
⑤ Specification Code	NCA	⑥ Packaging	T: Tape & Reel B: Bulk
⑦ Soldering	LF=lead-free		

Terminal Configuration

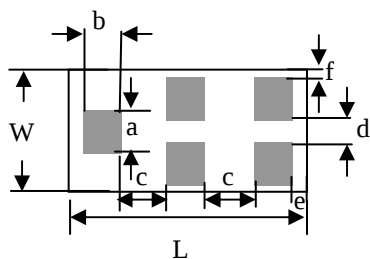


<Top View>

No.	Terminal Name	No.	Terminal Name
①	IN	④	OUT
②	GND	⑤	GND
③	GND		

Dimensions and Recommended PC Board Pattern

Unit : mm

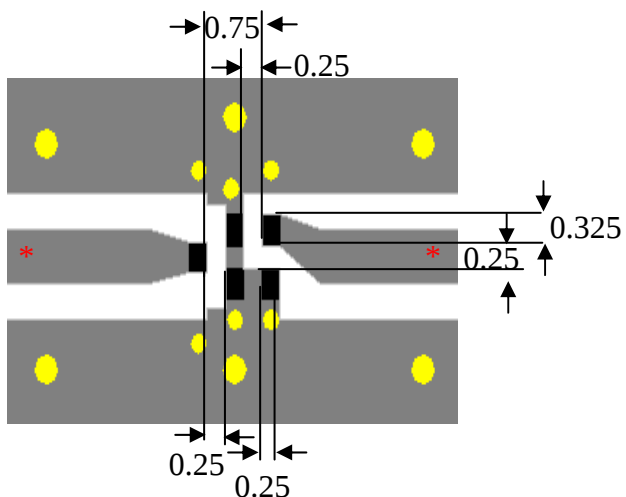


< Bottom View>



< Side View >

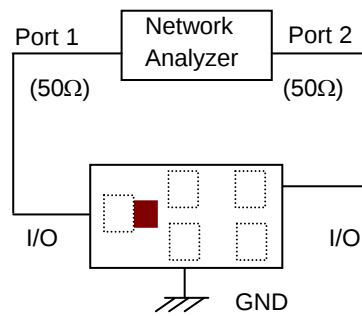
Mark	L	W	T	a	b	c	d	e	f
Dimensions	1.4 ± 0.15	1.1 ± 0.15	0.6 max	0.325 ± 0.1	0.25 ± 0.1	0.25 ± 0.05	0.25 ± 0.05	0.075± 0.075	0.1± 0.075



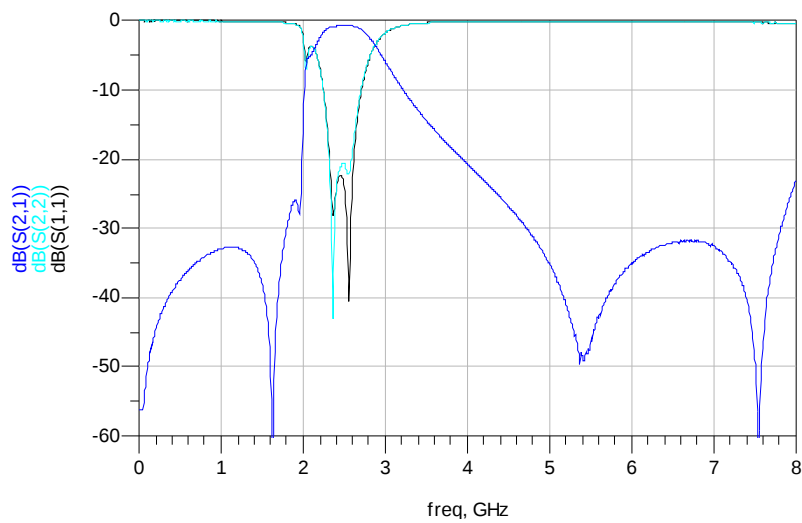
-  Solder Resist
-  Land
-  Through-hole ($\phi 0.2$)

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

Measuring Diagram



Electrical Characteristics (T=25°C)

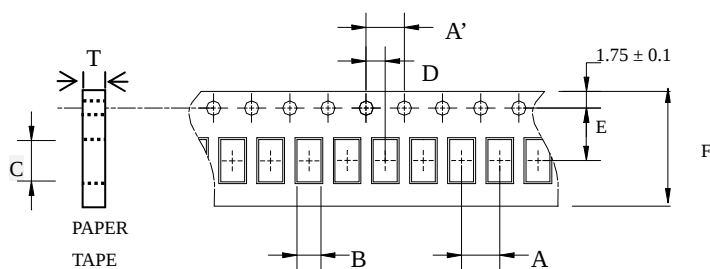


Notes

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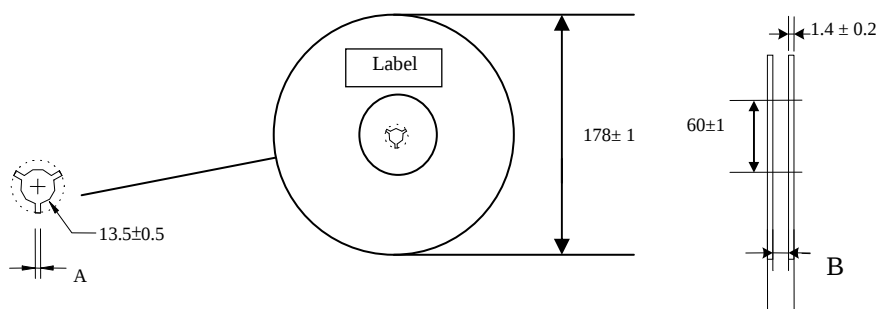
Taping Specifications

❖Tape Dimensions (Unit: mm) & Quantity



Type	A	A'	B	C	D	E	F	T	Quantity/reel	Tape material
1411	4.0±0.1	4.0±0.1	1.36±0.05	1.65±0.05	2.0±0.05	3.5±0.05	8.0±0.1	0.75±0.05	4,000pcs	Paper

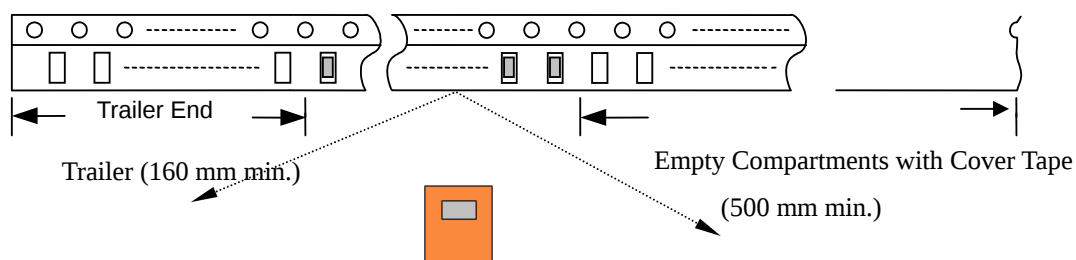
❖Reel Dimensions (Unit: mm)



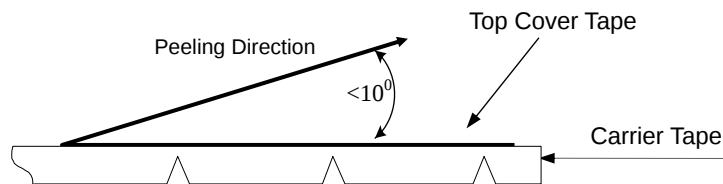
Label: Customer's Name,
ACX P/N, Q'ty, Date,
ACX Corp.

Type	A	B
1411	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 ± 10 mm/min .

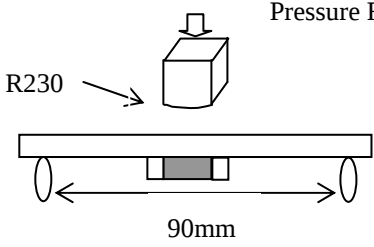
❖ **Storage Conditions**

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

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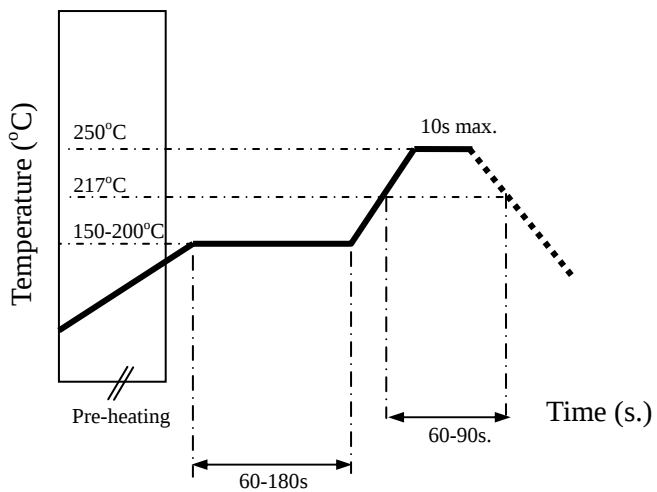
Mechanical & Environmental Characteristics

Item	Requirements	Procedure
Solderability	1. No apparent damage. 2. More than 75% of the terminal electrode shall be covered with new solder.	1. Preheat: $120 \pm 5^{\circ}\text{C}$ 2. Solder: $245 \pm 5^{\circ}\text{C}$ for 5 ± 1 sec
Soldering strength (Termination Adhesion)	1. 10N minimum.	1. Solder specimen onto test jig. 2. 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)	1. No apparent damage. 2. Fulfill the electrical specification.	1. Solder specimen onto test jig (FR4, 1.6mm) using the recommend soldering profile. 2. Apply a bending force of 2mm deflection. 
Heat/Humidity Resistance	1. No apparent damage. 2. Fulfill the electrical specification after test.	1. Temperature: $85 \pm 2^{\circ}\text{C}$ 2. Humidity: 90% ~ 95% RH 3. Duration: 1000 ± 48hrs 4. Recovery: 1-2hrs
Thermal shock (Temperature Cycle)	1. No apparent damage. 2. Fulfill the electrical specification after test.	1. One cycle/step 1 : $125 \pm 5^{\circ}\text{C}$ for 30 min step 2 : $-40 \pm 5^{\circ}\text{C}$ for 30 min 2. No of cycles : 100 3. Recovery: 1-2 hrs
Low Temperature Resistance	1. No apparent damage. 2. Fulfill the electrical specification after test.	1. Temperature: $-40 \pm 5^{\circ}\text{C}$ 2. Duration: 500 ± 24hrs 3. Recovery: 1-2hrs

Soldering Conditions

❖ Typical Soldering Profile for Lead-free Process

Reflow Soldering :



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