

# LF 3216 Series

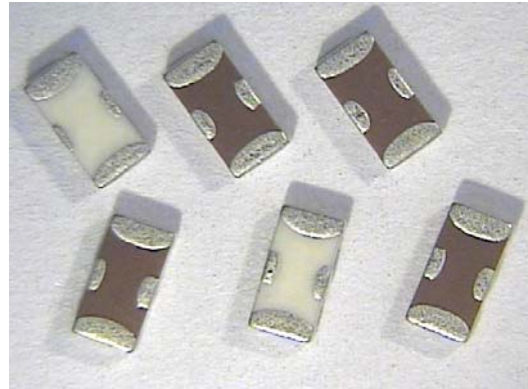
Multilayer Chip Low-Pass Filters

## Features

- ❖ Monolithic structure replacing one inductor and three capacitors.
- ❖ RoHS compliant

## Applications

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



## Specifications

Part Number	Frequency Range (MHz)	Insertion Loss @ BW (dB)	Attenuation @ 2 x f <sub>o</sub> (dB)	Attenuation @ 3 x f <sub>o</sub> (dB)	VSWR @ BW	Q'ty/ Reel (pcs)
<b>LF3216-BR80JAA_</b>	880 ~ 915	0.6 max.	30 min.	18 min.	1.8 max.	3,000

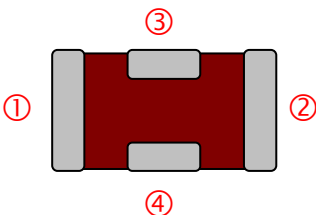
Operating Temperature Range : -40 ~ +85 °C  
 Storage Temperature Range : +5 ~ +35 °C, Humidity 45~75%RH  
 Storage Period : 12 months max.  
 Power Capacity : 2W max.

## Part Number

LF 3216 - B R80 JAA □ /LF  
 ① ② ③ ④ ⑤ ⑥ ⑦

① Type	LF : Low Pass Filter	② Dimensions ( L x W )	3.2 x 1.6 mm
③ Material Code	B	④ Frequency Range	R80=800MHz
⑤ Specification Code	JAA	⑥ Packaging	T: Tape & Reel B: Bulk
⑦ Soldering	/LF=lead-free		

## Terminal Configuration



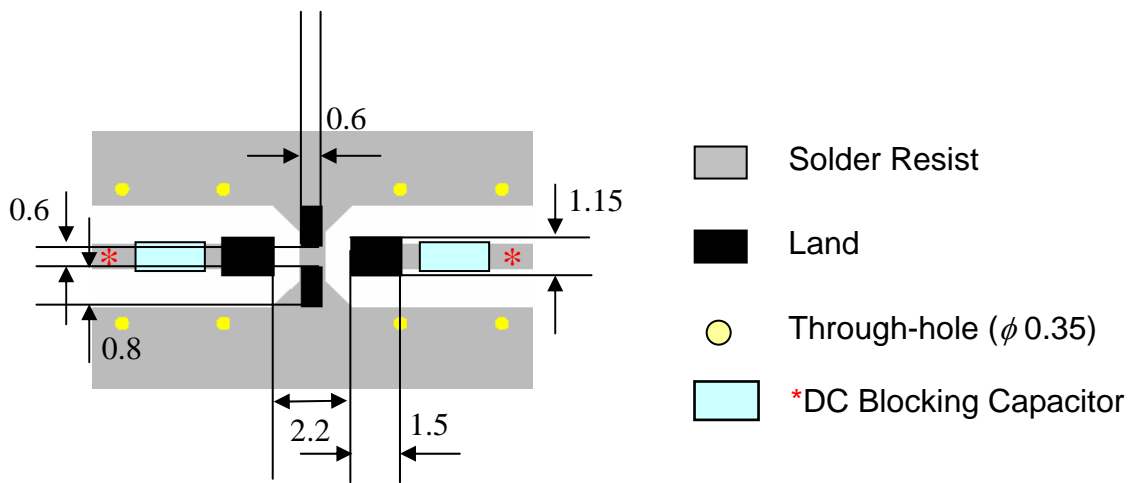
No.	Terminal Name	No.	Terminal Name
①	I / O	③	GND
②	I / O	④	GND

## Dimensions and Recommended PC Board Pattern

unit:mm



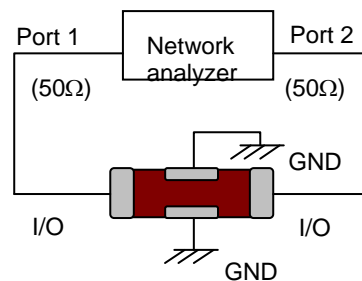
Mark	L	W	T	a	b
Dimensions	3.2 ±0.3	1.6 ±0.3	1.0 ±0.2	0.8 ±0.3	0.5 ±0.3



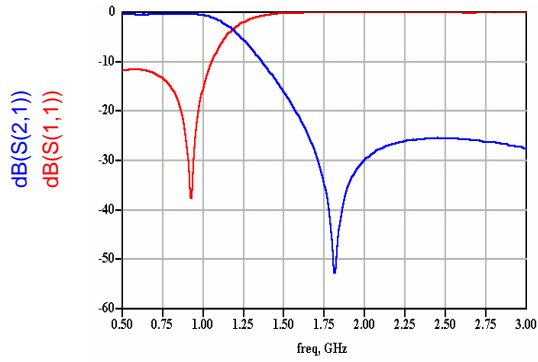
\* Line width should be designed to match 50  $\Omega$  characteristic impedance, depending on PCB material and thickness.

\* The recommended DC Blocking capacitor (18pF) is connected in series at each In/Out Port.

## Measuring Diagram



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

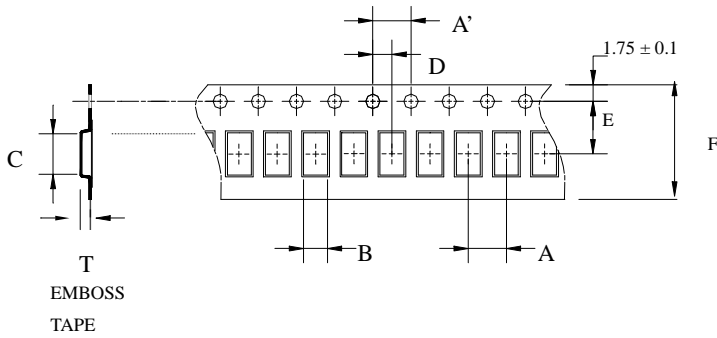


## Notes

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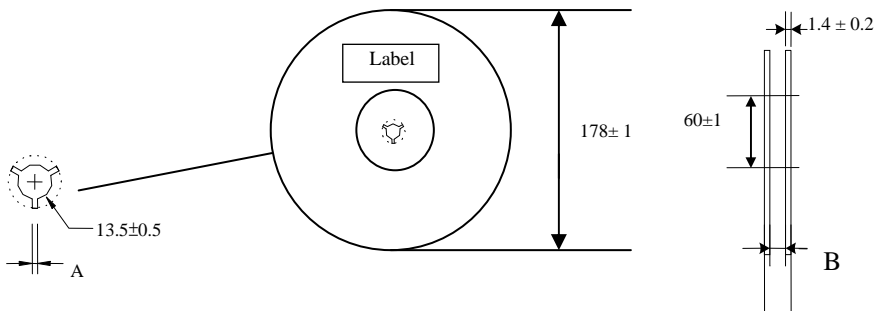
## Taping Specifications

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



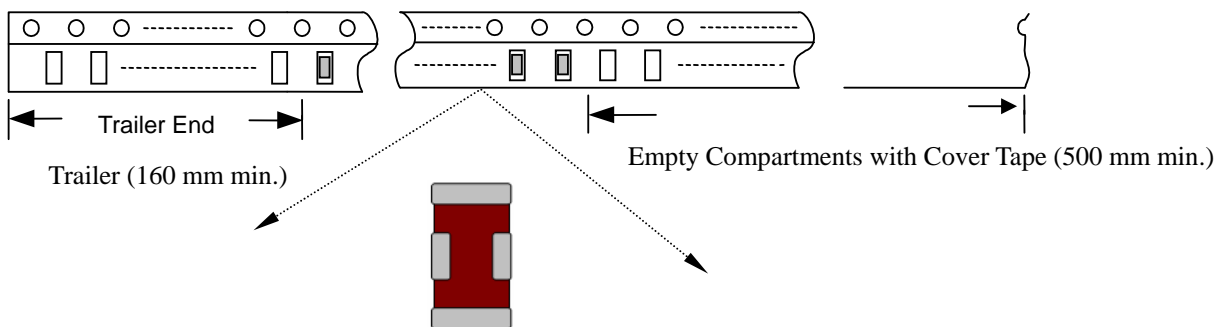
Type	A	A'	B	C	D	E	F	T	Quantity/reel	Tape material
3216	4.0±	4.0±	1.85±	3.50±	2.0±	3.5±	8.0±	1.27±	3,000pcs	Plastic (Embossed)
	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.05		

### ❖Reel Dimensions (Unit: mm)

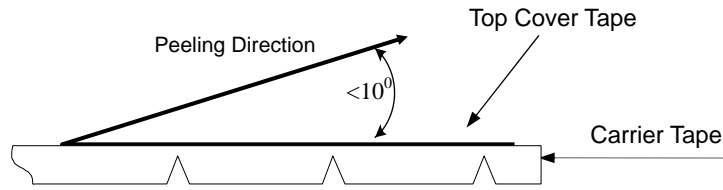


Type	A	B
3216	2.3±0.5	9.0±0.3

### ❖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  $300 \pm 10$  mm/min .

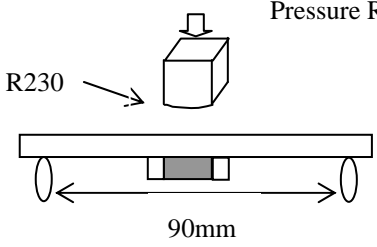
❖ **Storage Conditions**

- (1) Temperature: 15 ~35°C , relative humidity (RH): 45~75%.
- (2) Non-corrosive environment.

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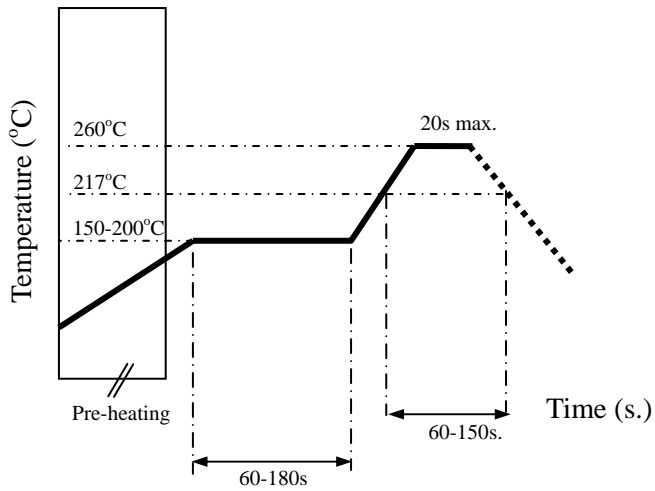
## Mechanical & Environmental Characteristics

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>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> </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 (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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