

# LF 1005 Series

Multilayer Chip Low-Pass Filters

## Features

- ❖ Ultra small SMD type with low loss at pass-band and high attenuation at stop-band.
- ❖ RoHS compliant
- ❖ Automobile grade & AEC-Q200 compliant

## Applications

- ❖ 1.71 ~ 6 GHz wireless communication systems, including DECT/PACS/PHS/GSM/DCS phones, WLAN card, Bluetooth modules, Hyper-LAN, etc



## Specifications

Part Number	Frequency Range (MHz)	Insertion Loss @ BW (dB)	VSWR @ BW	Frequency (MHz)	Attenuation (dB)
<b>LF1005-N1R9NBA</b>	1710 ~ 2025	1.4 max. @25°C 1.6 max. @-40~85°C	2.0 max.	2400~2500	10 min.
				3760~4050	25 min.
				5150~5850	25 min.
				5640~6075	25 min.
				7520~8100	25 min.
				9400~10125	22 min.

Q'ty/Reel (pcs) : 10,000  
 Operating Temperature Range : -40 ~ +85 °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.

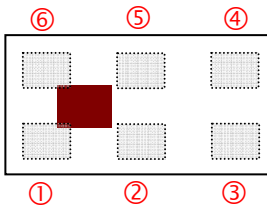
## Part Number

LF   1005   -   N   1R9   NBA   □   /LF  
 ①   ②   ③   ④   ⑤   ⑥   ⑦

① Type	LF : Low Pass Filter	② Dimensions ( L x W )	1.0 x 0.5 mm
③ Material Code	N	④ Frequency Range	1R9=1900MHz
⑤ Specification Code	NBA	⑥ Packaging	T: Tape & Reel B: Bulk
⑦ Soldering	/LF=lead-free		

## Terminal Configuration

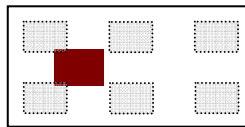
<Top View>



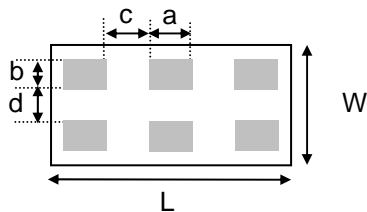
No.	Terminal Name	No.	Terminal Name
①	NC	④	OUT
②	GND	⑤	GND
③	NC	⑥	IN

## Dimensions and Recommended PC Board Pattern

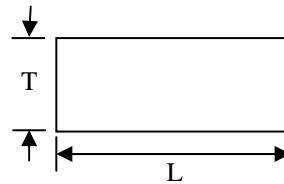
Unit: mm



< Top View >

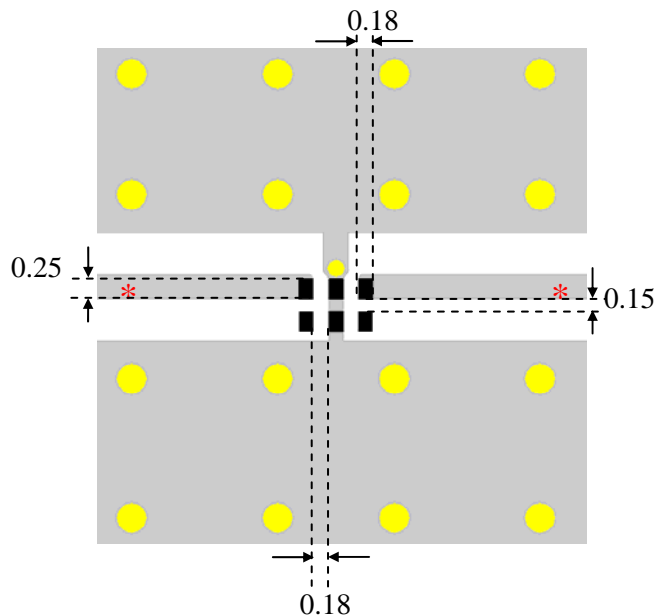


< Bottom View >



< Side View >

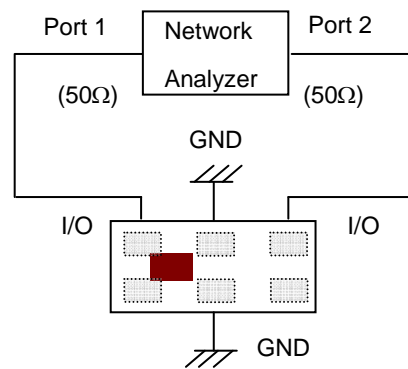
Mark	L	W	T	a	b	c	d
Dimensions	1.0	0.5	0.38	0.18	0.125	0.18	0.15
	±0.05	±0.05	±0.05	±0.05	±0.05	±0.05	±0.05



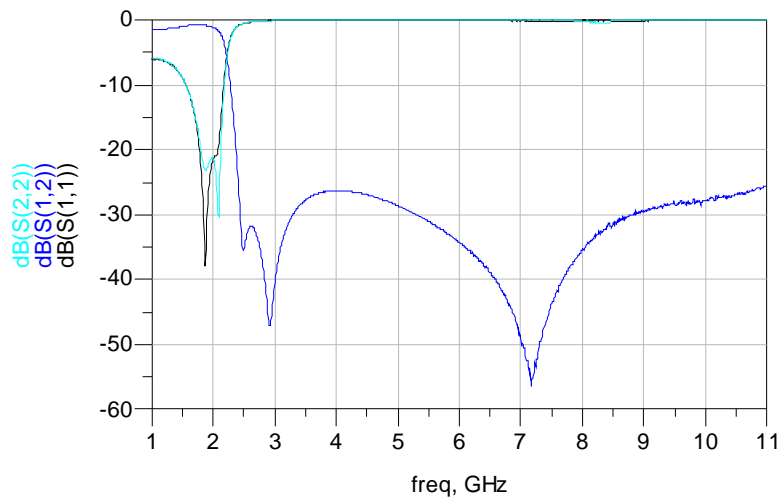
- Solder Resist
- Land
- Through-hole ( $\phi$  0.35)
- Through-hole ( $\phi$  0.2)

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

## Measuring Diagram



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



## Notes

- ❖ The contents of this data sheet are subject to change without notice. Please confirm the specifications and delivery conditions when placing your order.

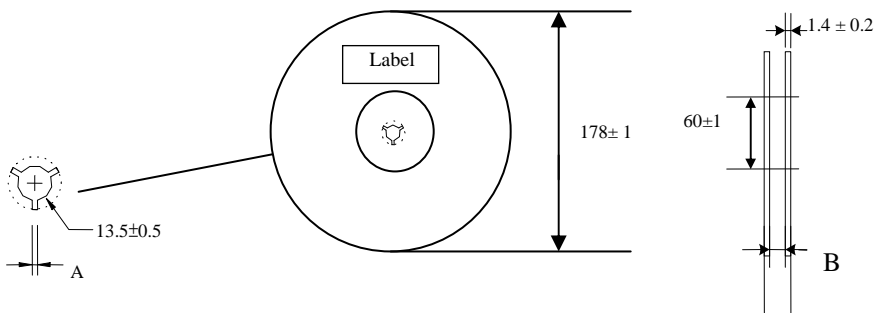
## Taping Specifications

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



Type	A	A'	B	C	D	E	F	T	Quantity/reel	Tape material
1005	2.0±	4.0±	0.62±	1.12±	2.0±	3.5±	8.0±	0.45±	10,000pcs	Paper
	0.05	0.1	0.03	0.03	0.05	0.05	0.1	0.03		

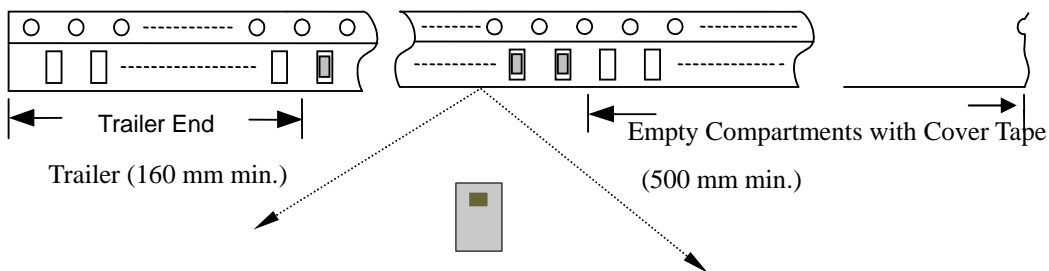
### ❖ Reel Dimensions (Unit: mm)



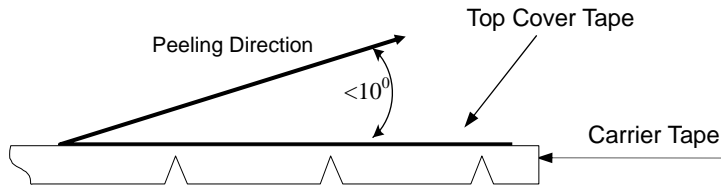
Label: Customer's Name,  
ACX P/N, Q'ty, Date,  
ACX Corp.

Type	A	B
1005	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 .

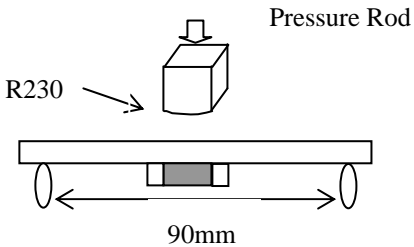
❖ **Storage Conditions**

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

**Notes**

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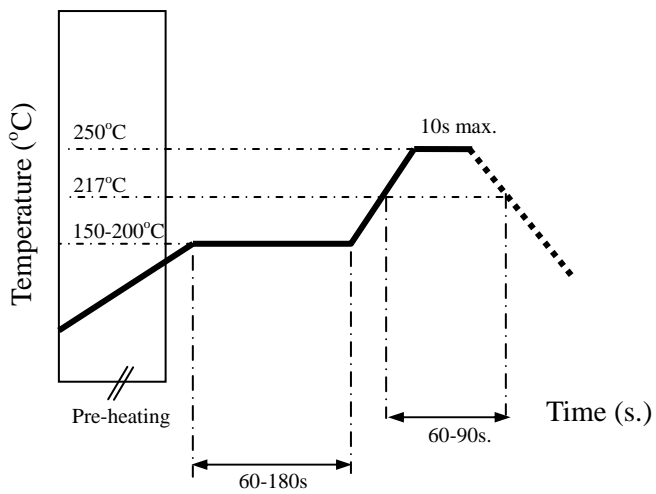
## Mechanical & Environmental Characteristics

Item	Requirements	Procedure
Solderability	<ol style="list-style-type: none"> <li>No apparent damage</li> <li>More than 75% 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>0.7kg 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> <li>Fulfill the electrical specification</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 :



## Notes

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