

LF 1608 Series

Multilayer Chip Low-Pass Filters

Features

- ❖ Monolithic structure replacing two inductor and five capacitors.
- ❖ HF & RoHS Compliant

Applications

- ❖ 0.5-6GHz wireless communication systems, including DECT / PACS / PHS / GSM / DCS / PCS phones, WLAN card, Bluetooth modules, etc.



Specifications

Part Number	Freq. Range (MHz)	Insertion Loss @ BW (dB)	VSWR @ BW	Frequency (MHz)	Attenuation (dB)
LF1608-L1R9NAA_	1880 ~ 2025	0.80 typ. / 1.2 max. @ 25°C 1.3 max. @ -40~105°C	1.2 typ / 1.6 max..	2400~2500	31 typ. / 25 min.
				4020~4045	24 typ. / 18 min.
				6030~6075	30 typ. / 25 min.

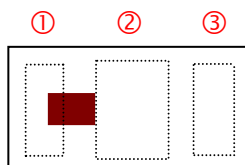
Q'ty/Reel (pcs) : 4,000
 Operating Temperature Range : -40 ~ +105°C
 Storage Temperature Range : -40 ~ +105°C
 Storage Period : 12 months max.
 *12 months in vacuum sealed bag and 1 week after opened. Please keep unused parts in vacuum sealed bags.
 Solder Paste : SAC 305 type is recommended.
 Power Capacity : 3W max.

Part Number

LF 1608 - L 1R9 NAA □ /LF
 ① ② ③ ④ ⑤ ⑥ ⑦

① Type	LF : Low Pass Filter	② Dimensions (L × W)	1.6 × 0.8 mm
③ Material Code	L	④ Frequency Range	1R9=1900MHz
⑤ Specification Code	NAA	⑥ Packaging	T: Tape & Reel B: Bulk
⑦ Soldering	/LF=lead-free		

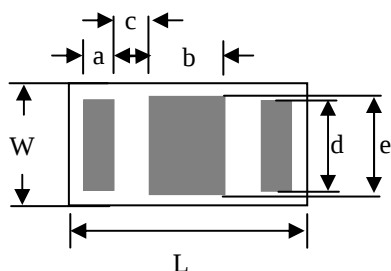
Terminal Configuration



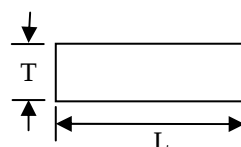
No.	Terminal Name	No.	Terminal Name
①	IN	③	OUT
②	GND		

Dimensions and Recommended PC Board Pattern

Unit: mm

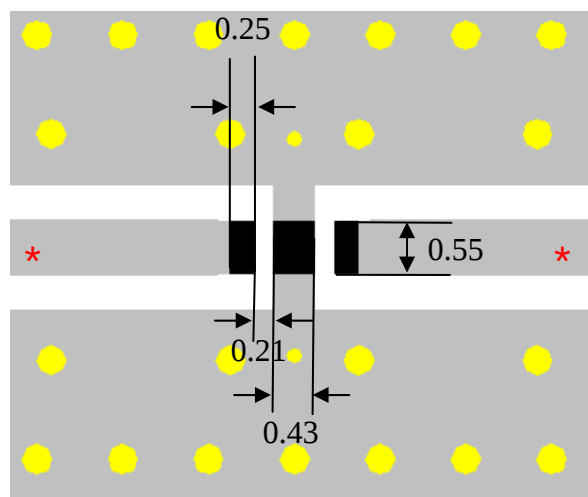


< Bottom View >



< Side View >

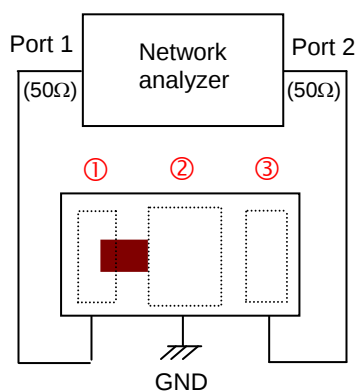
Mark	L	W	T	a	b	c	d	e
Dimensions	1.6 ± 0.15	0.8 ± 0.15	0.7 max.	0.25 ± 0.1	0.4 ± 0.1	0.23 ± 0.05	0.55 ± 0.10	0.60 ± 0.10



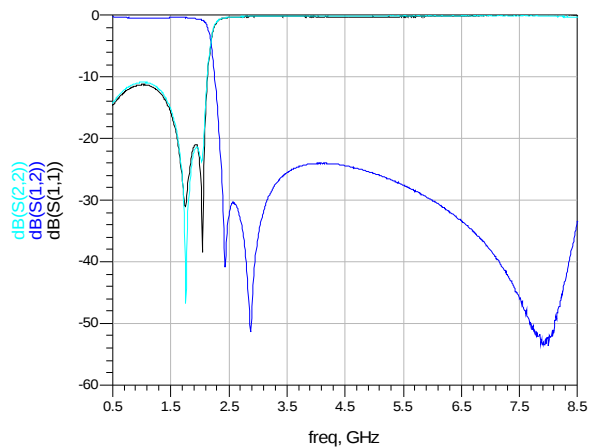
-  Solder Resist
-  Land
-  Through-hole (ϕ 0.15)
-  Through-hole (ϕ 0.3)

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

Measuring Diagram



Typical Electrical Characteristics (T=25°C)

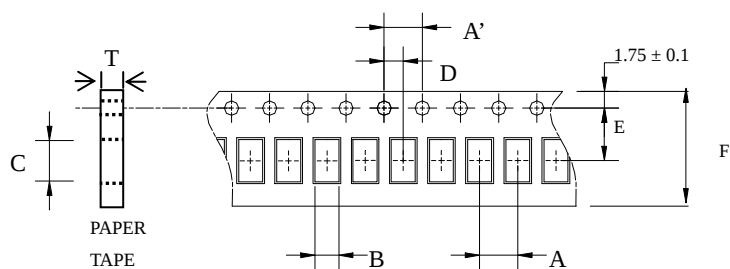


Notes

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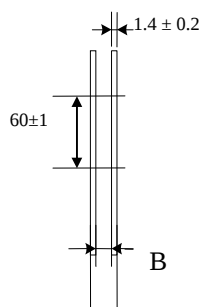
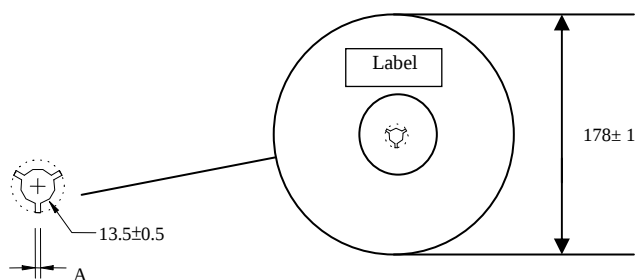
Taping Specifications

❖Tape Dimensions (Unit: mm) & Quantity



Type	A	A'	B	C	D	E	F	T	Quantity/reel	Tape material
1608	4.0±	4.0±	1.10±	1.92±	2.0±	3.5±	8.0±	0.75±	4,000pcs	Paper
	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.05		

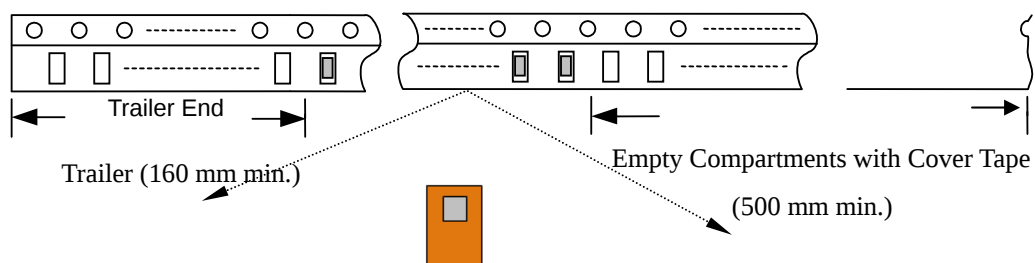
❖Reel Dimensions (Unit: mm)



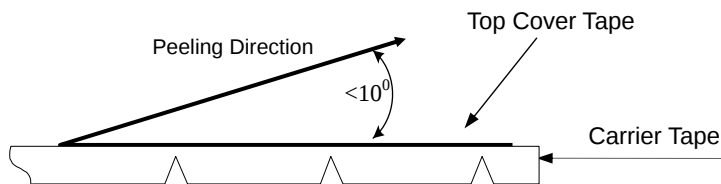
Label: Customer's Name,
ACX P/N, Q'ty, Date,
ACX Corp.

Type	A	B
1608	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 .

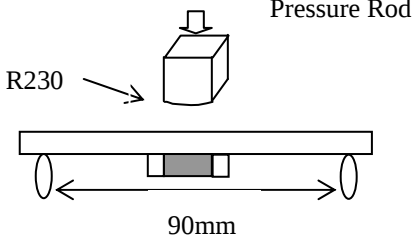
❖ Storage Conditions

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

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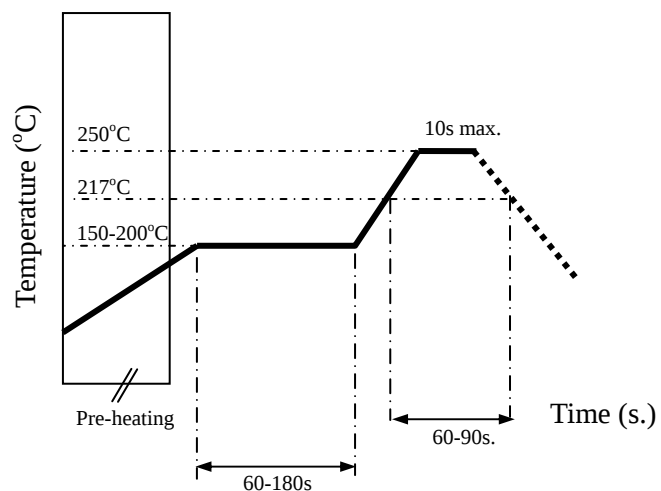
Mechanical & Environmental Characteristics

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