

HF 1005 Series

Multilayer Chip High-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	Frequency (MHz)	Insertion Loss @BW(dB)	Return Loss @ BW(dB)	Frequency (MHz)	Attenuation (dB)
HF1005-W5R5MAA	5150 ~ 5250	6.0 max. / 3.6 typ.	8 min. / 13.7 typ.	4800~ 4960	10 min. / 15.5 typ.
	5250 ~ 5350	3.0 max. / 2.0 typ.	12 min. / 15.5 typ.		
	5500 ~ 5950	1.5 max. / 1.0 typ.	12 min. / 15.8 typ.		

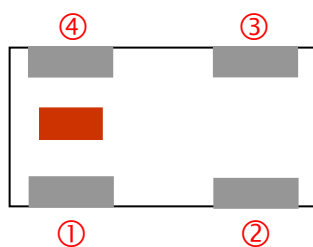
Q'ty/Reel (pcs) : 10,000
 Operating Temperature Range : -40 ~ +85 °C
 Storage Temperature Range : -40 ~ +85 °C
 Storage Period : 12 months max.
 Power Capacity : 3W max.

Part Number

HF 1005 - W 5R5 MAA □ /LF
 ① ② ③ ④ ⑤ ⑥ ⑦

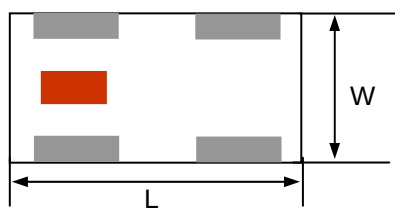
① Type	HF : High-Pass Filter	② Dimensions (L × W)	1.0 × 0.5 mm
③ Material Code	W	④ Frequency Range	5R5 = 5500MHz
⑤ Specification Code	MAA	⑥ Packaging	T: Tape & Reel B: Bulk
⑦ Soldering	/LF=lead-free		

Terminal Configuration

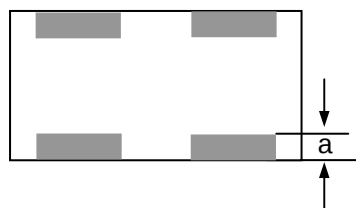


No.	Terminal Name	No.	Terminal Name
①	IN	③	GND
②	GND	④	OUT

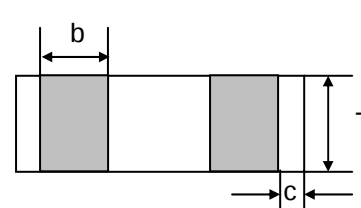
Dimensions and Recommended PC Board Pattern



< Top view >

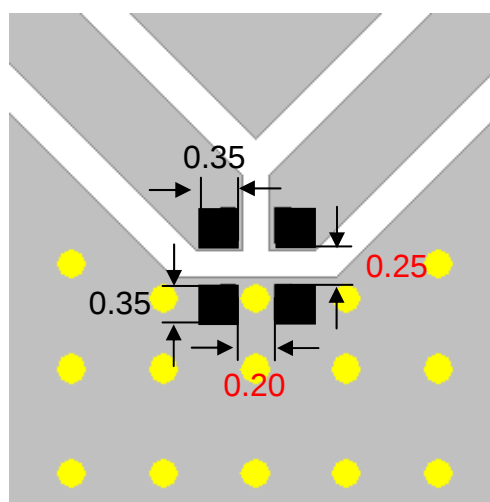


< Bottom view >



< Side view >

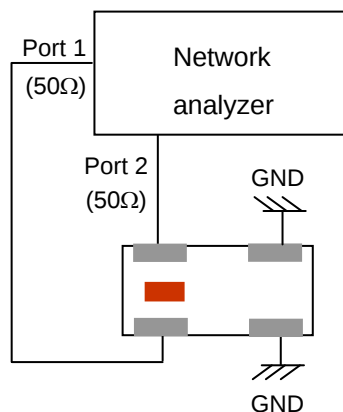
Mark	L	W	T	a	b	c
Dimensions	1.0 ± 0.1	0.5 ± 0.1	0.4 max.	0.1 +0.1/-0.05	0.25 +0.1/-0.05	0.1 +0.1/-0.05



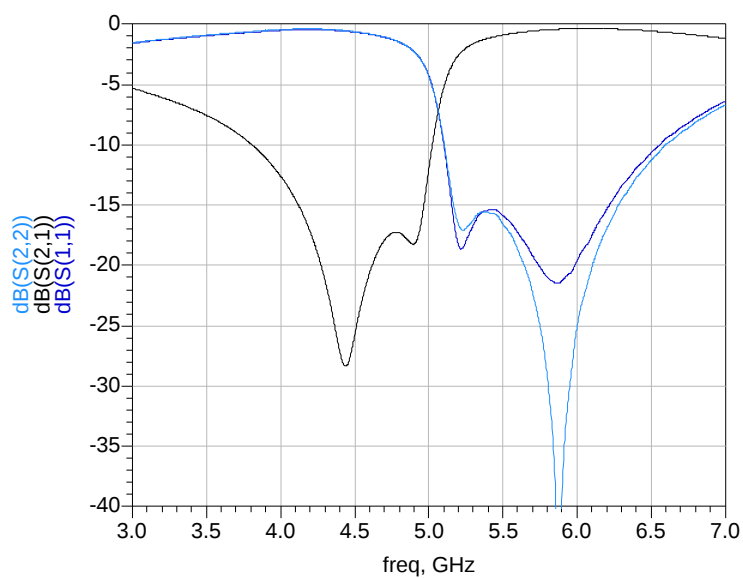
-  Solder Resist
-  Land
-  Through-hole (ϕ 0.2/ 0.3)

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

Measuring Diagram



Electrical Characteristics

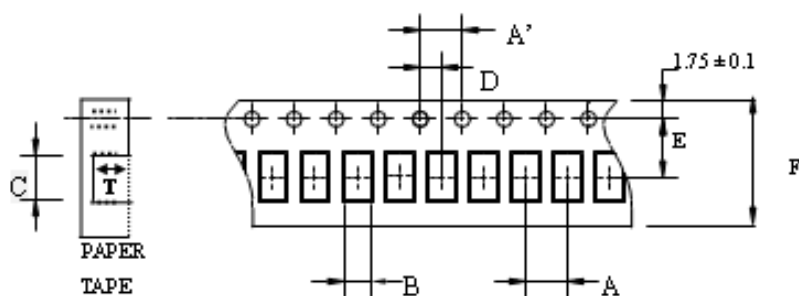


Notes

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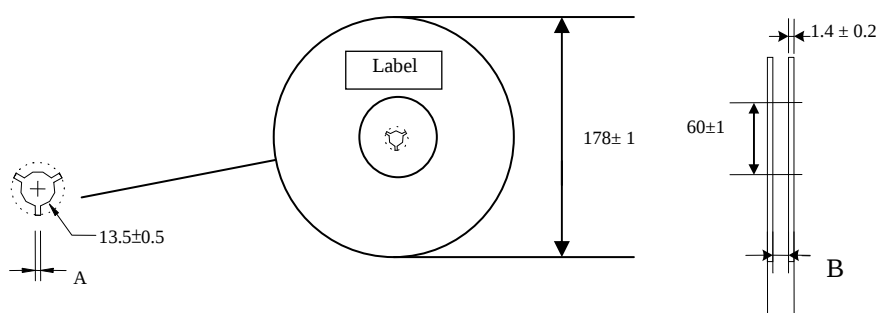
Taping Specifications

❖Tape Dimensions (Unit: mm) & Quantity



Type	A	A'	B	C	D	E	F	T	Quantity/reel	Tape material
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		

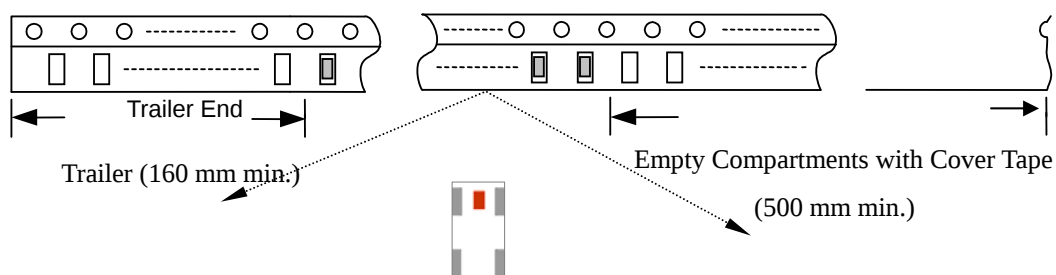
❖Reel Dimensions (Unit: mm)



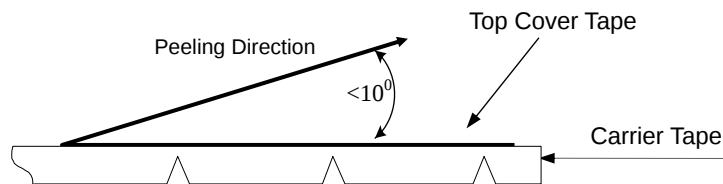
Label: Customer's Name,
ACX P/N, Q'ty, Date,
ACX Corp.

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 ± 10 mm/min .

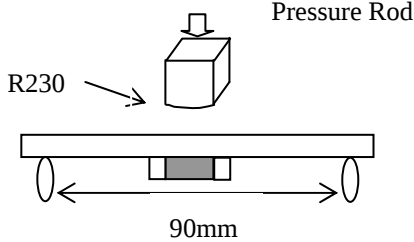
❖ Storage Conditions

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

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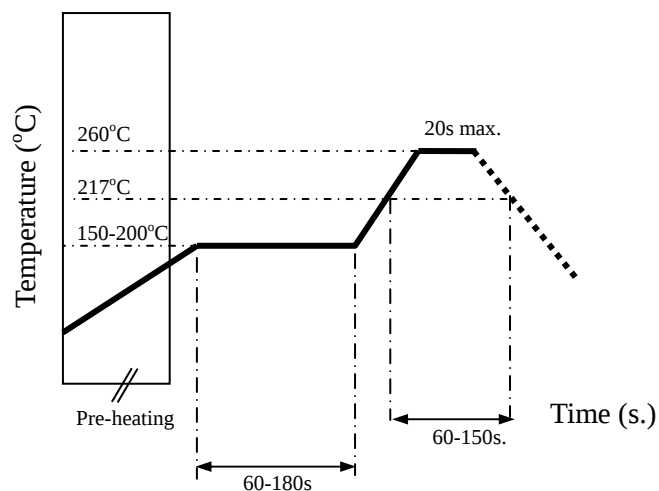
Mechanical & Environmental Characteristics

Item	Requirements	Procedure
Solderability	1. No apparent damage 2. More than 95% 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. 3N 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, 0.8mm) 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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Advanced Ceramic X Corp.

16 Tzu Chiang Road, Hsinchu Industrial District Hsinchu Hsien 303, Taiwan

TEL:886-3-5987008 FAX:886-3-5987001

E-mail: acx@acxc.com.tw

<http://www.acxc.com.tw>