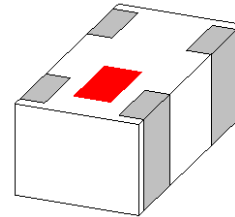


# CP1005 Series (Preliminary)

## Multilayer Chip Couplers

### Features

- ❖ Monolithic SMD with ultra-small, low-profiled, and light-weight type.



### Applications

- ❖ 0.4 ~ 6 GHz wireless communication systems, including DECT/PACS/PHS/GSM/DCS phones, WLAN card, Bluetooth modules, etc.

### Specifications

Part Number	Frequency (MHz)	Insertion Loss (dB)	Return Loss (dB)	Coupling (dB)	Directivity (dB)
<b>CP1005-07C5500_</b>	5500	1.8 max.	10 min.	6.5 ± 1.0	12 typ.

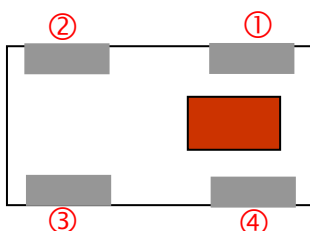
Q'ty/Reel (pcs)	: 10000
Operating Temperature Range	: -40 ~ +85 °C
Storage Temperature Range	: +5 ~ +35 °C, Humidity 45~75%RH
Storage Period	: 12 months max.
Power Capacity	: 1W max.

### Part Number

**CP 1005 - 07 C 5500 □ /LF**  
 ① ② ③ ④ ⑤ ⑥ ⑦

① Type	CP : Coupler	② Dimensions ( L x W )	1.0 x 0.5 mm
③ Coupling	07 : 6.5 dB	④ Specification Code	C
⑤ Central Frequency	5500 : 5500MHz	⑥ Packaging	T: Tape & Reel B: Bulk
⑦ Soldering	=lead-containing /LF=lead-free		

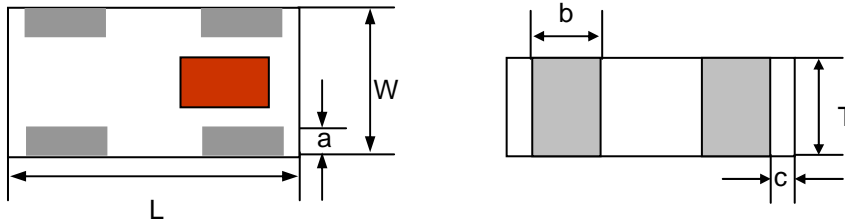
### Terminal Configuration



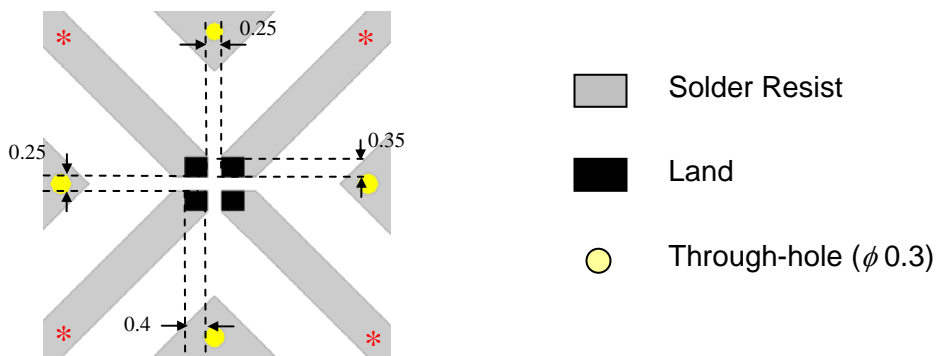
No.	Terminal Name	No.	Terminal Name
①	Out	③	Coupling
②	IN	④	Termination

## Dimensions and Recommended PC Board Pattern

Unit : mm



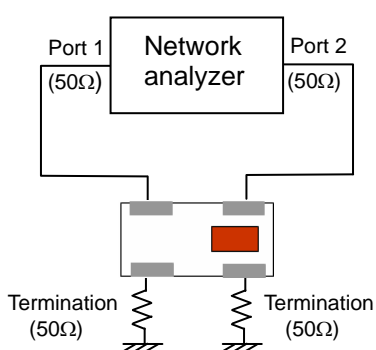
Mark	L	W	T	a	b	c
Dimensions	$1.0 \pm 0.1$	$0.5 \pm 0.1$	$0.37 \pm 0.05$	$0.1 +0.1/-0.05$	$0.25 +0.1/-0.05$	$0.1 +0.1/-0.05$



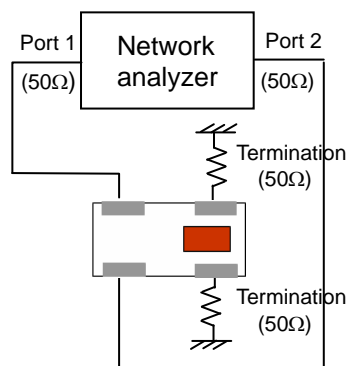
\* Line width should be designed to match 50Ω characteristic impedance, depending on PCB material and thickness.

## Measuring Diagram

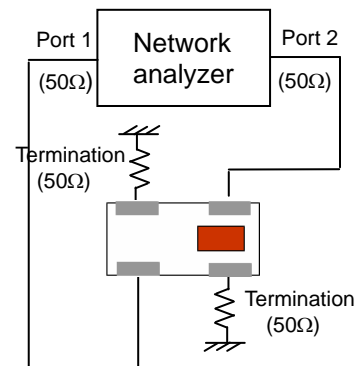
### Attenuation



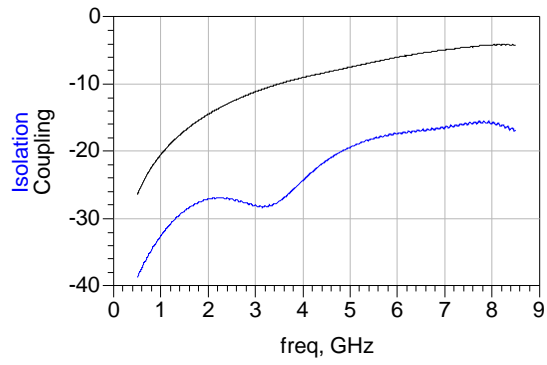
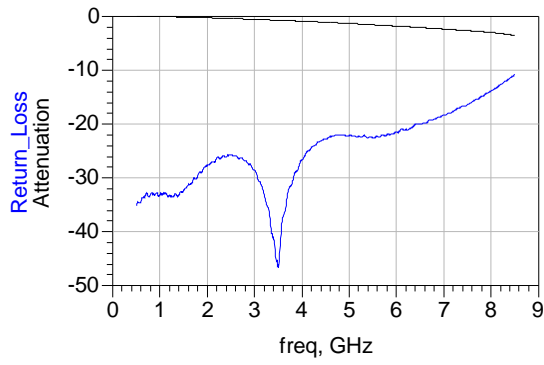
### Coupling



### Isolation



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

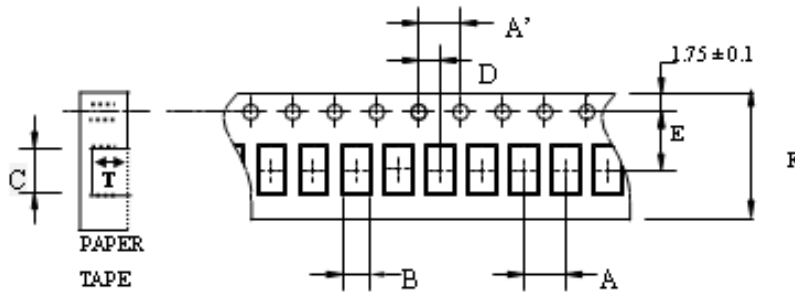


**Notes**

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

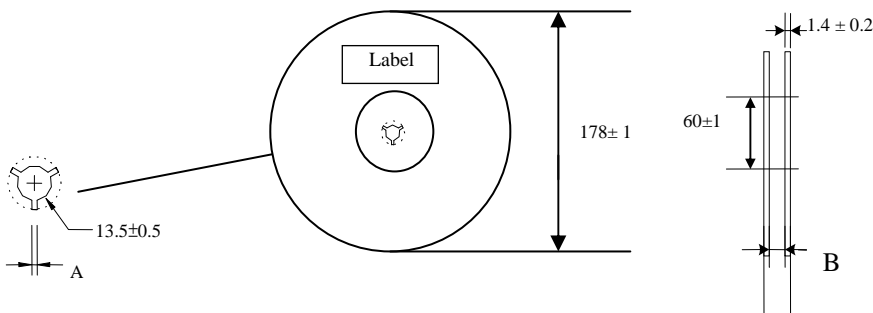
## Taping Specifications

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



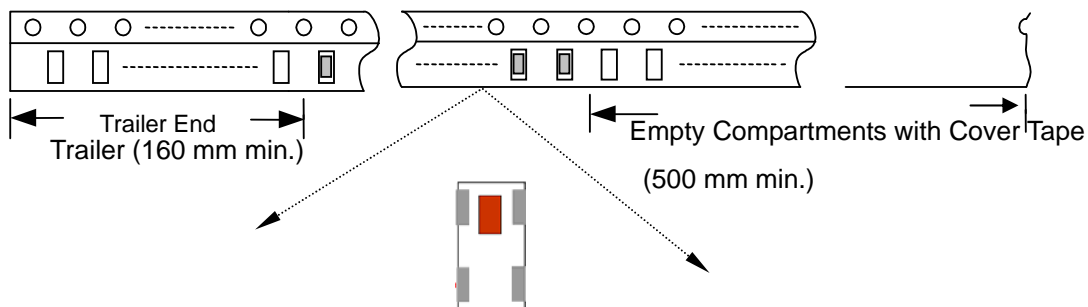
Type	A	A'	B	C	D	E	F	T	Quantity/reel	Tape material
1005	2.0± 0.05	4.0± 0.1	0.62± 0.03	1.12± 0.03	2.0± 0.05	3.5± 0.05	8.0± 0.1	0.45± 0.03	10,000pcs	Paper

### ❖Reel Dimensions (Unit: mm)

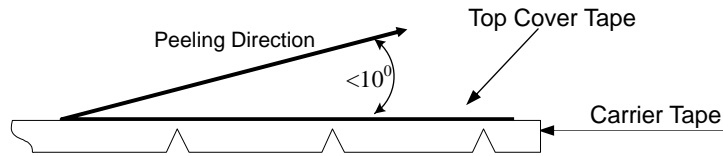


Type	A	B
1005	2.3±0.5	9.0±0.3

### ❖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 .

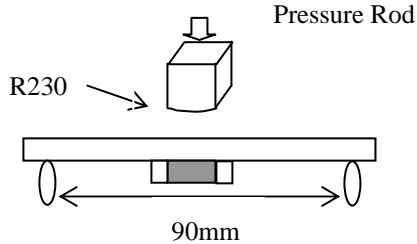
❖ **Storage Conditions**

- (1) Temperature:  $15 \sim 35^{\circ}\text{C}$  , relative humidity (RH): 45~75%.
- (2) Non-corrosive environment.

**Notes**

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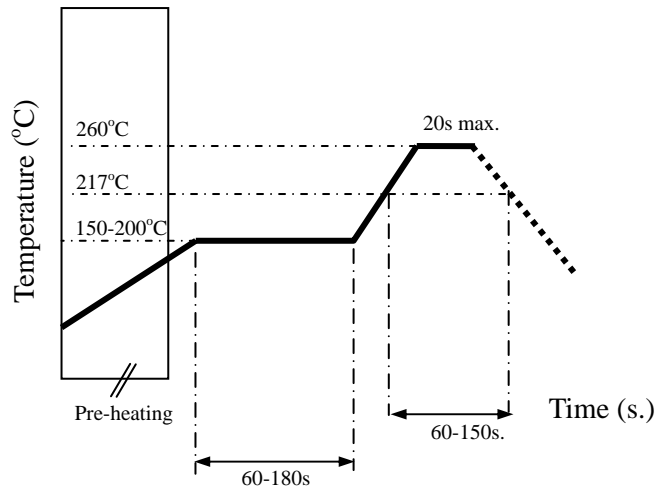
## Mechanical & Environmental Characteristics

Item	Requirements	Procedure
Solderability	<ol style="list-style-type: none"> <li>No apparent damage</li> <li>More than 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>3N 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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