

CP1005 Series (Preliminary)

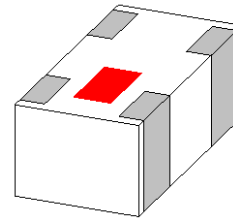
Multilayer Chip Couplers

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 Range (MHz)	Insertion Loss @ BW (dB)	V.S.W.R	Coupling (dB)	Directivity (dB)
CP1005-18C2455_	Band 1: 2400~2500	0.5 max.	1.3 max.	18.0 ± 1.5	10.0 typ.
	Band 2: 4900~5850	1.0 max.	1.8 max.	11.5 ± 1.5	10.0 typ.

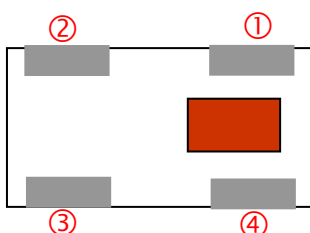
Q'ty/Reel (pcs) : 10000
 Operating Temperature Range : -40 ~ +85 °C
 Storage Temperature Range : +5 ~ +35 °C, Humidity 45~75%RH
 Storage Period : 12 months max.
 Power Capacity : 3W max.

Part Number

CP **1005** - **18** **C** **2455** **□** **/LF**
 ① ② ③ ④ ⑤ ⑥ ⑦

① Type	CP : Coupler	② Dimensions (L × W)	1.0 × 0.5 mm
③ Coupling	18 : 18.0 dB	④ Specification Code	C
⑤ Frequency	2455=2450MHz/ 5500MHz	⑥ Packaging	T: Tape & Reel B: Bulk
⑦ Soldering	=lead-containing /LF=lead-free		

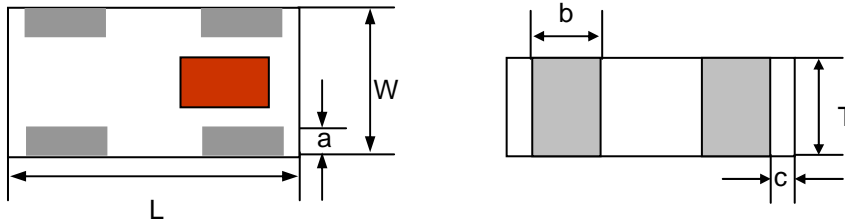
Terminal Configuration



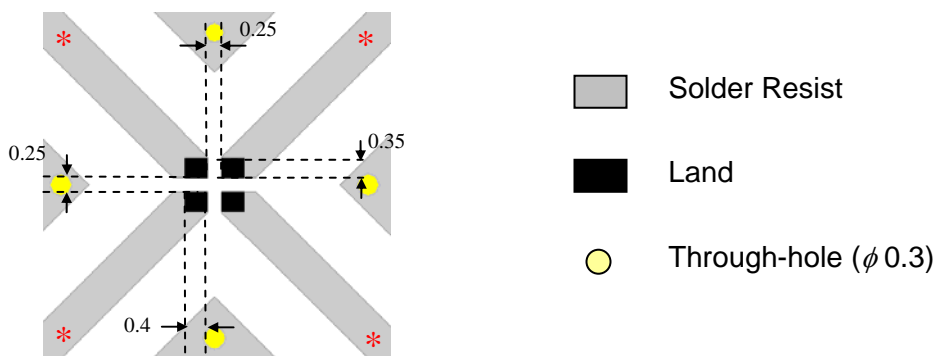
No.	Terminal Name	No.	Terminal Name
①	Out	③	Coupling
②	IN	④	Termination

Dimensions and Recommended PC Board Pattern

Unit : mm



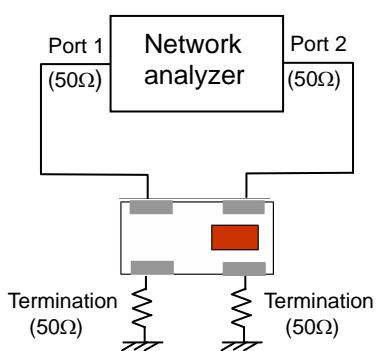
Mark	L	W	T	a	b	c
Dimensions	1.0 ± 0.1	0.5 ± 0.1	0.37 ± 0.05	0.1 +0.1/-0.05	0.25 +0.1/-0.05	0.1 +0.1/-0.05



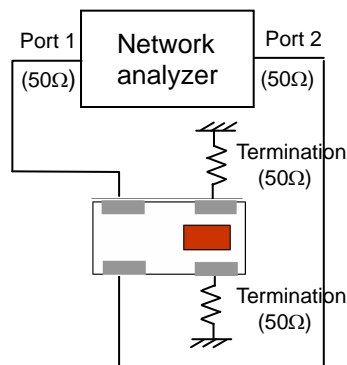
* Line width should be designed to match 50Ω characteristic impedance, depending on PCB material and thickness.

Measuring Diagram

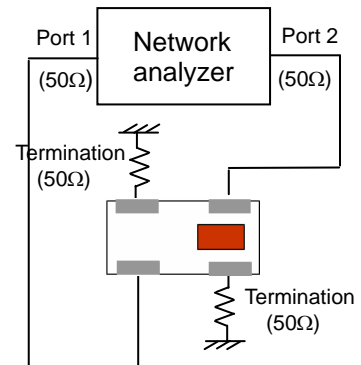
Attenuation



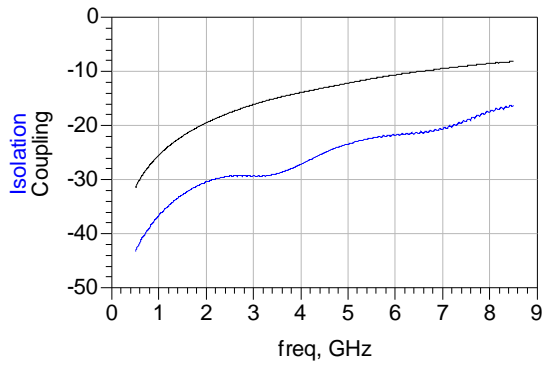
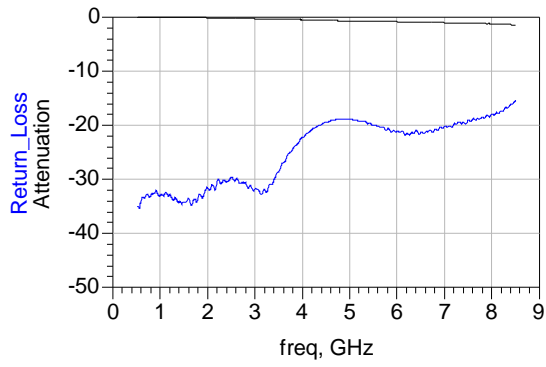
Coupling



Isolation



Typical Electrical Characteristics (T=25°C)

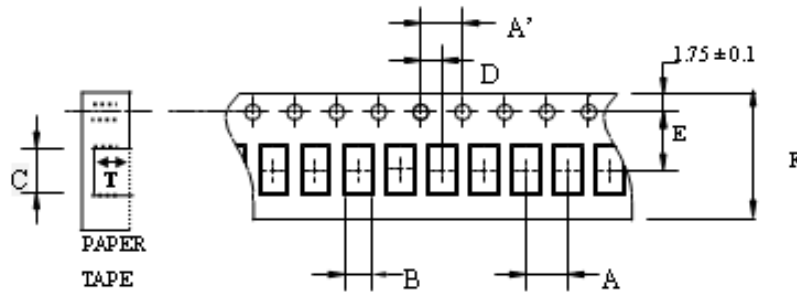


Notes

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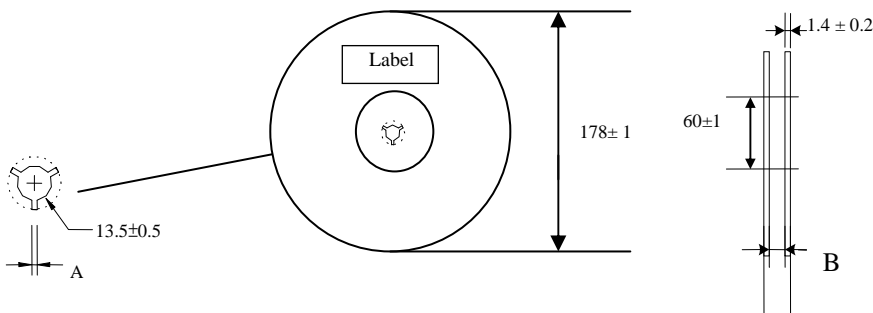
Taping Specifications

❖ Tape Dimensions (Unit: mm) & Quantity



Type	A	A'	B	C	D	E	F	T	Quantity/reel	Tape material
1005	2.0± 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

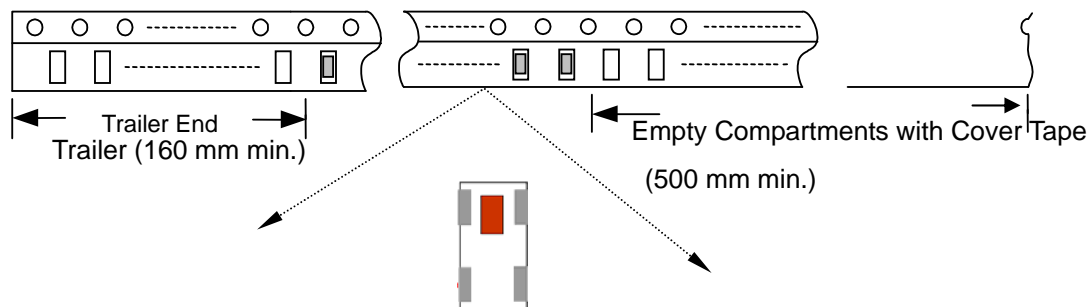
❖ Reel Dimensions (Unit: mm)



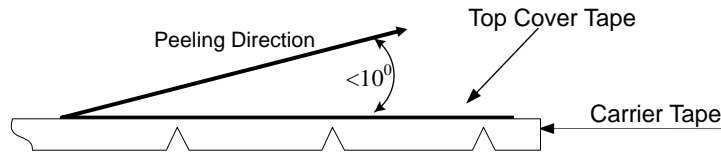
Label: Customer's Name,
ACX P/N, Q'ty, Date,
ACX Corp.

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 .

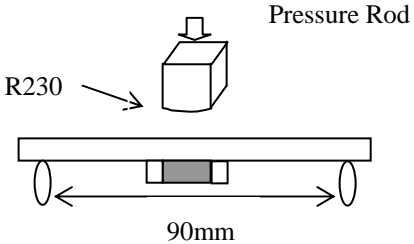
❖ **Storage Conditions**

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

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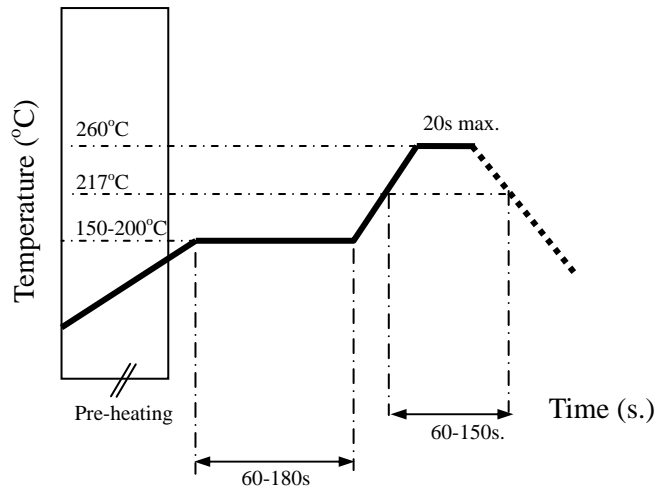
Mechanical & Environmental Characteristics

Item	Requirements	Procedure
Solderability	<ol style="list-style-type: none"> No apparent damage More than 95% of the terminal electrode shall be covered with new solder. 	<ol style="list-style-type: none"> Preheat: $120 \pm 5^\circ\text{C}$ Solder: $245 \pm 5^\circ\text{C}$ for 5 ± 1 sec
Soldering strength (Termination Adhesion)	<ol style="list-style-type: none"> 3N minimum 	<ol style="list-style-type: none"> 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)	<ol style="list-style-type: none"> No apparent damage Fulfill the electrical specification 	<ol style="list-style-type: none"> Solder specimen onto test jig (FR4, 0.8mm) using the recommend soldering profile. Apply a bending force of 2mm deflection 
Heat/Humidity Resistance	<ol style="list-style-type: none"> No apparent damage Fulfill the electrical specification after test 	<ol style="list-style-type: none"> Temperature: $85 \pm 2^\circ\text{C}$ Humidity: 90% ~ 95% RH Duration: 1000 ± 48hrs Recovery: 1-2hrs
Thermal shock (Temperature Cycle)	<ol style="list-style-type: none"> No apparent damage Fulfill the electrical specification after test 	<ol style="list-style-type: none"> 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	<ol style="list-style-type: none"> No apparent damage Fulfill the electrical specification after test 	<ol style="list-style-type: none"> 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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