

CP0605 Series

Multilayer Chip Couplers

Features

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



Applications

- ❖ 2.4 ~ 2.69、4.9~5.85 GHz wireless communication systems

Specifications

Part Number	Frequency Range (BW) (MHz)	Insertion Loss @BW (dB)	Directivity (dB)	Coupling (dB)	VSWR @BW
CP0605-29K0825_	Band1 : 617 ~ 960	0.23 max.	20 min.	29.3 ± 3	1.45 max.
	Band2 : 1710 ~ 2200	0.25 max.	17 min.	21.4 ± 2.5	
	Band3 : 2300 ~ 2690	0.28 max.	15 min.	19.3 ± 2	

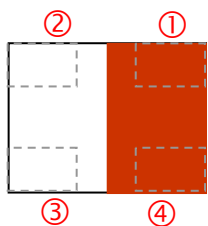
Q'ty/Reel (pcs)	: 10,000
Operating Temperature Range	: -40 ~ +85 °C
Storage Temperature Range	: -40 ~ +85 °C
Storage Period	: 12 months max.
Power Capacity	: 3W max.
MSL Level	: 1
ESD HBM	: ±2000V

Part Number

CP 0605 - 29 K 0825 □ /LF
 ① ② ③ ④ ⑤ ⑥ ⑦

① Type	CP : Coupler	② Dimensions (L x W)	0.65 x 0.5 mm
③ LB Coupling	29 : 29 dB	④ HB Coupling	K: 20dB
⑤ Central Frequency	0825=800MHz/ 2500MHz	⑥ Packaging	T: Tape & Reel B: Bulk
⑦ Soldering	/LF=lead-free		

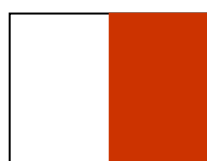
Terminal Configuration



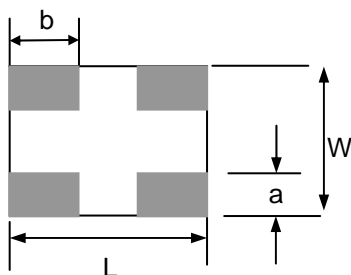
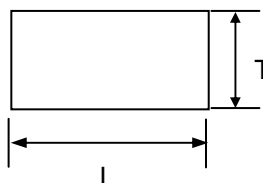
No.	Terminal Name	No.	Terminal Name
①	Coupling	③	Out
②	Termination	④	IN

Dimensions and Recommended PC Board Pattern

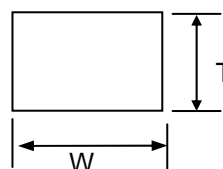
Unit: mm



<Top view>

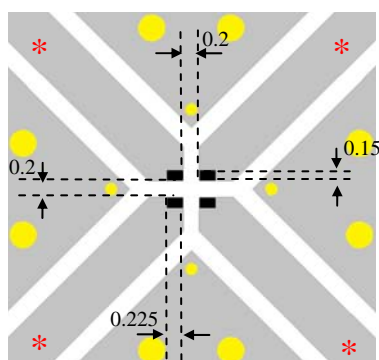


<Bottom view >



<Side view>

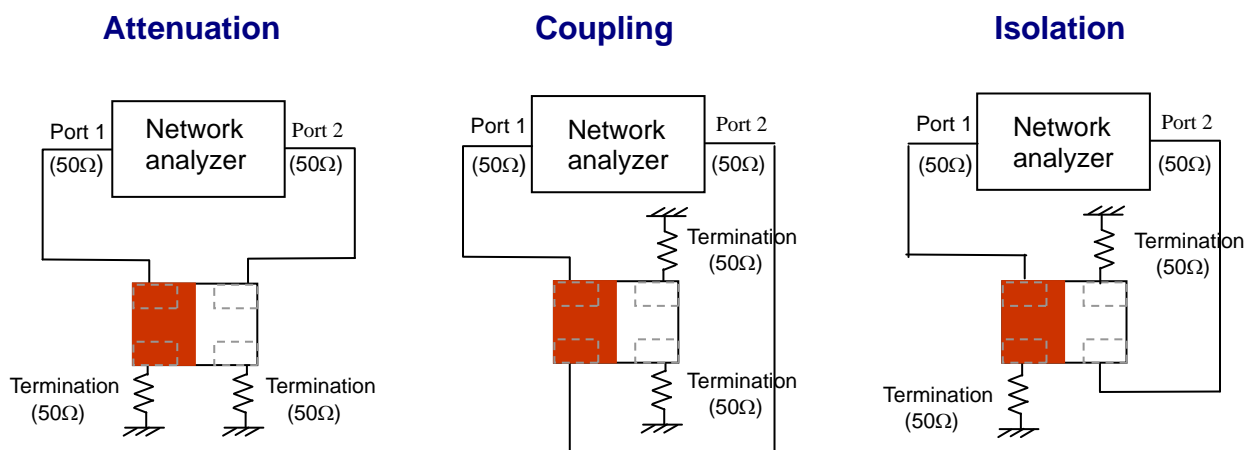
Mark	L	W	T	a	b
Dimensions	0.65 ±	0.5 ±	0.37 ±	0.15	0.225
	0.05	0.05	0.05	+0.1/-0.05	+0.1/-0.05



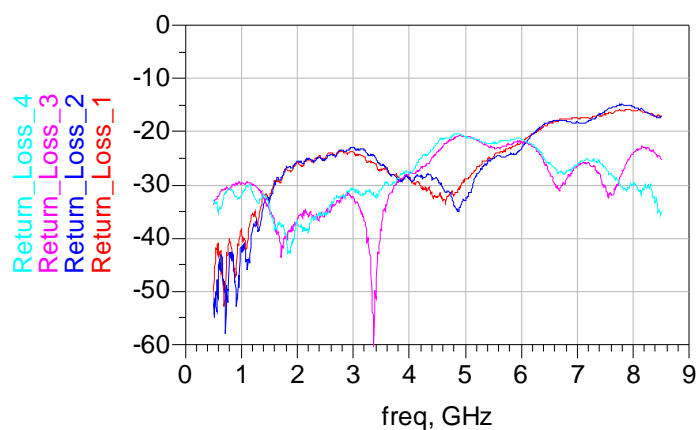
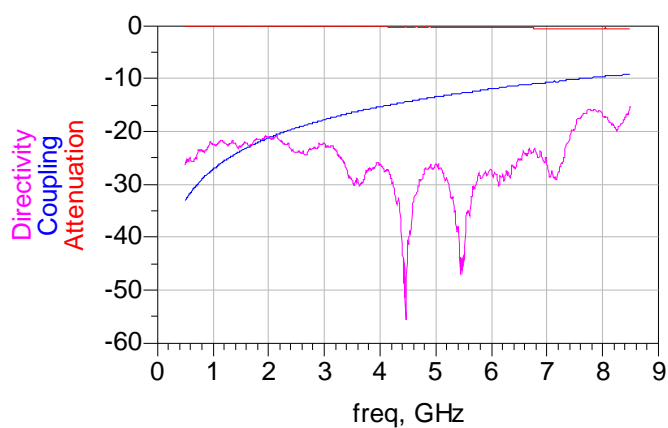
- Solder Resist
- Land
- Through-hole
(ϕ 0.15 and 0.35)

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

Measuring Diagram



Electrical Characteristics (T=25oC)

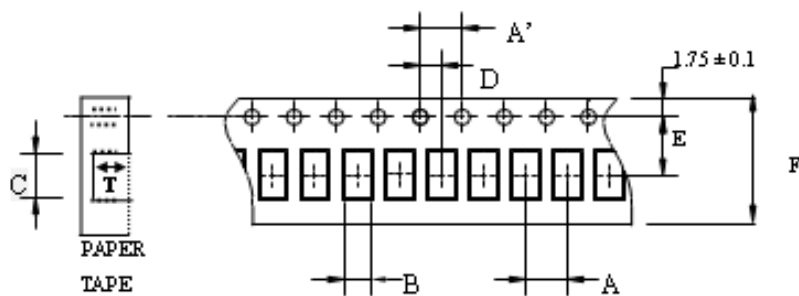


Notes

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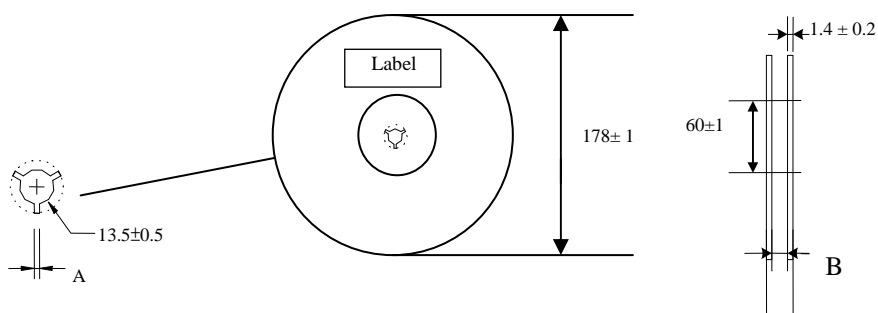
Taping Specifications

❖Tape Dimensions (Unit: mm) & Quantity



Type	A	A'	B	C	D	E	F	T	Quantity/reel	Tape material
0605	2.0±	4.0±	0.58±	0.78±	2.0±	3.5±	8.0±	0.45±	10,000pcs	Paper
	0.05	0.1	0.03	0.03	0.05	0.05	0.2	0.03		

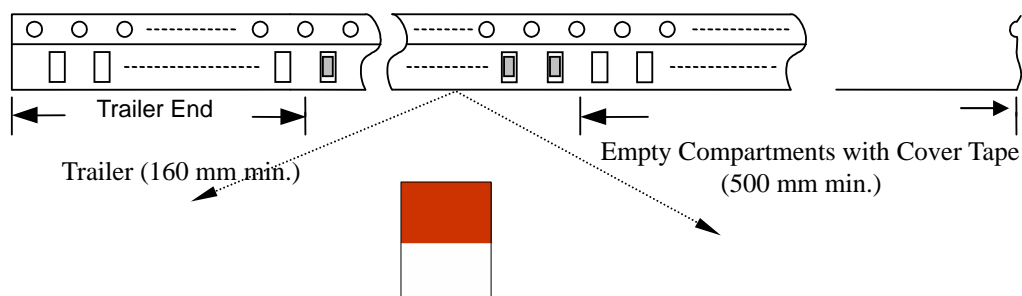
❖Reel Dimensions (Unit: mm)



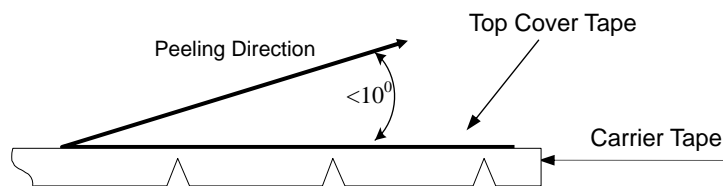
Label: Customer's Name,
ACX P/N, Q'ty, Date,
ACX Corp.

Type	A	B
0605	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 .

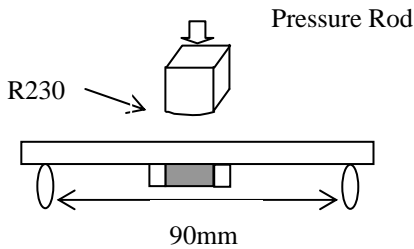
❖ **Storage Conditions**

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

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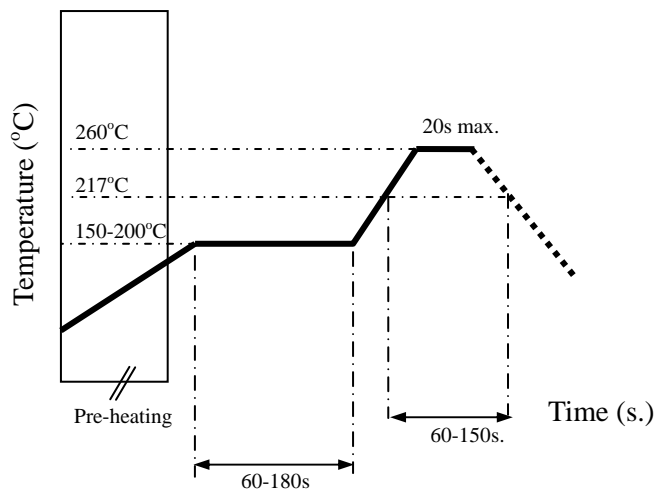
Mechanical & Environmental Characteristics

Item	Requirements	Procedure
Solderability	<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"> 2N 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, 1.6mm) 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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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>