

CP1608 Series

Multilayer Chip Couplers

Features

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

Applications

- ❖ 0.8 ~ 6 GHz wireless communication systems, including DECT/PACS/PHS/GSM/DCS phones, WLAN card, Bluetooth modules, etc.



Specifications

Part Number	Frequency Range (BW) (MHz)	Insertion Loss @BW (dB)	Directivity (dB)	Coupling (dB)	VSWR @BW
CP1608-25Q0822-R	Band1: 698 ~ 960	0.23 max.	20 min.	698 ~ 915 MHz	1.45 max.
				25.5 ± 2	
	Band2: 1710 ~ 2170	0.25 max.	20 min.	1710 ~ 2025 MHz	
				22.5 ± 2	
	Band3: 2300 ~ 2690	0.28 max.	15 min.	2300 ~ 2620 MHz	
				23.5 ± 2	

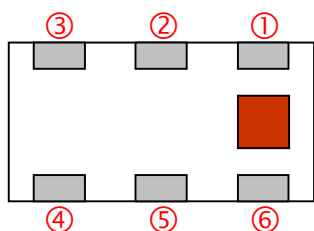
Q'ty/Reel (pcs) : 4,000
 Operating Temperature Range : -40 ~ +85 °C
 Storage Temperature Range : -40 ~ +85 °C
 Storage Period : 12 months max.
 Power Capacity : 3W max.

Part Number

CP **1608** - **25** **Q** **0822** **-R** **□** **/LF**
 ① ② ③ ④ ⑤ ⑥ ⑦ ⑧

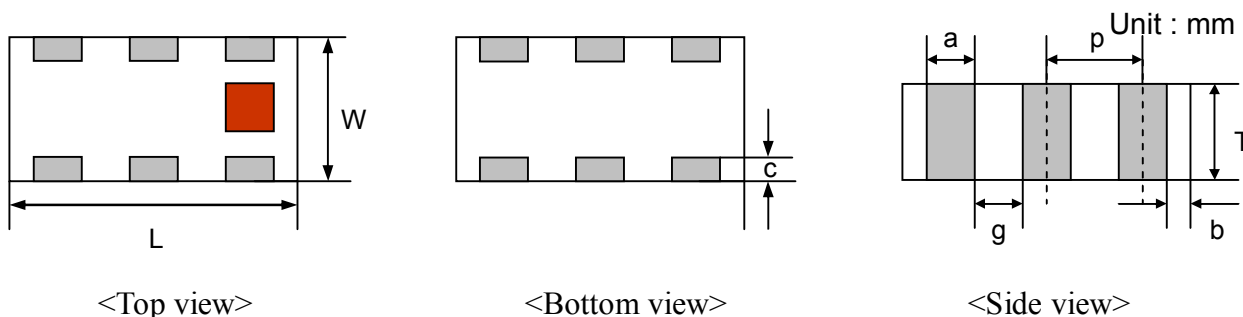
① Type	CP : Coupler	② Dimensions (L × W)	1.6 × 0.8 mm
③ Coupling(LB)	25 : 25dB	④ Coupling (HB)	Q:23dB
⑤ Central Frequency	0822=800MHz/2200MHz	⑥ Specification Code	-R
⑦ Packaging	T: Tape & Reel B: Bulk	⑧ Soldering	/LF=lead-free

Terminal Configuration

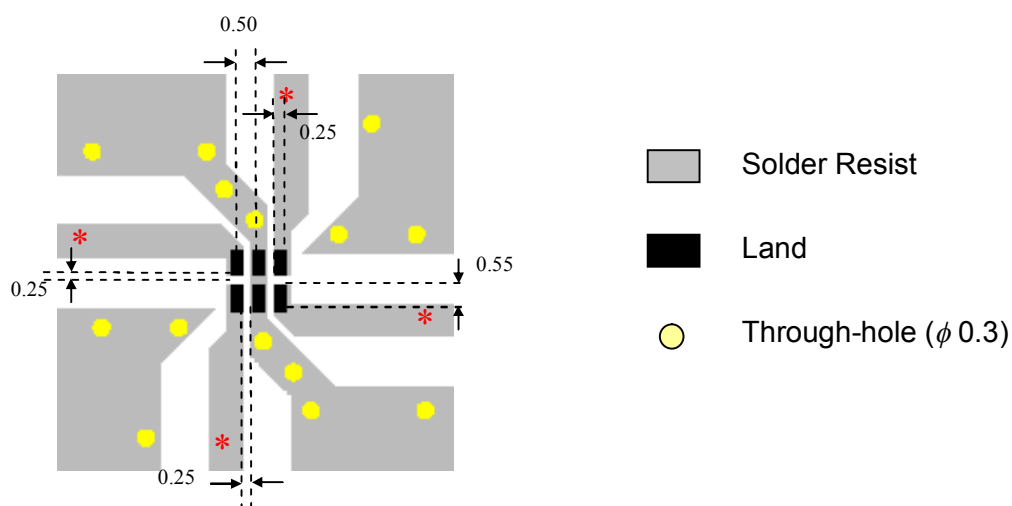


No.	Terminal Name	No.	Terminal Name
①	IN	④	Termination
②	GND	⑤	GND
③	Main Out	⑥	Coupled Out

Dimensions and Recommended PC Board Pattern



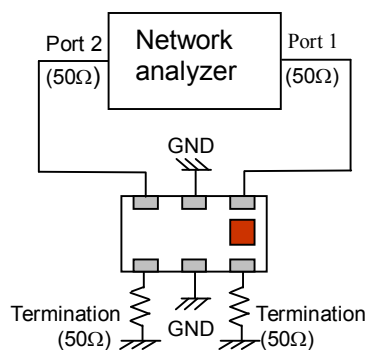
Mark	L	W	T	a	b	c	g	p
Dimensions	1.6 ±	0.8 ±	0.6 ±	0.2 ±	0.2+0.1	0.15 ±	0.3 ±	0.50 ±
	0.1	0.1	0.1	0.1	/-0.15	0.1	0.1	0.05



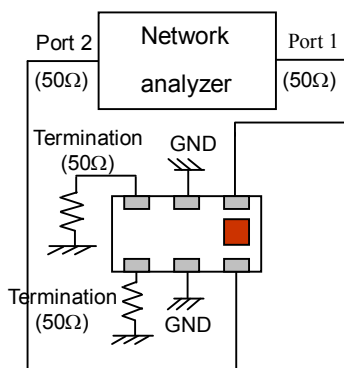
* Line width should be designed to match 50Ω characteristic impedance, depending on PCB material and thickness.

Measuring Diagram

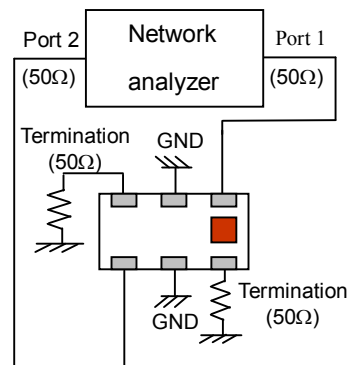
Attenuation



Coupling

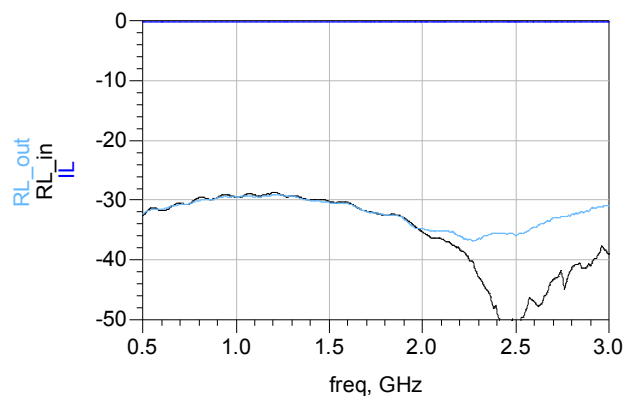


Isolation

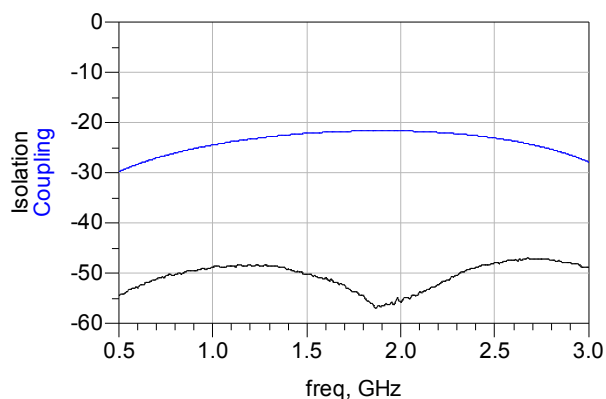


Typical Electrical Characteristics (T=25°C)

Attenuation Return Loss



Coupling Isolation

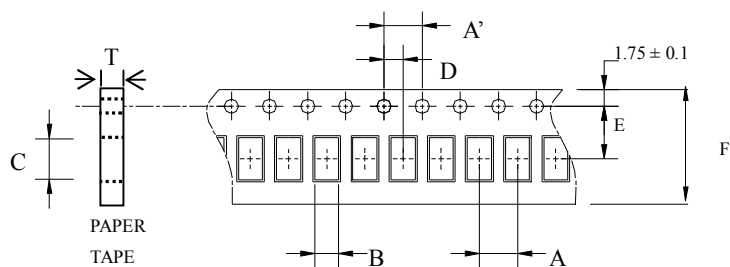


Notes

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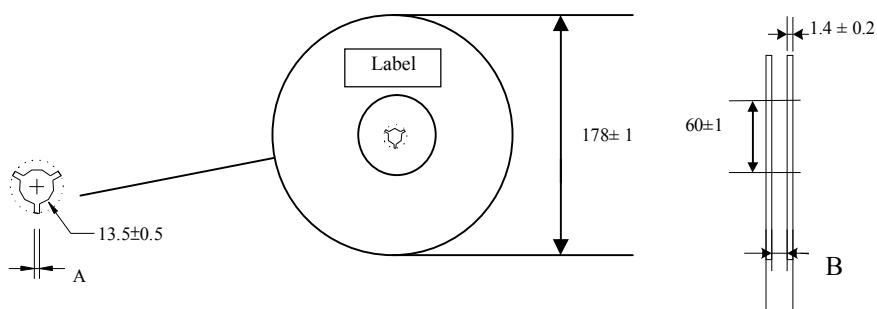
Taping Specifications

❖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		

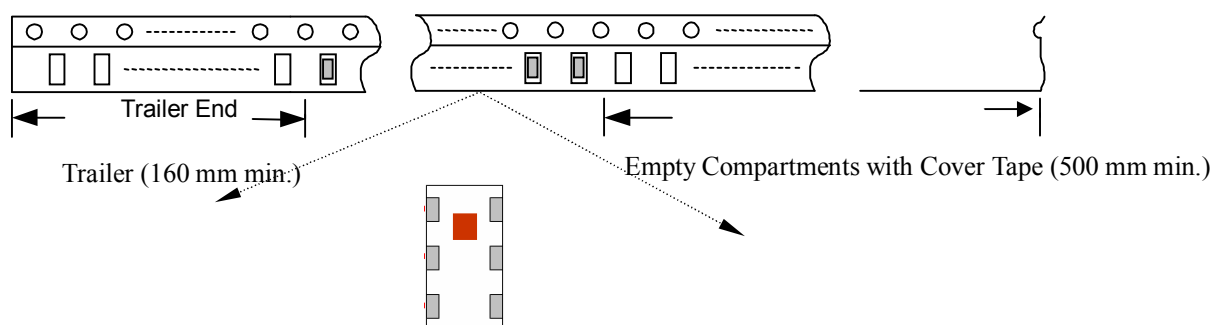
❖Reel Dimensions (Unit: mm)



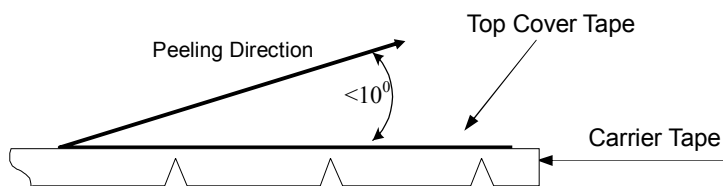
Label: Customer's Name,
ACX P/N, Q'ty, Date,
ACX Corp.

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 .

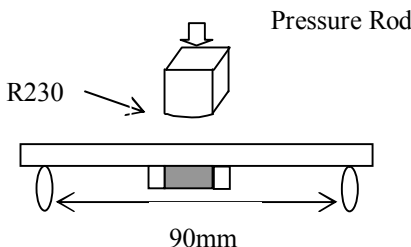
❖ **Storage Conditions**

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

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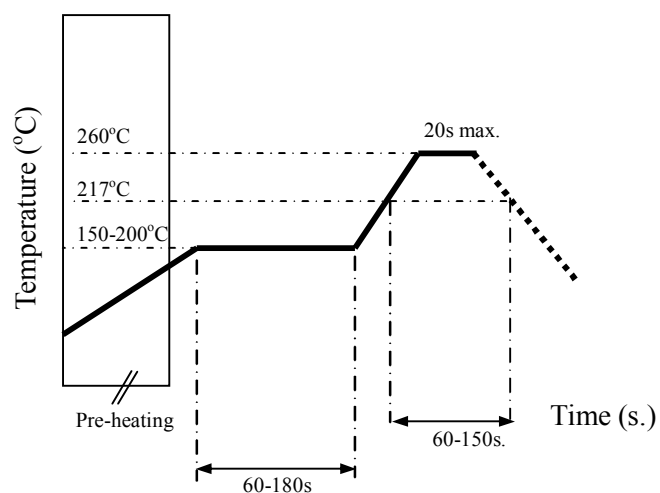
Mechanical & Environmental Characteristics

Item	Requirements	Procedure
Solderability	<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"> 10N 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 	<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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