CP1608 Series
Multilayer Chip Couplers

ACX
Advanced Ceramic X

Features

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

❖ HF & RoHS compliant.

Applications

❖ 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: 617	0.23 max. @-40~85℃ 0.28 max. @-40~105℃	20 min.	617 MHz 27.5 ± 2	1.45 max.
	Band2: 698 ~ 960	0.23 max. @-40~85℃ 0.28 max. @-40~105℃	20 min.	698 ~ 915 MHz 25.5 ± 2	
	Band3: 1710 ~ 2170	0.25 max. @-40~85℃ 0.31 max. @-40~105℃	20 min.	1710 ~ 2025 MHz 22.5 ± 2	
	Band4: 2300 ~ 2690	0.28 max. @-40~85℃ 0.35 max. @-40~105℃	15 min.	2300 ~ 2620 MHz 23.5 ± 2	

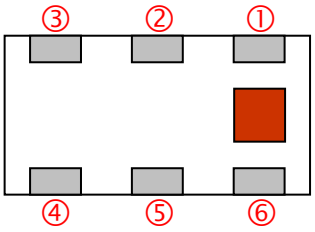
Q'ty/Reel (pcs) : 4,000
Operating Temperature Range : -40 ~ +105 °C
Storage Temperature Range : -40 ~ +105 °C
Storage Period : 12 months max.
Power Capacity : 3W max.

Part Number

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

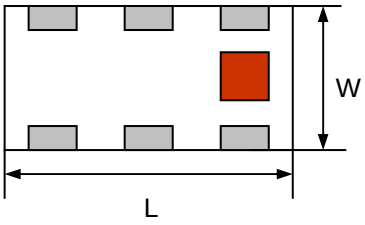
① Type	CP : Coupler	② Dimensions (L × W)	1.6 × 0.8 mm
③ Coupling(LB)	25 : 25dB	④ Coupling (HB)	Q:23dB
⑤ Central Frequency	0822=800MHz/2200MHz	⑥ Specification Code	-R
⑦ Packaging	T: Tape & Reel B: Bulk	⑧ Soldering	/LF=lead-free

Terminal Configuration

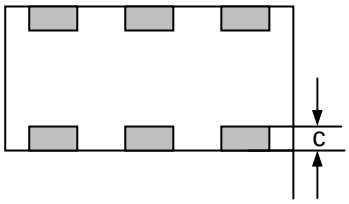


No.	Terminal Name	No.	Terminal Name
①	IN	④	Termination
②	GND	⑤	GND
③	Main Out	⑥	Coupled Out

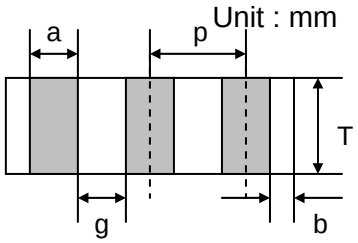
Dimensions and Recommended PC Board Pattern



<Top view>

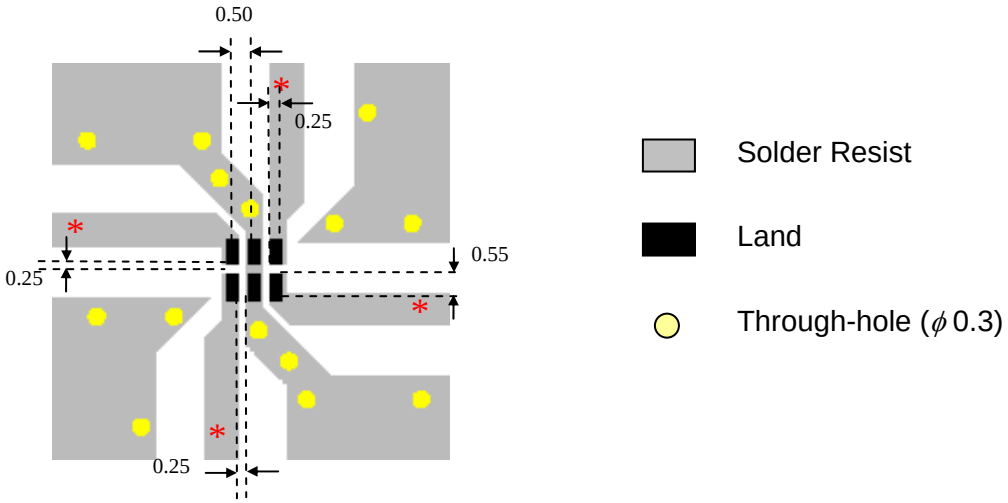


<Bottom view>



<Side view>

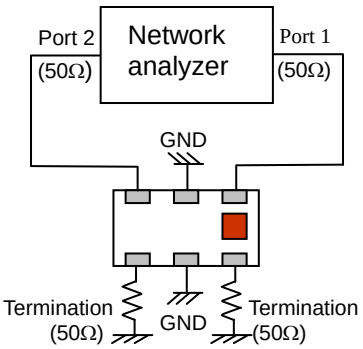
Mark	L	W	T	a	b	c	g	p
Dimensions	1.6 ± 0.1	0.8 ± 0.1	0.6 ± 0.1	0.2 ± 0.1	0.2+0.1 /-0.15	0.15 ± 0.1	0.3 ± 0.1	0.50 ± 0.05



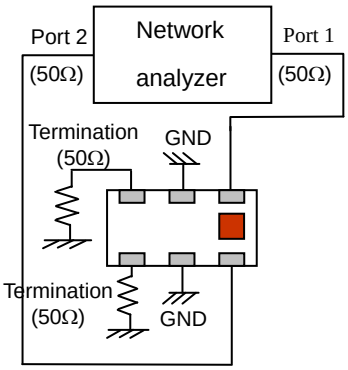
* Line width should be designed to match 50Ω characteristic impedance, depending on PCB material and thickness.

Measuring Diagram

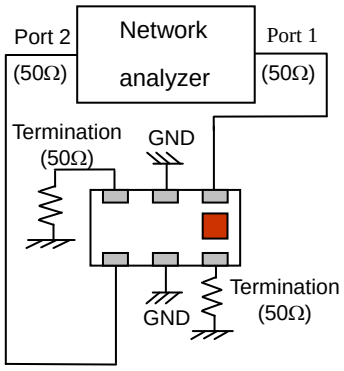
Attenuation



Coupling

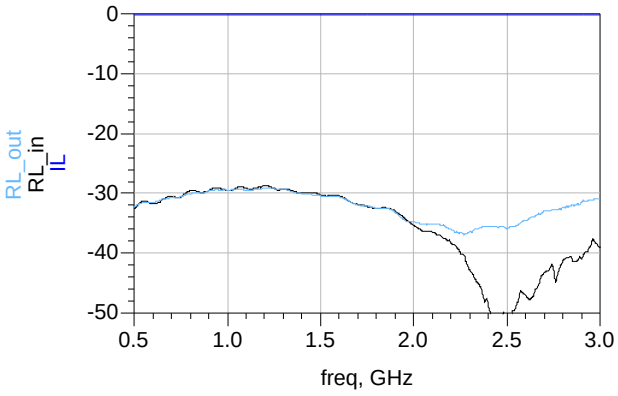


Isolation

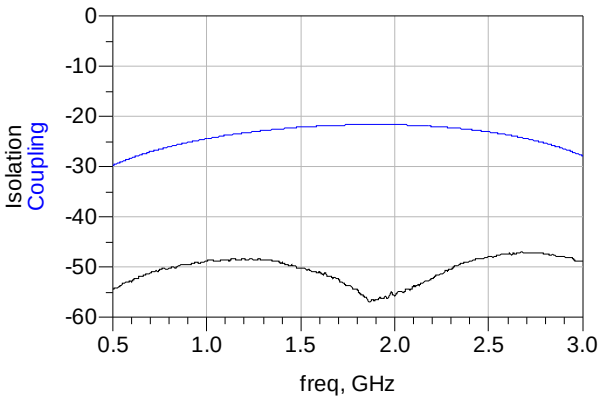


Typical Electrical Characteristics (T=25°C)

Attenuation
Return Loss



Coupling
Isolation



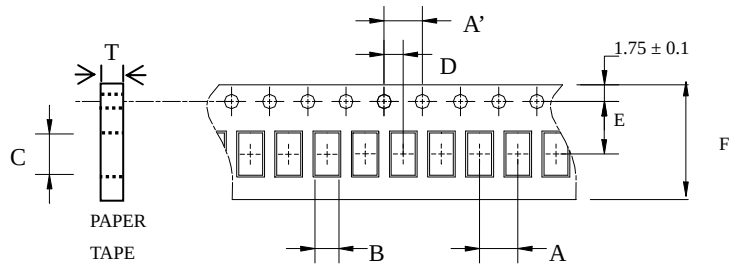
Notes

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

\

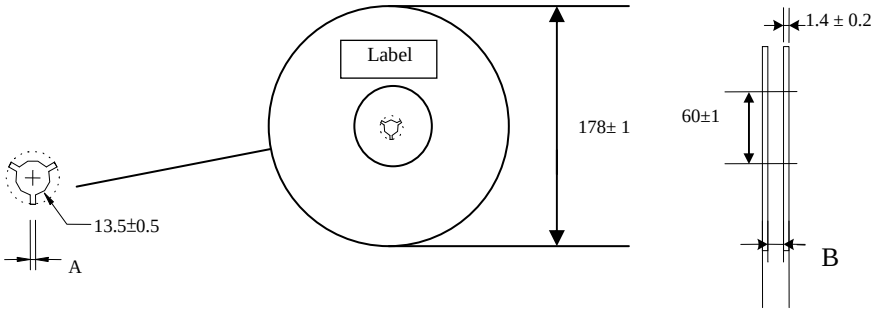
Taping Specifications

❖Tape Dimensions (Unit: mm) & Quantity



Type	A	A'	B	C	D	E	F	T	Quantity/reel	Tape material
1608	4.0± 0.1	4.0± 0.1	1.10± 0.1	1.92± 0.1	2.0± 0.1	3.5± 0.1	8.0± 0.1	0.75± 0.05	4,000pcs	Paper

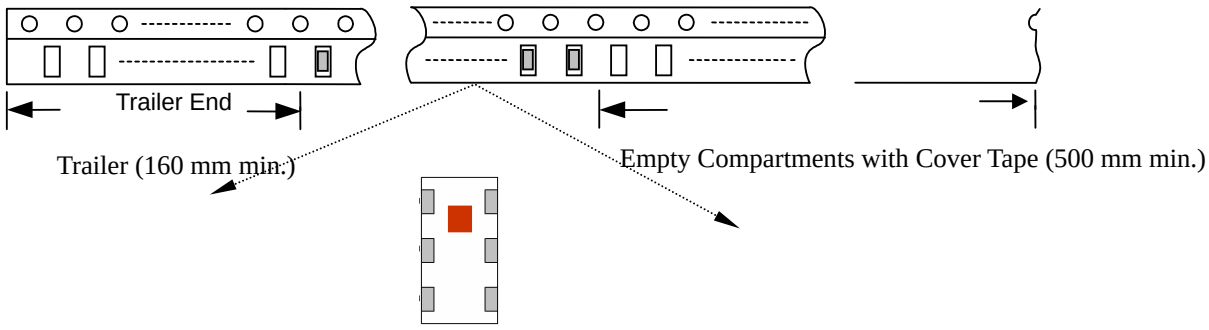
❖Reel Dimensions (Unit: mm)



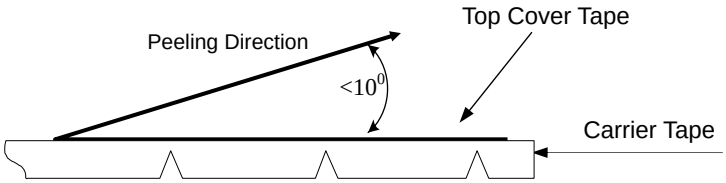
Label: Customer's Name,
ACX P/N, Q'ty, Date,
ACX Corp.

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 .

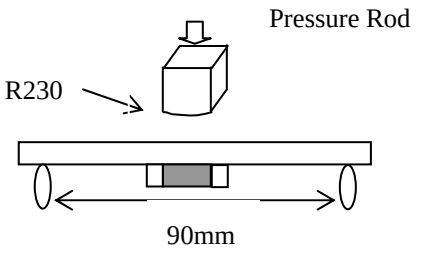
❖**Storage Conditions**

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

Notes

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

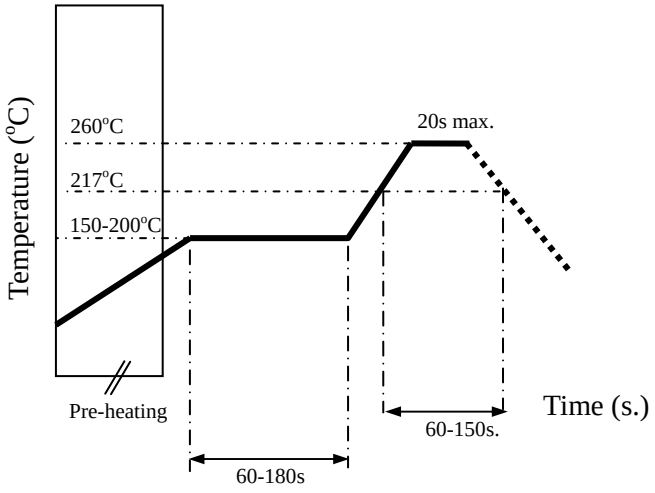
Mechanical & Environmental Characteristics

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± 5 °C 2. Solder: 245± 5°C for 5± 1 sec
Soldering strength (Termination Adhesion)	1. 10N 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	1. Solder specimen onto test jig (FR4, 1.6mm) 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± 2°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 ± 5°C for 30 min step 2：- 40 ± 5°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± 5 °C 2. Duration: 500 ±24hrs 3. Recovery: 1-2hrs

Soldering Conditions

❖**Typical Soldering Profile for Lead-free Process**

Reflow Soldering :



Notes

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

Advanced Ceramic X Corp.
No.165 Hanyang Road, Hsinchu Industrial District, Hsinchu Hsien,Taiwan,30350
TEL:886-3-5987008 FAX:886-3-5987001
E-mail: acx@acxc.com.tw
http://www.acxc.com.tw