

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 | Passband (MHz) | Insertion Loss (dB) | VSWR | Coupling (dB) | Isolation (dB) |
|------------------------|----------------|---------------------|----------|---------------|----------------|
| CP1608-06A2450_ | 2400 ~ 2500 | 1.83 max. | 1.5 max. | 6.5 ± 1.0 | 23.0 min. |

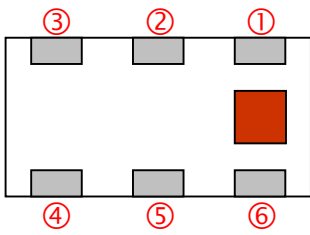
| | |
|-----------------------------|------------------|
| Q'ty/Reel (pcs) | : 4000 |
| Operating Temperature Range | : -40 ~ +85 °C |
| Storage Temperature Range | : -40 ~ +85 °C |
| Storage Period | : 12 months max. |
| Power Capacity | : 3W max. |

Part Number

CP 1608 - 06 A 2450 □ /LF
 ① ② ③ ④ ⑤ ⑥ ⑦

| | | | |
|---------------------|-----------------|------------------------|---------------------------|
| ① Type | CP : Coupler | ② Dimensions (L × W) | 1.6 × 0.8 mm |
| ③ Coupling | 06 : 6 dB | ④ Specification Code | A |
| ⑤ Central Frequency | 2450 : 24507MHz | ⑥ Packaging | T: Tape & Reel B: Bulk |
| ⑦ Soldering | /LF=lead-free | | |

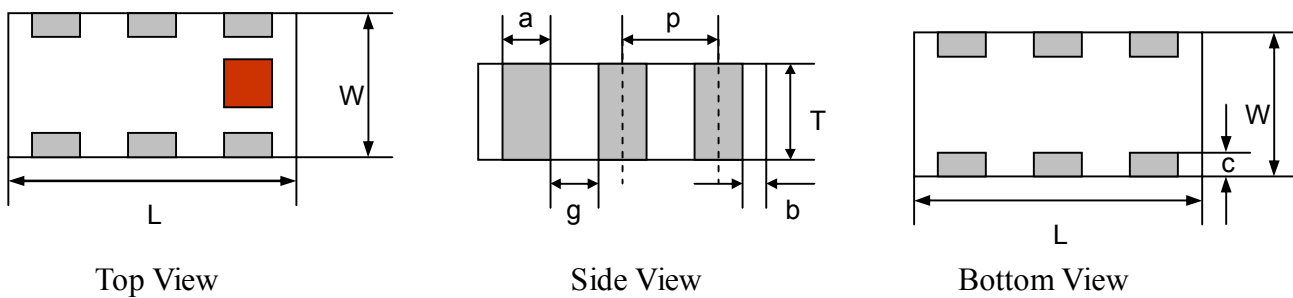
Terminal Configuration



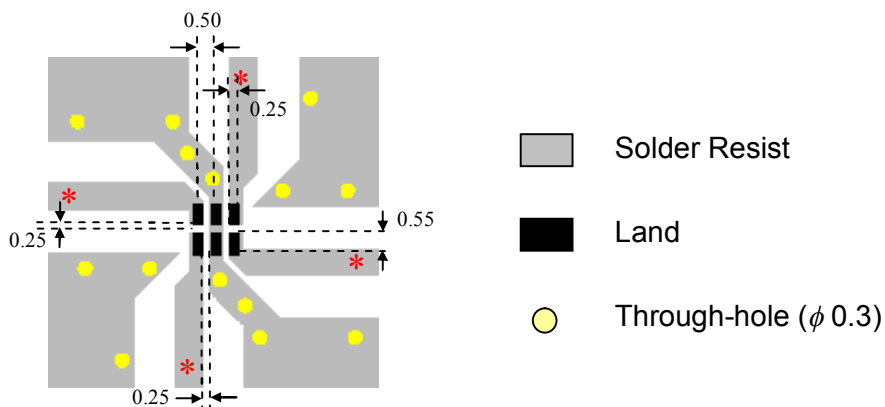
| No. | Terminal Name | No. | Terminal Name |
|-----|---------------|-----|---------------|
| ① | IN | ④ | Termination |
| ② | GND | ⑤ | GND |
| ③ | Coupled Out | ⑥ | Main Out |

Dimensions and Recommended PC Board Pattern

Unit : mm



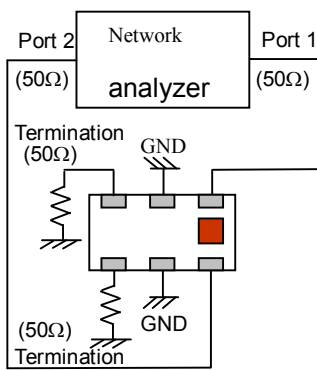
| Mark | L | W | T | a | b | c | g | p |
|------------|--------------|--------------|--------------|--------------|-------------------|---------------|--------------|----------------|
| Dimensions | 1.6 ± 0.1 | 0.8 ± 0.1 | 0.6 ± 0.1 | 0.2 ± 0.1 | 0.2+0.1 /-0.15 | 0.15 ± 0.1 | 0.3 ± 0.1 | 0.50 ± 0.05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



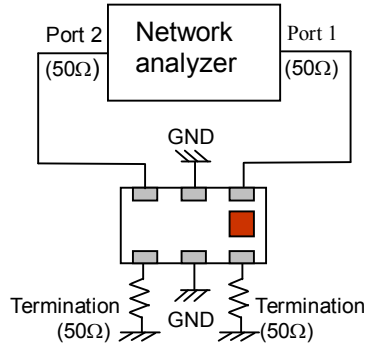
* Line width should be designed to match 50Ω characteristic impedance, depending on PCB material and thickness.

Measuring Diagram

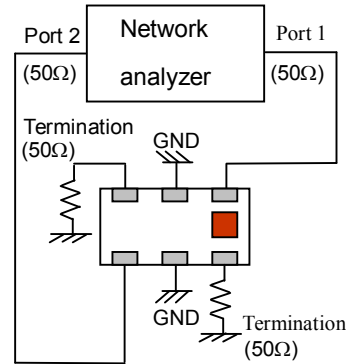
Attenuation



Coupling

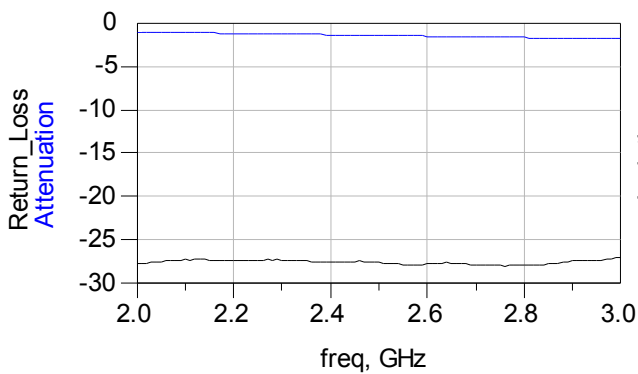


Isolation

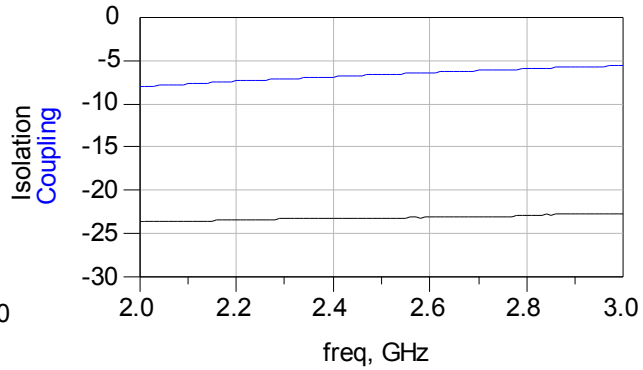


Typical Electrical Characteristics (T=25°C)

Attenuation Return Loss



Coupling Isolation

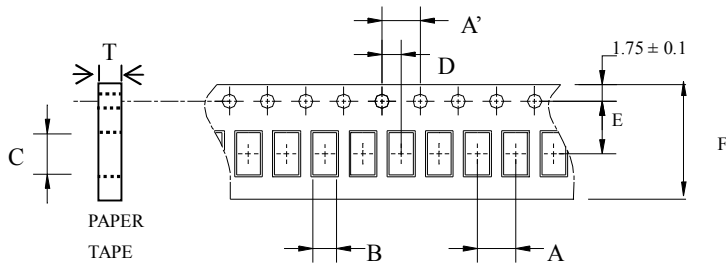


Notes

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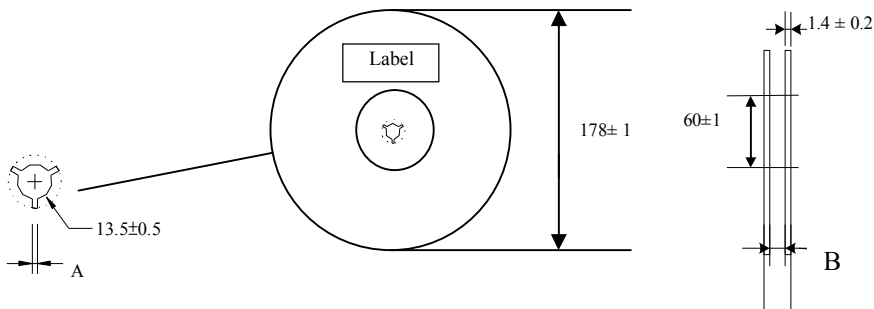
Taping Specifications

❖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 | | |

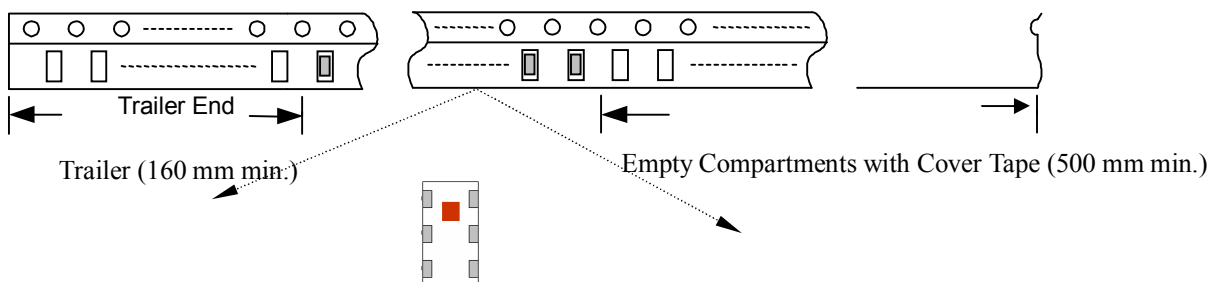
❖Reel Dimensions (Unit: mm)



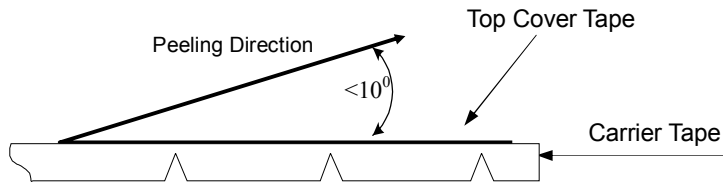
Label: Customer's Name,
ACX P/N, Q'ty, Date,
ACX Corp.

| 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 .

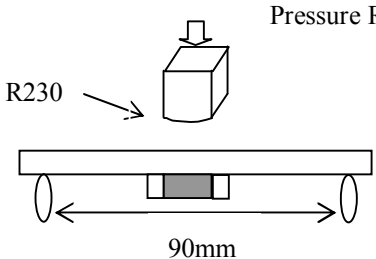
❖ **Storage Conditions**

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

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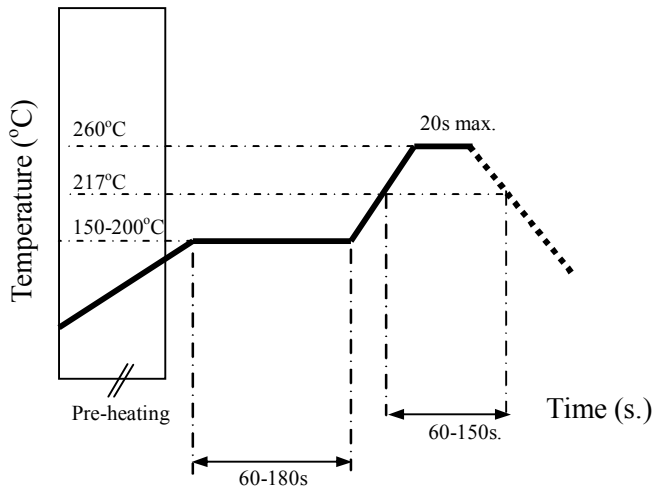
Mechanical & Environmental Characteristics

| 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"> 1kg 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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