

DP 1608 Series

Multilayer Chip Diplexers

Features

- ❖ Monolithic structure including one low-pass and one band-pass filters with loss pole at adjacent passband.
- ❖ RoHS compliant.

Applications

- ❖ Dual-band / dual-mode 2.5GHz/6.1GHz WLAN.



Specifications

| Part Number | Passband (MHz) | Insertion Loss (dB) | Return Loss (dB) | Attenuation (dB) |
|----------------|----------------|---|------------------|---|
| DP1608-R2461CL | 2400~2500 | 0.6 max. @25 °C 0.8 max. @-40~+105 °C | 12 min. | 2 min. @3300~4800MHz 33 min. @4800~5000MHz 25 min. @5170~7125MHz 25 min. @7200~7500MHz 27 min. @9600~10000MHz 20 min. @12000~12500MHz |
| | 5170~7125 | 0.9 max. @25 °C 1.15 max. @-40~+105 °C | 10 min. | 35 min. @70~108MHz 35 min. @700~915MHz 15 min. @915~960MHz 30 min. @1425~1470MHz 28 min. @1470~1557MHz 26 min. @1557~1607MHz 35 min. @1710~1785MHz 26 min. @1805~1850MHz 35 min. @1850~1910MHz 35 min. @1910~2020MHz 23 min. @2110~2200MHz 26 min. @2300~2400MHz 25 min. @2400~2500MHz 20 min. @2500~2690MHz 10 min. @3400~3800MHz 25 min. @10340~14250MHz 30 min. @15510~19500MHz 22 min. @19500~21375MHz |

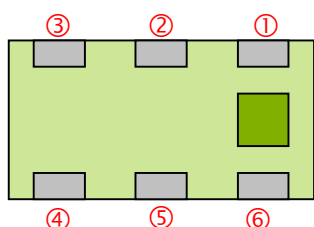
Q'ty/Reel (pcs) : 4000
 Operating Temperature Range : -40 ~ +105 °C
 Storage Temperature Range : -40 ~ +105 °C
 Storage Period : 12 months max.
 Power Capacity : 3W max.

Part Number

DP 1608 - R 2461 CL □ /LF
 ① ② ③ ④ ⑤ ⑥ ⑦

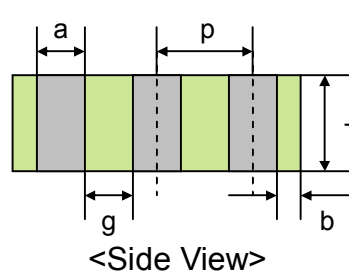
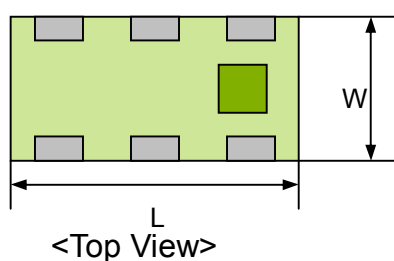
| | | | |
|----------------------|---------------|------------------------|---------------------------|
| ① Type | DP : Diplexer | ② Dimensions (L × W) | 1.6 × 0.8 mm |
| ③ Material Code | R | ④ Frequency Range | 2461=2450MHz /6150MHz |
| ⑤ Specification Code | CL | ⑥ Packaging | T: Tape & Reel B: Bulk |
| ⑦ Soldering | /LF=lead-free | | |

Terminal Configuration

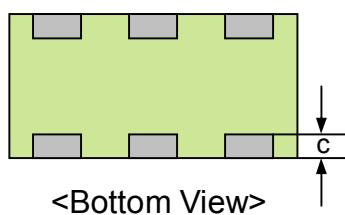


| No. | Terminal Name | No. | Terminal Name |
|-----|---------------|-----|-------------------|
| ① | GND | ④ | Lower Freq. Port |
| ② | Common Port | ⑤ | GND |
| ③ | GND | ⑥ | Higher Freq. Port |

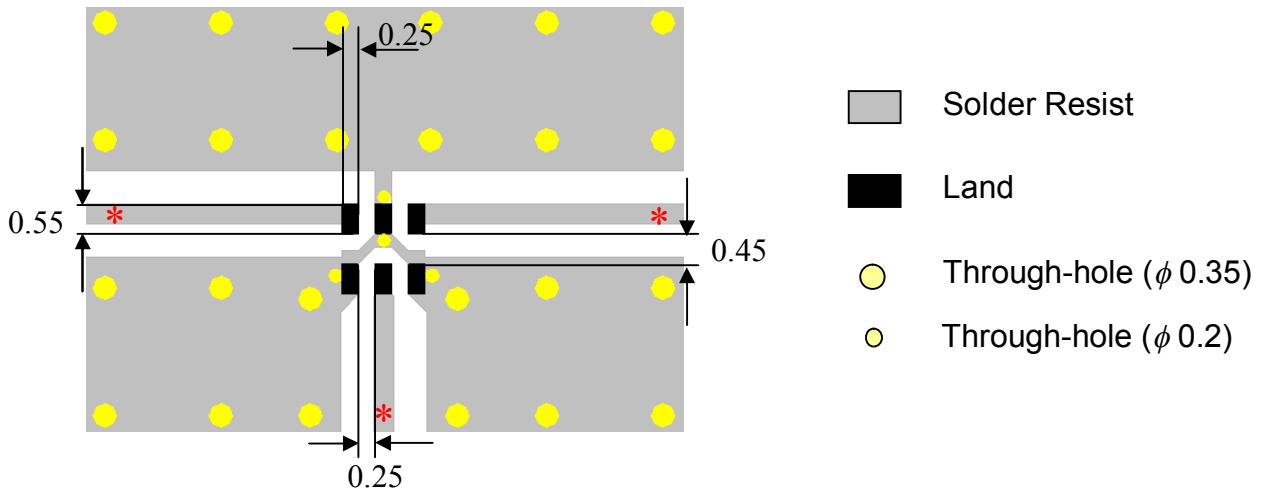
Dimensions and Recommended PC Board Pattern



Unit : mm

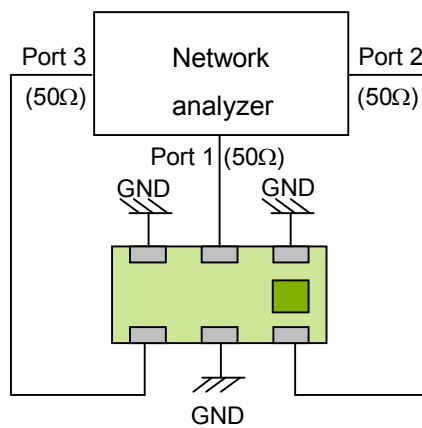


| Mark | L | W | T | a | b | c | g | p |
|------------|---------|---------|---------|---------|-------------------|----------|---------|----------|
| Dimensions | 1.6±0.1 | 0.8±0.1 | 0.7max. | 0.2±0.1 | 0.2+0.1 /-0.15 | 0.15±0.1 | 0.3±0.1 | 0.5±0.05 |

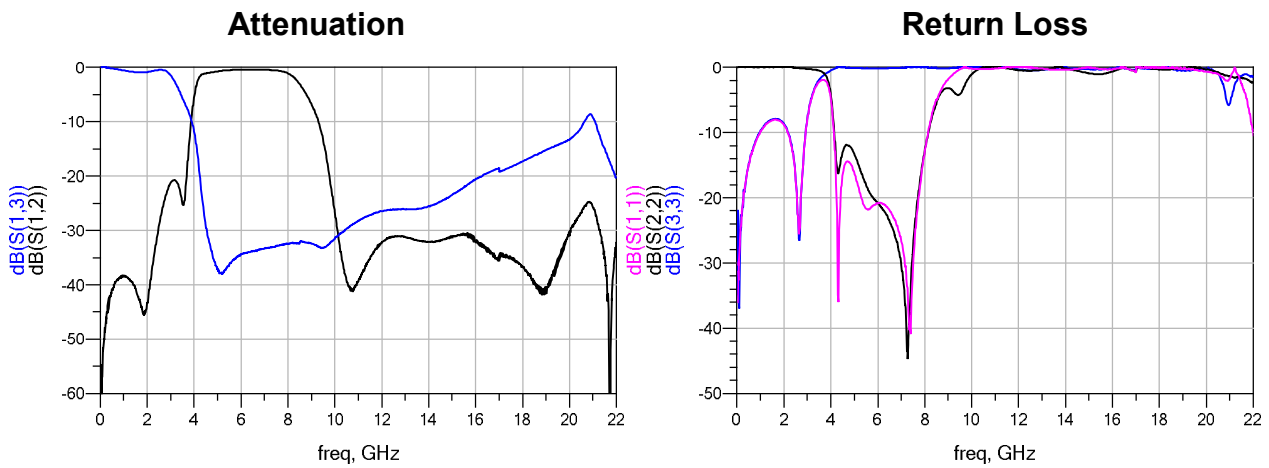


* Line width should be designed to match 50ohm characteristic impedance, depending on PCB material and thickness.

Measuring Diagram



Typical Electrical Characteristics (T=25°C)

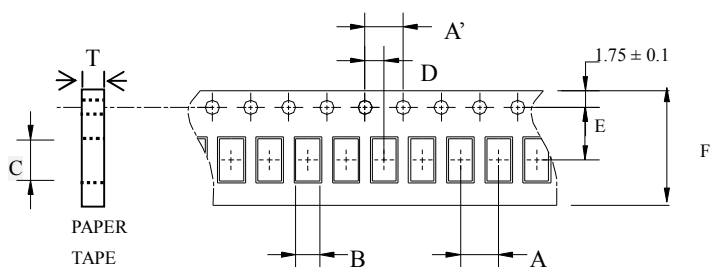


Notes

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

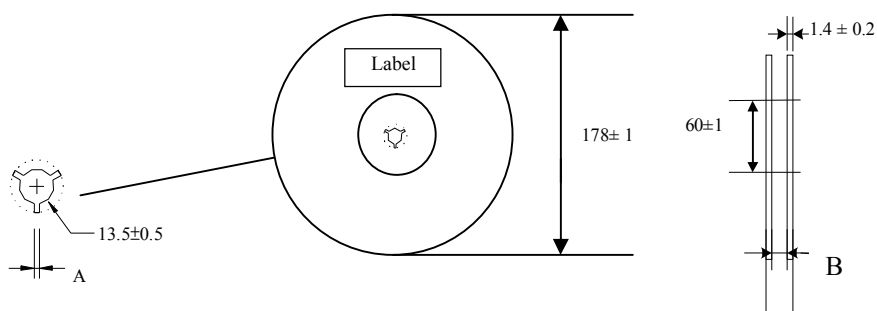
Taping Specifications

❖Tape Dimensions (Unit: mm) & Quantity



| Type | A | A' | B | C | D | E | F | T | Quantity/reel | Tape material |
|------|------|------|-------|-------|------|------|------|-------|---------------|---------------|
| 1608 | 4.0± | 4.0± | 1.10± | 1.92± | 2.0± | 3.5± | 8.0± | 0.80± | 4,000pcs | Paper |
| | 0.10 | 0.10 | 0.05 | 0.05 | 0.05 | 0.05 | 0.10 | 0.05 | | |

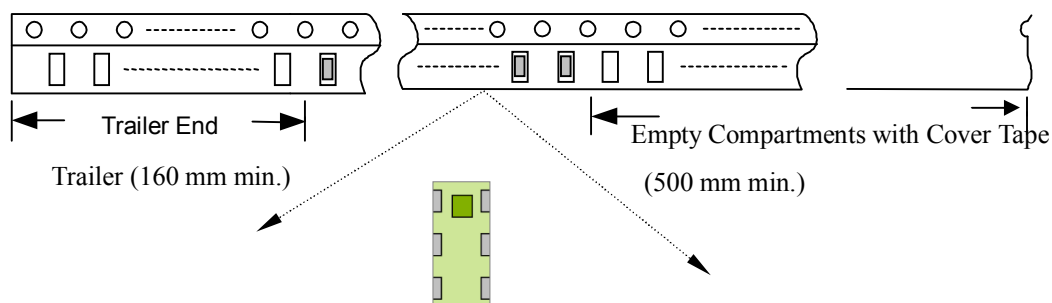
❖Reel Dimensions (Unit: mm)

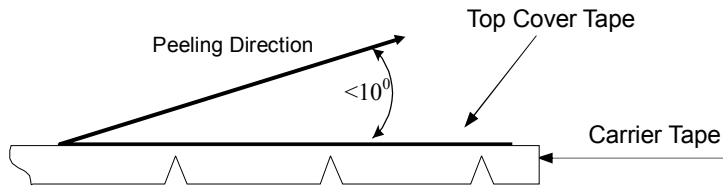


Label: Customer's Name,
ACX P/N, Q'ty, Date,
ACX Corp.

| 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 .

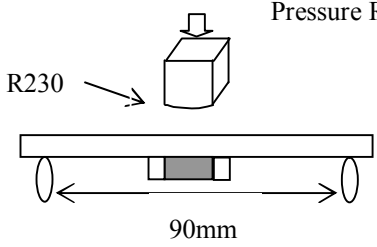
❖Storage Conditions

- (1) Temperature: 5 ~35°C , 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.

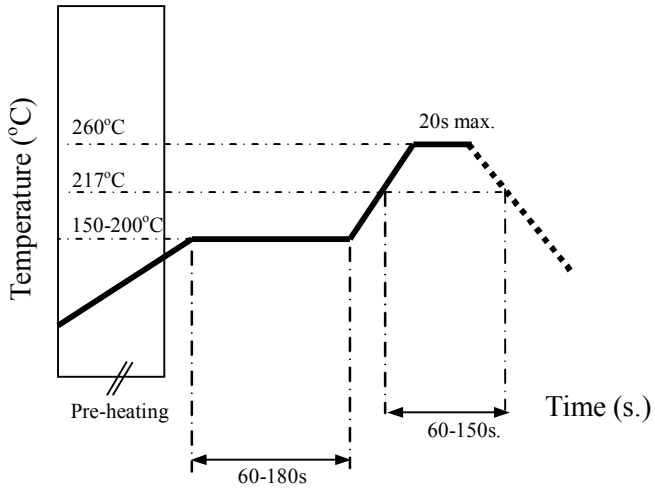
Mechanical & Environmental Characteristics

| Item | Requirements | Procedure |
|--|--|--|
| Solderability | <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, 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 :



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.

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>