ACX
Advanced Ceramic X

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-R2461AL	2400~2500	0.6 max. / 0.51 typ. @25 °C 0.8 max. / 0.69 typ. @-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. / 0.78 typ. @25 °C 1.15 max. / 1.02 typ. @-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

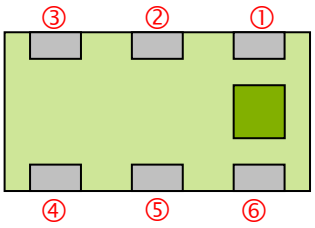
Q'ty/Reel (pcs) : 4000
Operating Temperature Range : -40 ~ +105 °C
Storage Temperature Range : -40 ~ +105 °C
Storage Period : 12 months max.
Power Capacity : 3W max.

Part Number

DP	1608	-	R	2461	AL	□	/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	AL	⑥ Packaging	T: Tape & Reel B: Bulk
⑦ Soldering	/LF=lead-free		

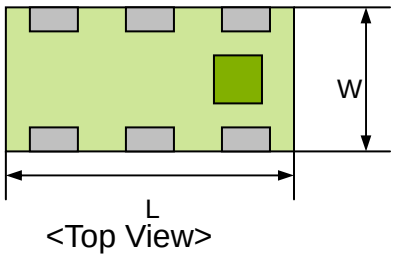
Terminal Configuration



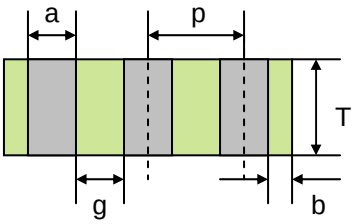
No.	Terminal Name	No.	Terminal Name
①	GND	④	Higher Freq. Port
②	Common Port	⑤	GND
③	GND	⑥	Lower Freq. Port

Dimensions and Recommended PC Board Pattern

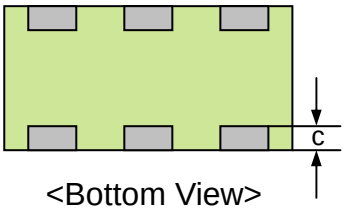
Unit : mm



<Top View>

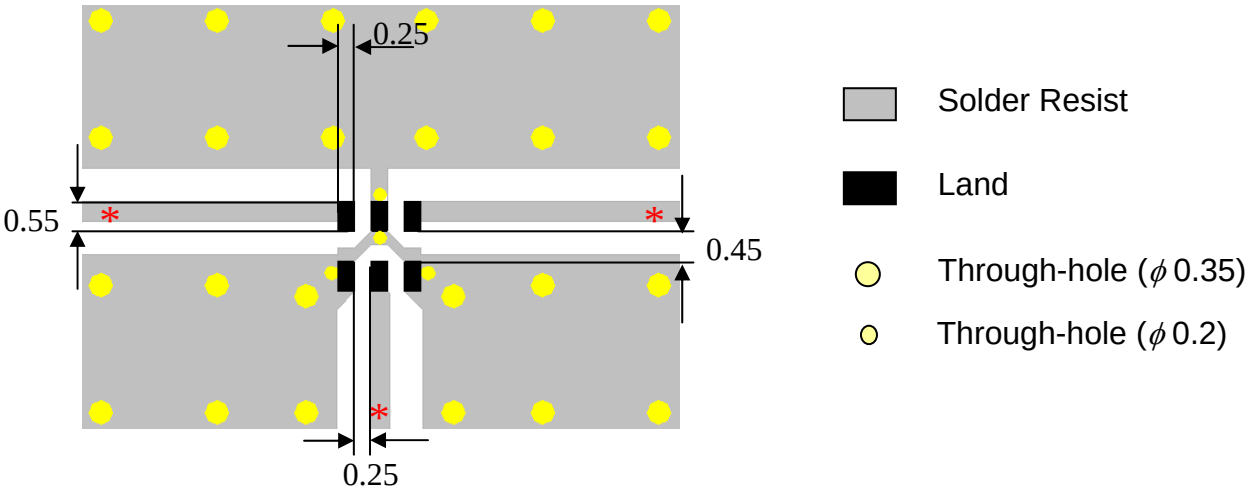


<Side View>



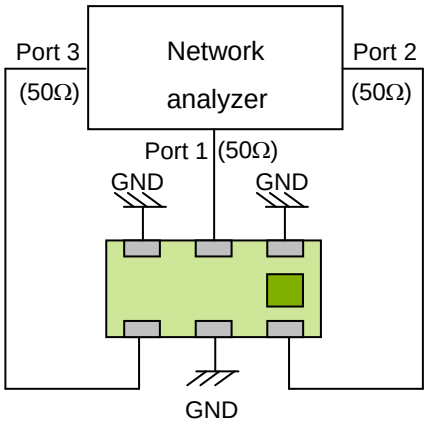
<Bottom View>

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



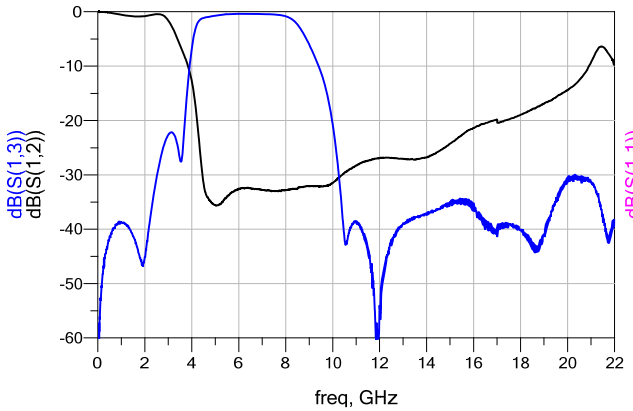
* Line width should be designed to match 50ohm characteristic impedance, depending on PCB material and thickness.

Measuring Diagram

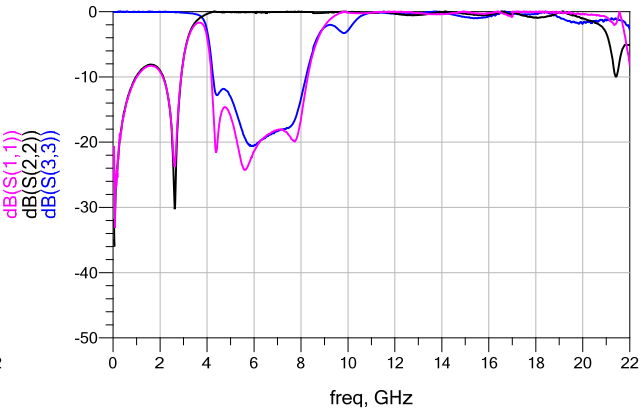


Typical Electrical Characteristics (T=25°C)

Attenuation



Return Loss



Notes

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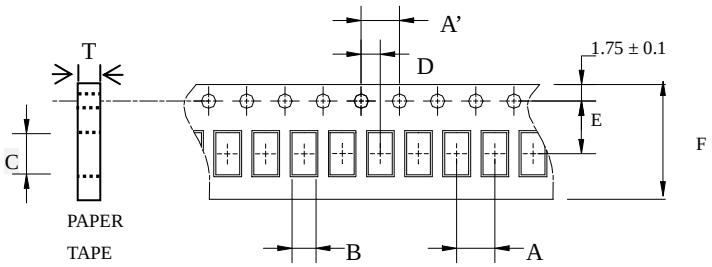
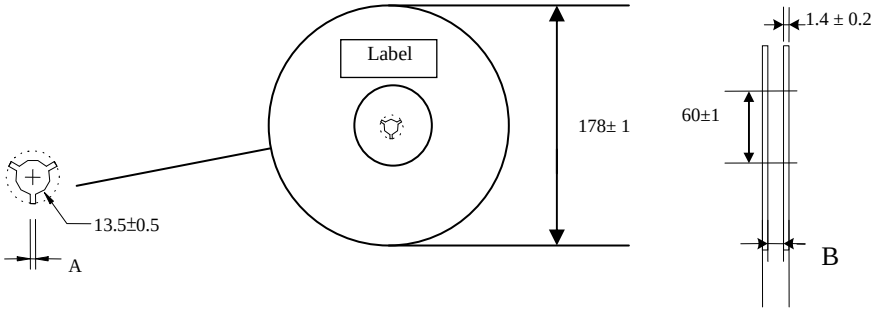
Taping Specifications

❖Tape Dimensions (Unit: mm) & Quantity



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

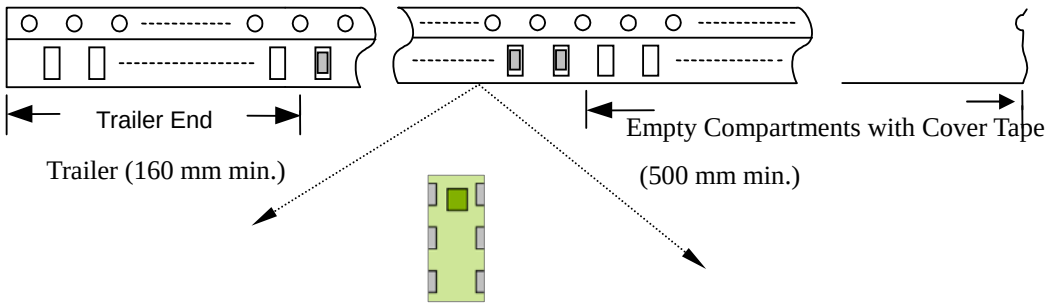
❖Reel Dimensions (Unit: mm)



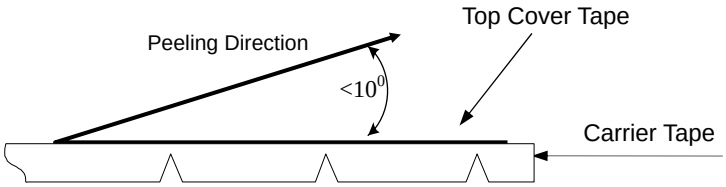
Label: Customer's Name,
ACX P/N, Q'ty, Date,
ACX Corp.

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.

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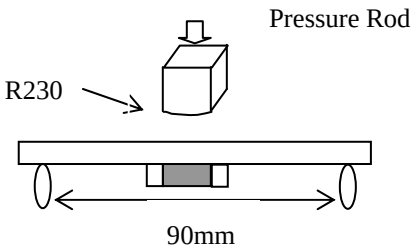
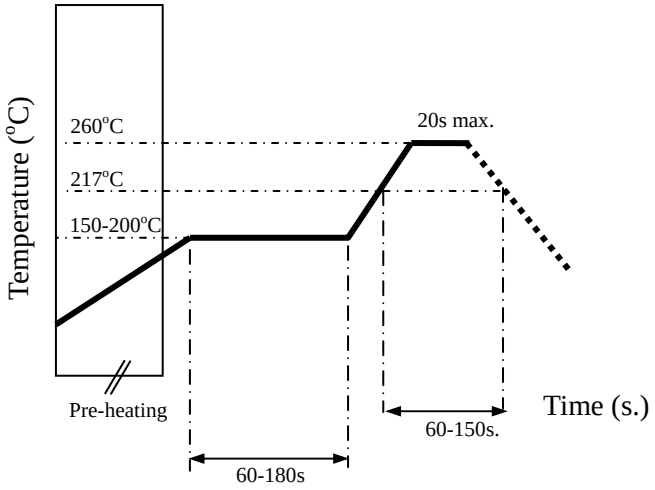
Mechanical & Environmental Characteristics

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 :



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