

DP 1608 Series

Multilayer Chip Diplexers

Features

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

Applications

- ❖ Dual-band / dual-mode 2.4GHz/5-7GHz WLAN.



Specifications

Part Number	Passband (MHz)	Insertion Loss (dB)	Return Loss (dB)	Attenuation (dB)	Isolation (dB)
DP1608-R2461HC_	2400~2500	1.35max. / 1.2 typ.	10 min.	35 min. @4800~7125MHz 35 min. @7200~7500MHz 15 min. @7700~7950MHz 10 min. @7500~12000MHz	35 min. @4800~5000MHz 35 min. @5150~7125MHz
	5150~5875	1.05 max. / 0.88 typ.	10 min.	20 min. @100~1000MHz 20 min. @1000~2300MHz 25 min. @2400~2500MHz	35 min. @7200~7500MHz 20 min. @10300~14250MHz
	5875~7125	0.9 max. / 0.71 typ.		5 min. @2700~3500MHz 20 min. @9800~10300MHz 30 min. @10300~14250MHz 15 min. @14700~21375MHz	5 min. @15450~21375MHz

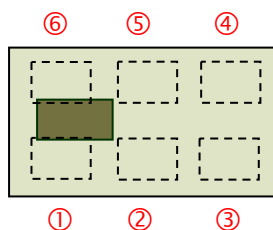
Q'ty/Reel (pcs) : 4000
 Operating Temperature Range : -40 ~ +85 °C
 Storage Temperature Range : -40 ~ +85 °C
 Storage Period : 12 months max.
 Power Capacity : 3W max.

Part Number

DP 1608 - R 2461 HC □ /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=2400MHz/6100MHz
⑤ Specification Code	HC	⑥ Packaging	T: Tape & Reel B: Bulk
⑦ Soldering	/LF=lead-free		

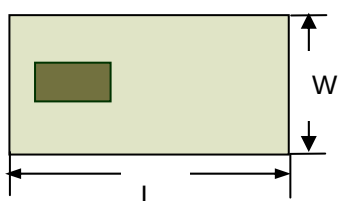
Terminal Configuration



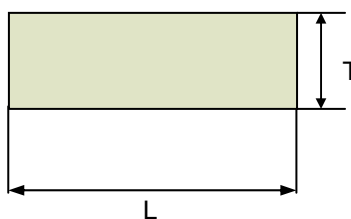
No.	Terminal Name	No.	Terminal Name
①	Higher Freq. Port	④	GND
②	GND	⑤	Common Port
③	Lower Freq. Port	⑥	GND

Dimensions

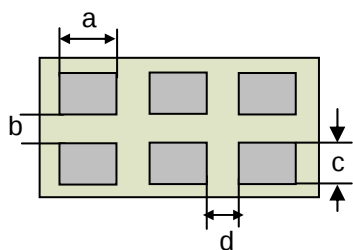
Unit : mm



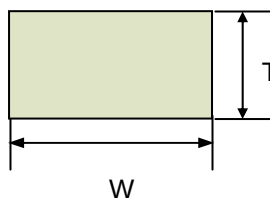
<Top View>



<Side View>

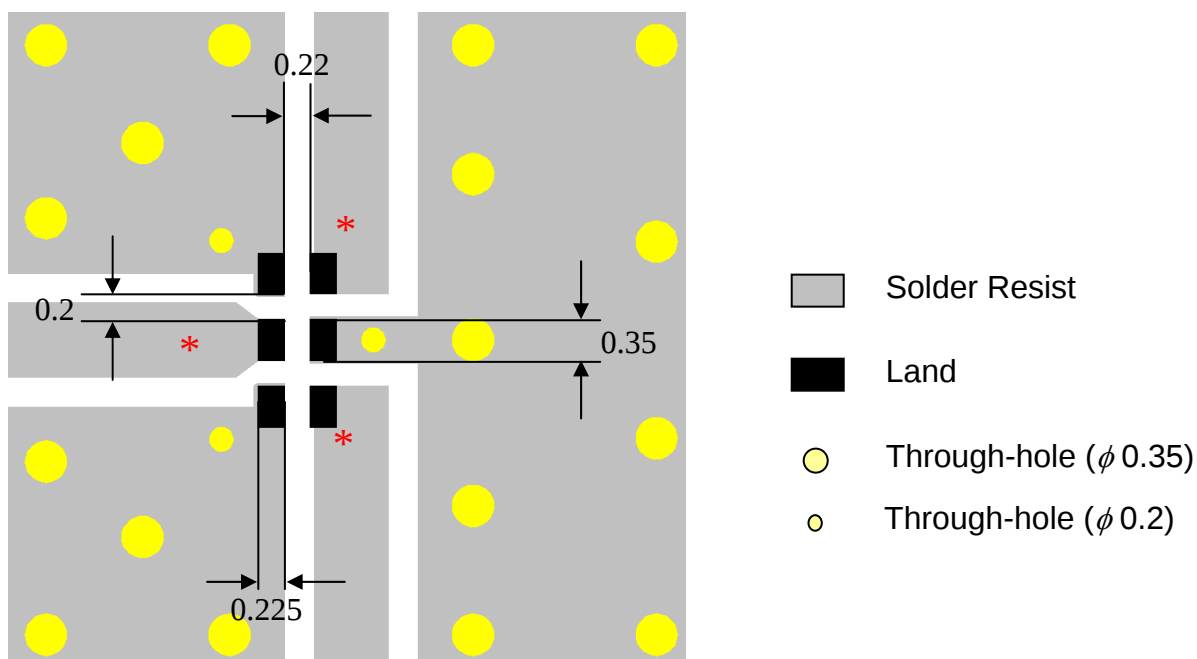


<Bottom View>



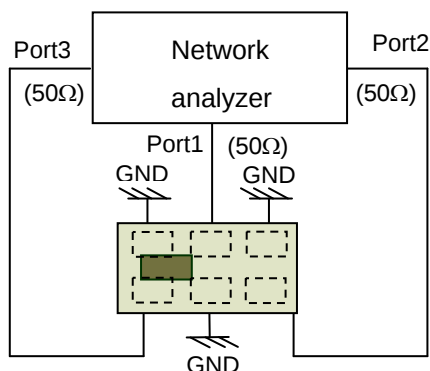
<Side View>

Mark	L	W	T	a	b	c	d
Dimensions	1.6± 0.1	0.8± 0.1	0.7 max.	0.35 ±0.1	0.22 ±0.1	0.225 ±0.1	0.22 ±0.1



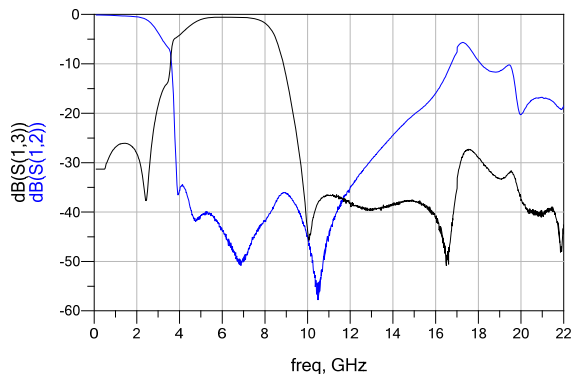
* Line width should be designed to match 50ohm characteristic impedance, depending on PCB material and thickness.

Measuring Diagram

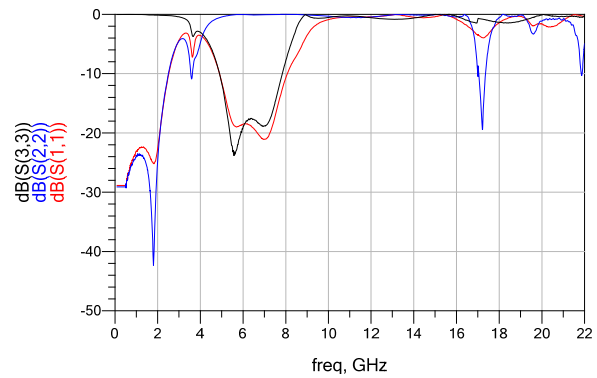


Electrical Characteristics (T=25°C)

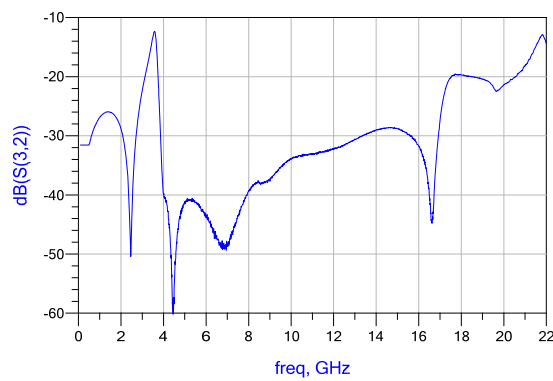
Attenuation



Return Loss



Isolation

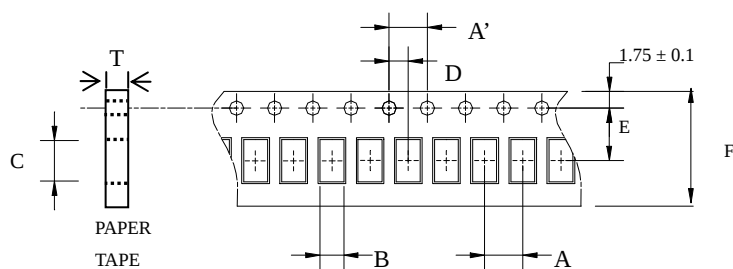


Notes

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

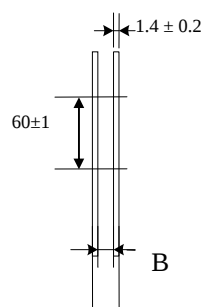
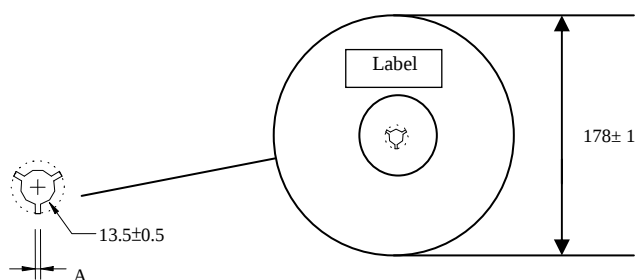
Taping Specifications

❖Tape Dimensions (Unit: mm) & Quantity



Type	A	A'	B	C	D	E	F	T	Quantity/reel	Tape material
1608	4.0±	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		

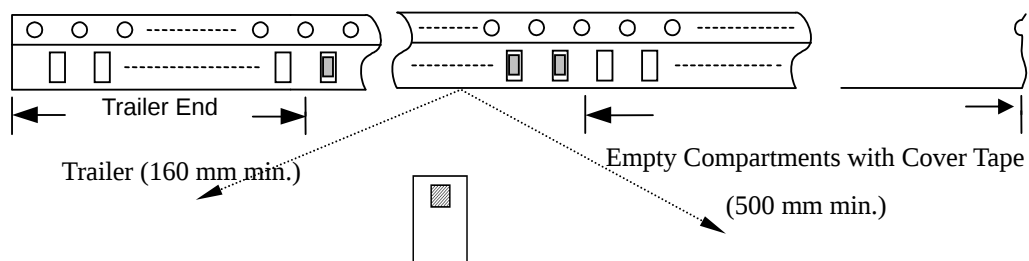
❖Reel Dimensions (Unit: mm)



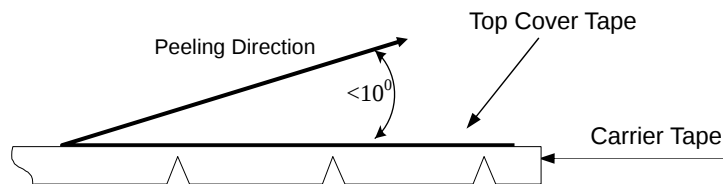
Label: Customer's Name,
ACX P/N, Q'ty, Date,
ACX Corp.

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 .

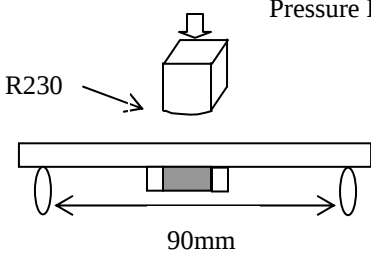
❖ Storage Conditions

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

Notes

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

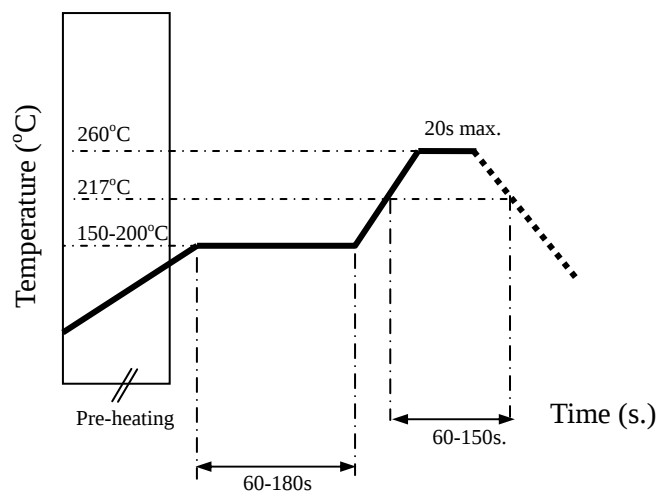
Mechanical & Environmental Characteristics

Item	Requirements	Procedure
Solderability	1. No apparent damage 2. More than 95% of the terminal electrode shall be covered with new solder	1. Preheat: $120 \pm 5^{\circ}\text{C}$ 2. Solder: $245 \pm 5^{\circ}\text{C}$ for 5 ± 1 sec
Soldering strength (Termination Adhesion)	1. 5N 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: $85 \pm 2^{\circ}\text{C}$ 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 : $125 \pm 5^{\circ}\text{C}$ for 30 min step 2 : $-40 \pm 5^{\circ}\text{C}$ 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: $-40 \pm 5^{\circ}\text{C}$ 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>