

DP 1608 Series

Multilayer Chip Diplexers

Features

- ❖ Monolithic structure including two 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-R2461BHE2_	2400~2500	1.0 max.	10 min.	10 min. @1200MHz 30 min. @4800~5000MHz 30 min. @5150~7125MHz 30 min. @7200~7500MHz 15 min. @10300~14250MHz 1 min. @15450~21375MHz	30 min. @4800~5000MHz 30 min. @5150~7125MHz 30 min. @7200~7500MHz
	5150~5875	0.8 max.	10 min.	25 min. @2400~2500MHz 30 min. @10300~14250MHz	15 min. @10300~14250MHz
	5875~7125	0.8 max.		20 min. @15450~17850MHz 5 min. @17850~21375MHz	5 min. @15450~21375MHz

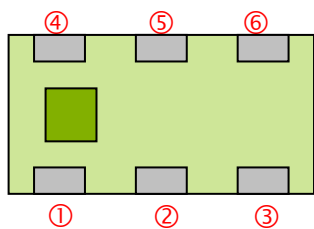
Q'ty/Reel (pcs) : 4000
 Operating Temperature Range : -40 ~ +105 °C
 Storage Temperature Range : -40 ~ +105 °C
 Storage Period : 12 months max.
 Power Capacity : 3W max.

Part Number

DP 1608 - R 2461 BHE2 □ /LF
 ① ② ③ ④ ⑤ ⑥ ⑦

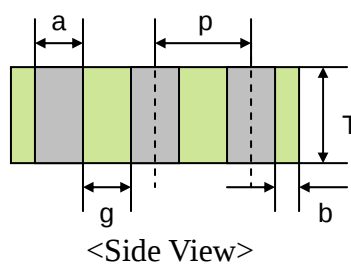
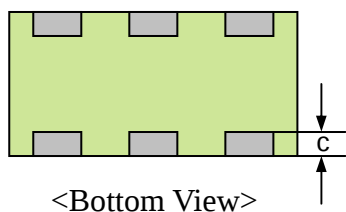
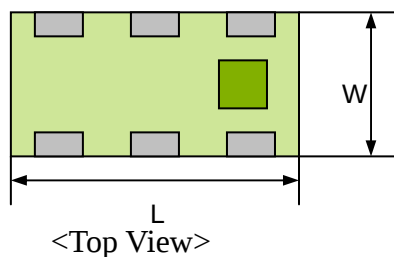
① Type	DP : Diplexer	② Dimensions (L × W)	1.6 × 0.8 mm
③ Material Code	R	④ Frequency Range	2461=2400MHz/6100MHz
⑤ Specification Code	BHE2	⑥ Packaging	T: Tape & Reel B: Bulk
⑦ Soldering	/LF=lead-free		

Terminal Configuration



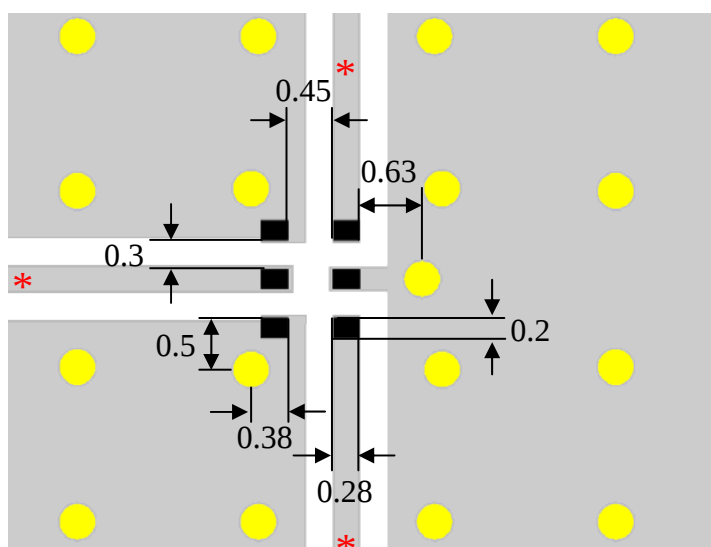
No.	Terminal Name	No.	Terminal Name
①	Higher Freq. Port	④	GND
②	GND	⑤	Common Port
③	Lower Freq. Port	⑥	GND

Dimensions



Unit : mm

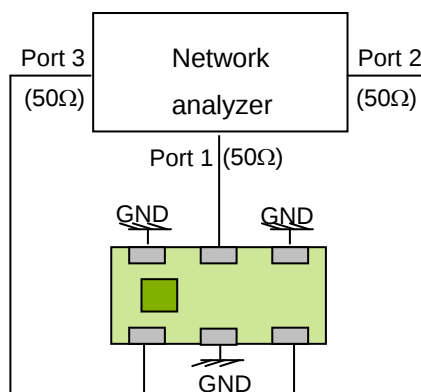
Mark	L	W	T	a	b	c	g	p
Dimensions	1.6±0.1	0.8±0.1	0.7 max.	0.2±0.1	0.2+0.1 /-0.15	0.24±0.1	0.3±0.1	0.5±0.05



- Solder Resist
- Land
- Through-hole (ϕ 0.35)

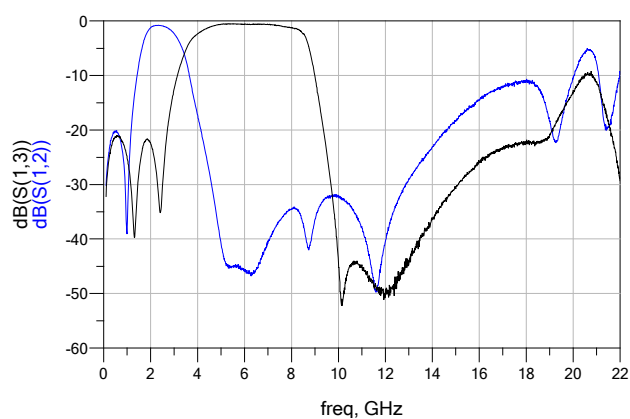
* Line width should be designed to match 50ohm characteristic impedance, depending on PCB material and thickness.

Measuring Diagram

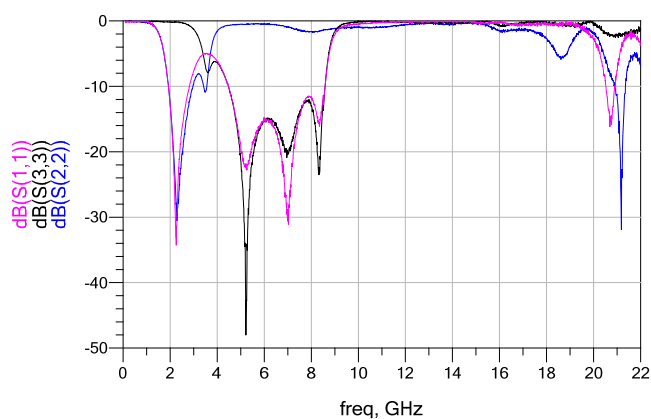


Electrical Characteristics (T=25°C)

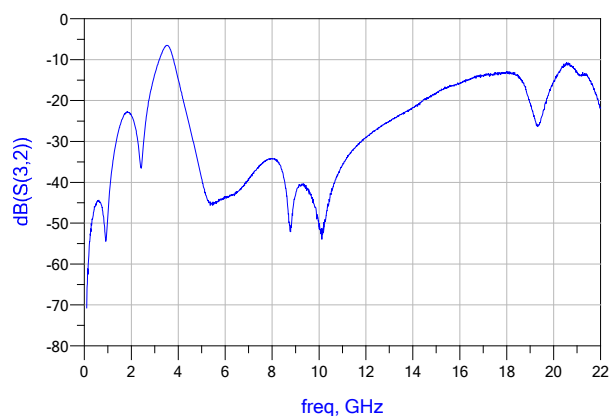
Attenuation



Return Loss



Isolation

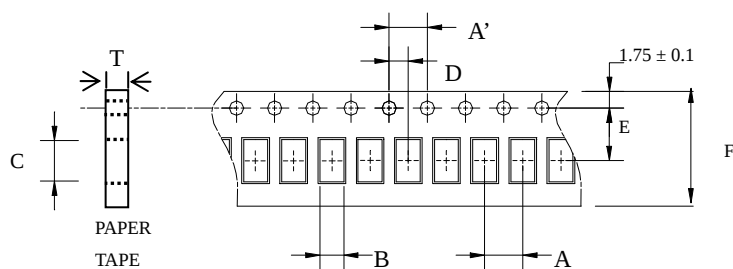


Notes

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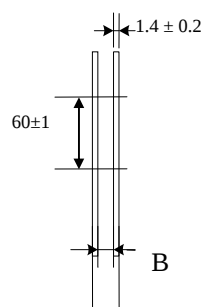
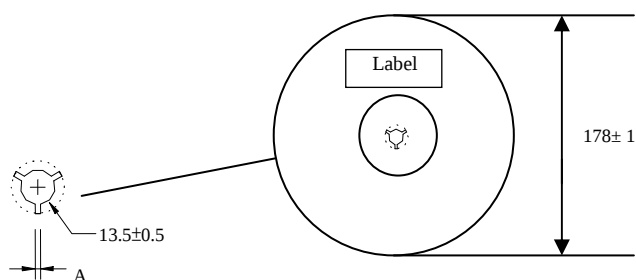
Taping Specifications

❖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		

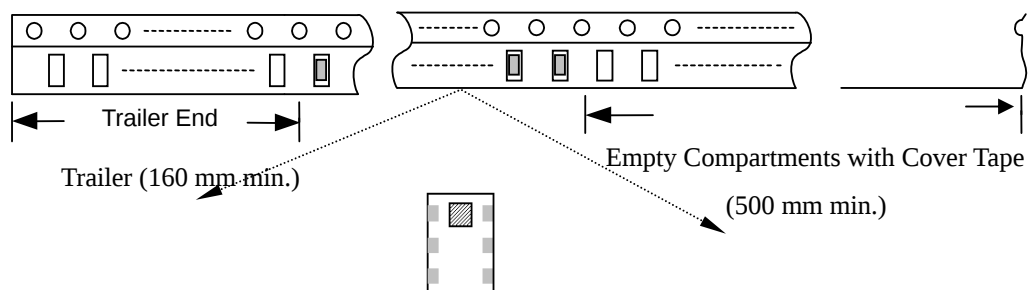
❖Reel Dimensions (Unit: mm)



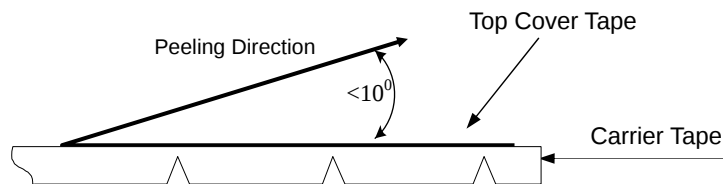
Label: Customer's Name,
ACX P/N, Q'ty, Date,
ACX Corp.

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 .

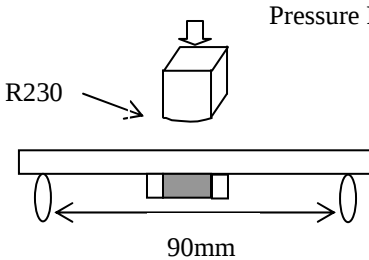
❖ Storage Conditions

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

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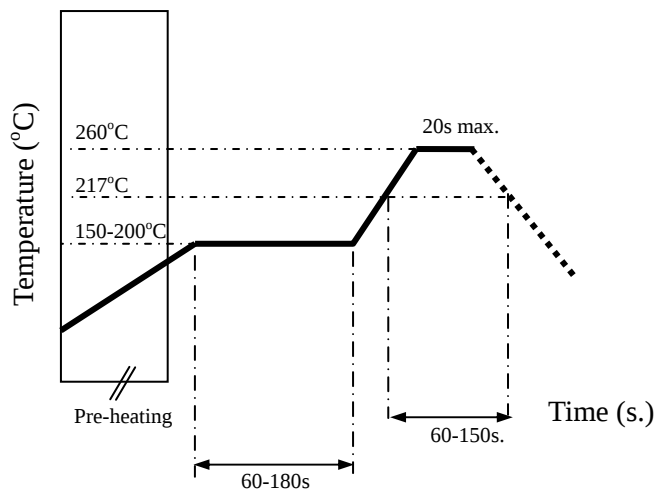
Mechanical & Environmental Characteristics

Item	Requirements	Procedure
Solderability	- No apparent damage - More than 95% of the terminal electrode shall be covered with new solder	- Preheat: $120 \pm 5^{\circ}\text{C}$ - Solder: $245 \pm 5^{\circ}\text{C}$ for 5 ± 1 sec
Soldering strength (Termination Adhesion)	10N minimum	- 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)	No apparent damage	- Solder specimen onto test jig (FR4, 1.6mm) using the recommend soldering profile. - Apply a bending force of 2mm deflection. 
Heat/Humidity Resistance	- No apparent damage - Fulfill the electrical specification after test	- Temperature: $85 \pm 2^{\circ}\text{C}$ - Humidity: 90% ~ 95% RH - Duration: 1000 ± 48hrs - Recovery: 1-2hrs
Thermal shock (Temperature Cycle)	- No apparent damage - Fulfill the electrical specification after test	- 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	- No apparent damage - Fulfill the electrical specification after test	- 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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