

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 2.4GHz/5GHz WLAN



Specifications

Part Number	Passband (MHz)	Insertion Loss (dB)	Passband VSWR	Attenuation (dB)
DP1608-A2455ATA0	2400~2500	0.45 max.	2.0 max.	21 min. @ 4800 ~ 5000 MHz 23 min. @ 5000 ~ 5950 MHz 25 min. @ 7200 ~ 7500 MHz
	4900~5950	0.60 max.	2.0 max.	27 min. @ 824 ~ 2170 MHz 32 min. @ 2400 ~ 2500 MHz 26 min. @ 9800 ~ 11900 MHz

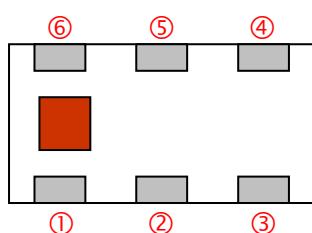
Q'ty/Reel (pcs) : 4000
 Operating Temperature Range : -40 ~ +85 °C
 Storage Temperature Range : -40 ~ +85 °C
 Storage Period : 12 months max.
 Power Capacity : 2W max.

Part Number

DP 1608 - A 2455 ATA0 □ /LF
 ① ② ③ ④ ⑤ ⑥ ⑦

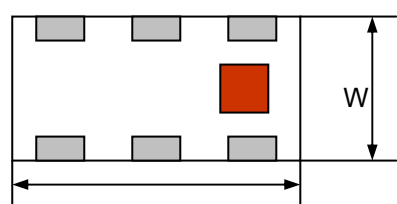
① Type	DP : Diplexer	② Dimensions (L × W)	1.6 × 0.8 mm
③ Material Code	A	④ Frequency Range	2455=2400MHz /5500MHz
⑤ Specification Code	ATA0	⑥ Packaging	T: Tape & Reel B: Bulk
⑦ Soldering	/LF=lead-free		

Terminal Configuration

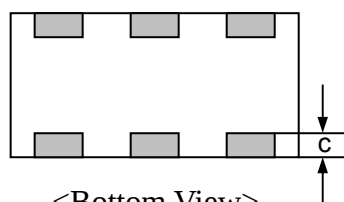


No.	Terminal Name	No.	Terminal Name
①	GND	④	Higher Freq. Port
②	Common Port	⑤	GND
③	GND	⑥	Lower Freq. Port

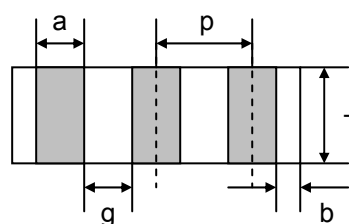
Dimensions and Recommended PC Board Pattern



<Top View>



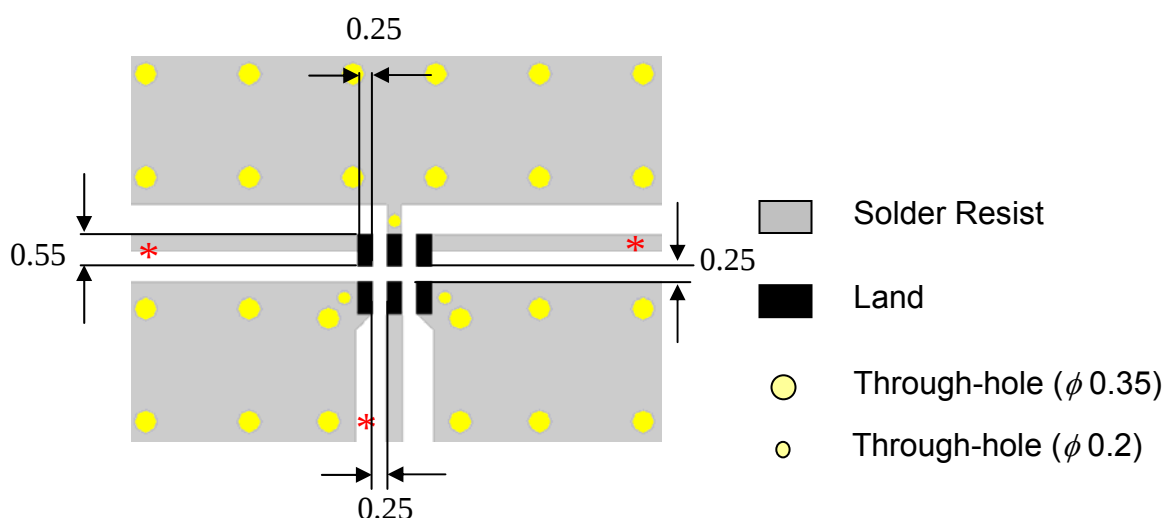
<Bottom View>



<Side View>

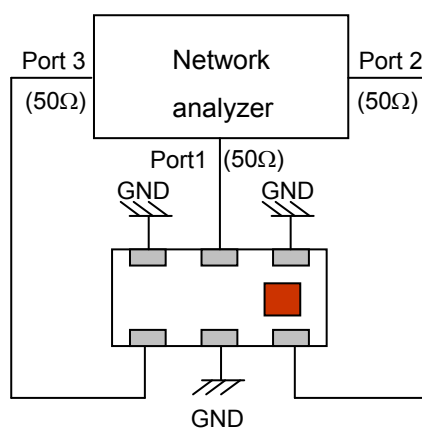
Unit : mm

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	0.5±0.05



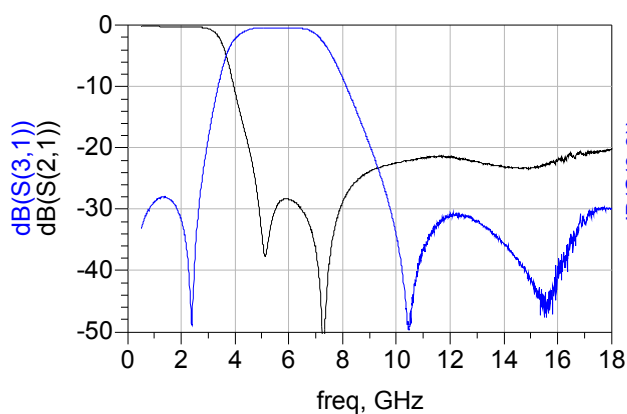
* Line width should be designed to match 50ohm characteristic impedance, depending on PCB material and thickness.

Measuring Diagram

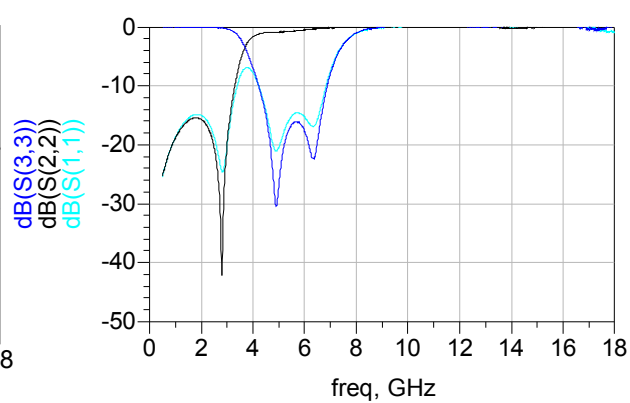


Electrical Characteristics (T=25oC)

Attenuation



Return Loss

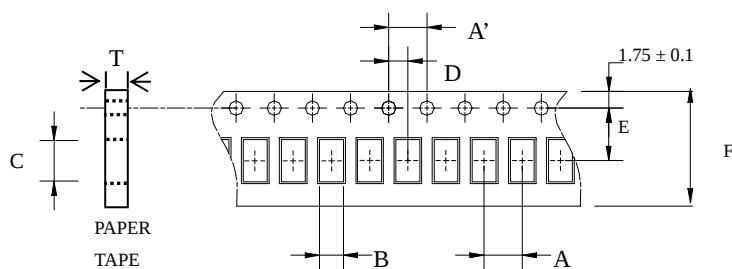


Notes

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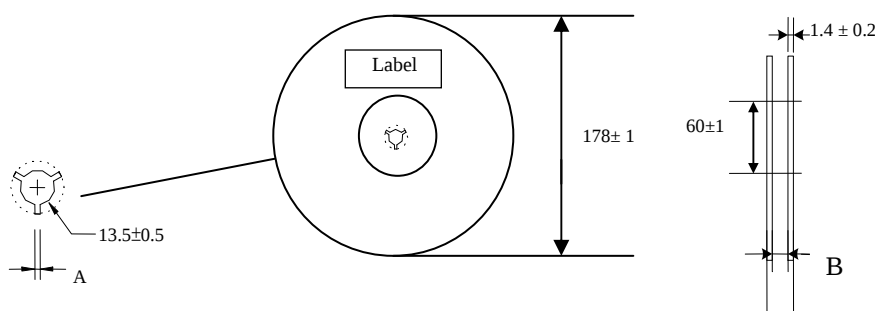
Taping Specifications

❖Tape Dimensions (Unit: mm) & Quantity



Type	A	A'	B	C	D	E	F	T	Quantity/reel	Tape material
1608	4.0± 0.1	4.0± 0.1	1.10± 0.1	1.92± 0.1	2.0± 0.1	3.5± 0.1	8.0± 0.1	0.75± 0.05	4,000pcs	Paper

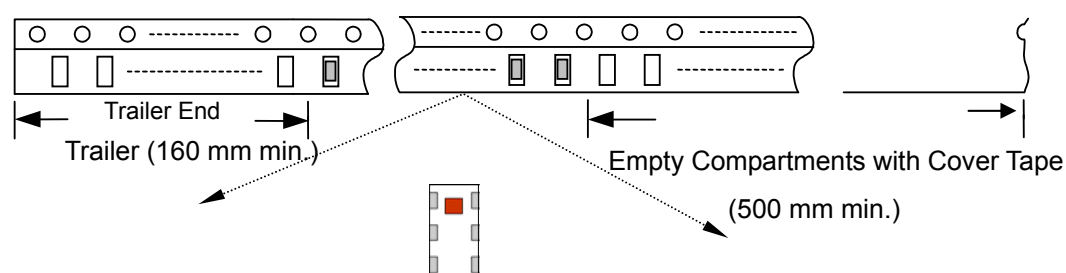
❖Reel Dimensions (Unit: mm)



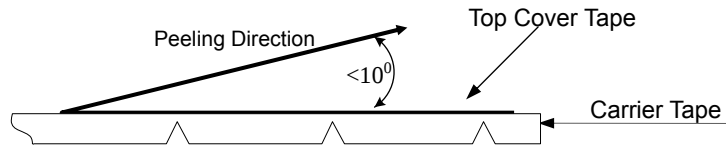
Label: Customer's Name,
ACX P/N, Q'ty, Date,
ACX Corp.

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 .

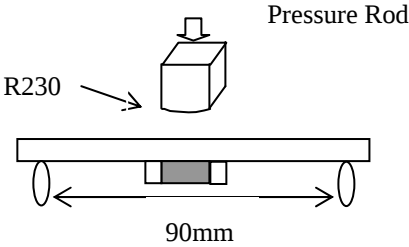
❖ **Storage Conditions**

- (1) Temperature: 5 ~35°C , relative humidity (RH): 45~75%.
- (2) Non-corrosive environment.

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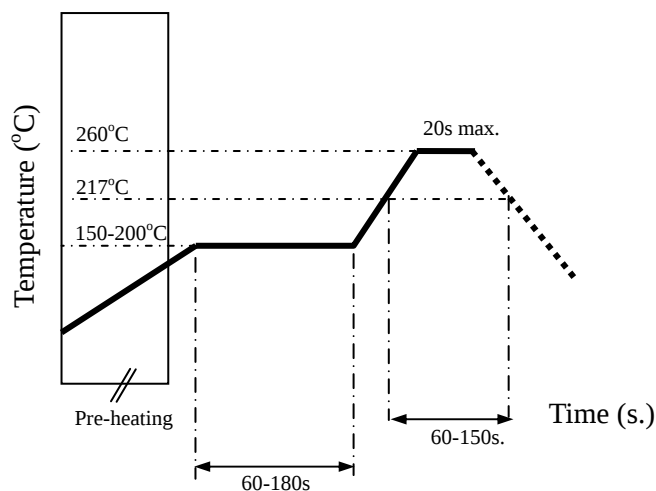
Mechanical & Environmental Characteristics

Item	Requirements	Procedure
Solderability	1. No apparent damage 2. More than 95% of the terminal electrode shall be covered with new solder	1. Preheat: $120 \pm 5^{\circ}\text{C}$ 2. Solder: $245 \pm 5^{\circ}\text{C}$ for 5 ± 1 sec
Soldering strength (Termination Adhesion)	1. 1kg 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, 0.8mm) using the recommend soldering profile. 2. Apply a bending force of 2mm deflection. (Chip length<4.5mm) 
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 :



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