

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)	Isolation (dB)
DP1608-A2455DKH0	2400~2500	0.6 max.	2.0 max.	30 min. @ 4.8 ~ 5.0 GHz 30 min. @ 5.0 ~ 5.95 GHz 20 min. @ 7.2 ~ 7.5GHz	38 min. @ 2400 ~ 2500 MHz 38 min. @ 4900 ~ 5950 MHz
	4900~5950	0.78 max.	2.0 max.	26 min. @ 0.824 ~ 2.17 GHz 30 min. @ 2.4 ~ 2.5GHz 25 min. @ 9.8 ~ 11.9GHz 15 min. @ 15.45 ~ 17.55GHz	

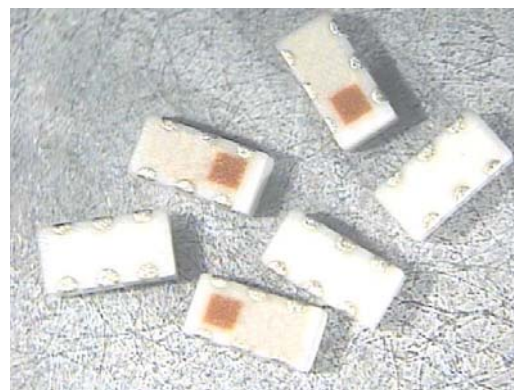
(*RF performance depends on the PCB grounding, including ground via alignment and stack-up, please follow our recommended EVB layout with 3mil FR4 thickness from L1(top layer) to L2(internal ground layer) for optimal results)

Q'ty/Reel (pcs) : 4000
Operating Temperature Range : -40 ~ +95 °C
Storage Temperature Range : -40 ~ +95 °C
Storage Period : 12 months max.
Power Capacity : 3W max.

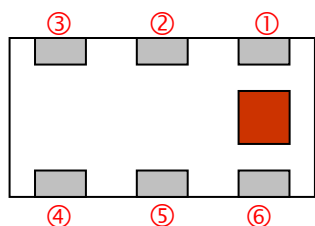
Part Number

DP 1608 - A 2455 DKH0 □ /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=2450MHz /5500MHz
⑤ Specification Code	DKH0	⑥ Packaging	T: Tape & Reel B: Bulk
⑦ Soldering	/LF=lead-free		

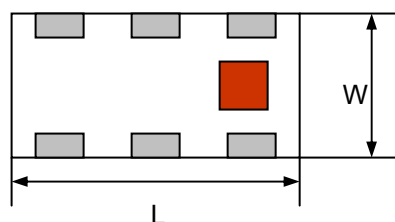


Terminal Configuration

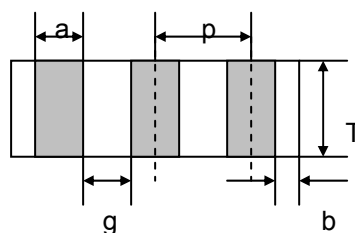


No.	Terminal Name	No.	Terminal Name
①	Lower Freq. Port	④	GND
②	GND	⑤	Common Port
③	Higher Freq. Port	⑥	GND

Dimensions and Recommended PC Board Pattern

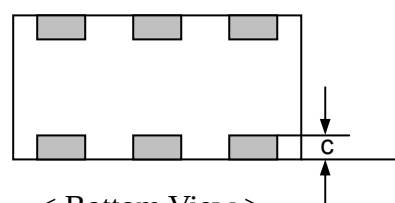


< Top View >



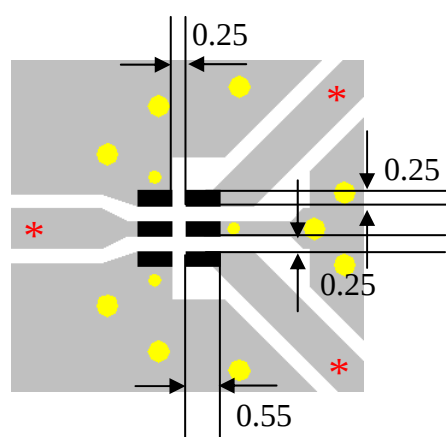
< Side View >

Unit : mm



< Bottom View >

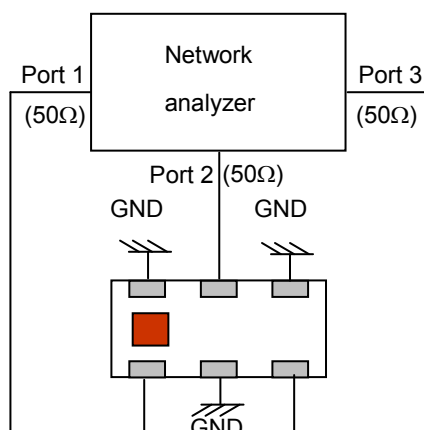
Mark	L	W	T	a	b	c	g	p
Dimensions	1.6±0.1	0.8±0.1	0.6±0.1	0.2±0.1	0.2+0.1 /-0.15	0.15±0.1	0.3±0.1	0.5±0.05



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

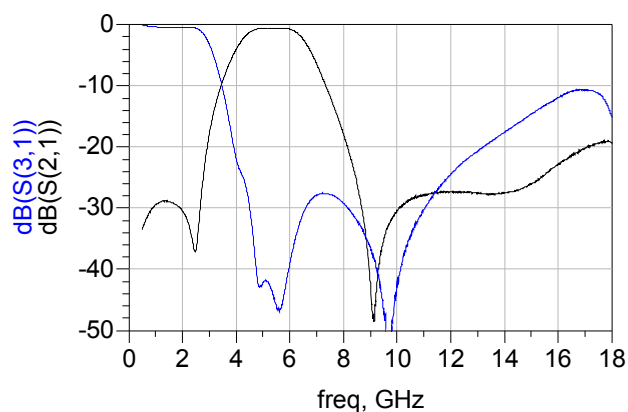
* Line width should be designed to match 50ohm characteristic impedance, depending on PCB material and thickness.

Measuring Diagram

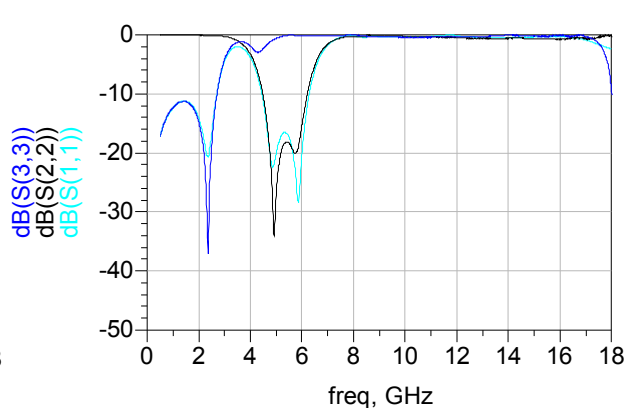


Electrical Characteristics (T=25oC)

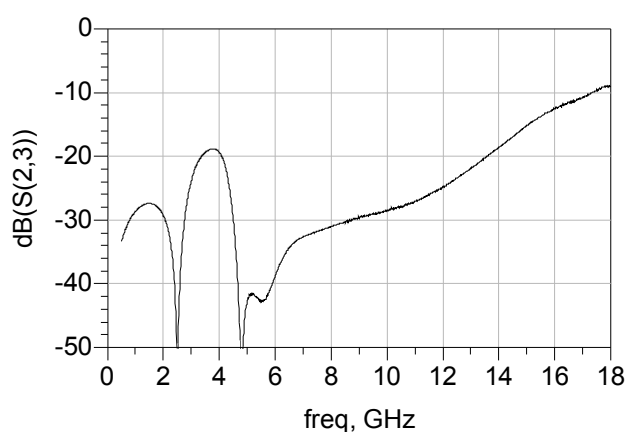
Attenuation



Return Loss



Isolation

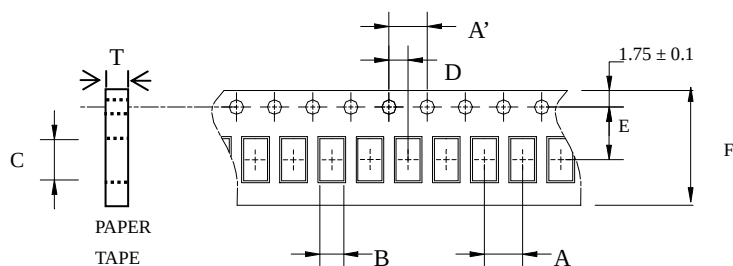


Notes

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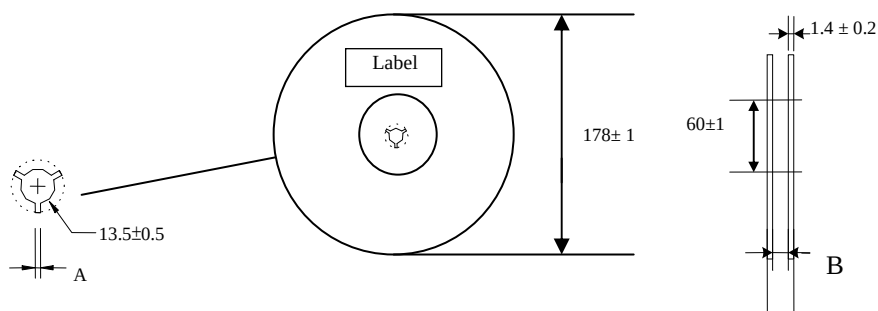
Taping Specifications

❖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		

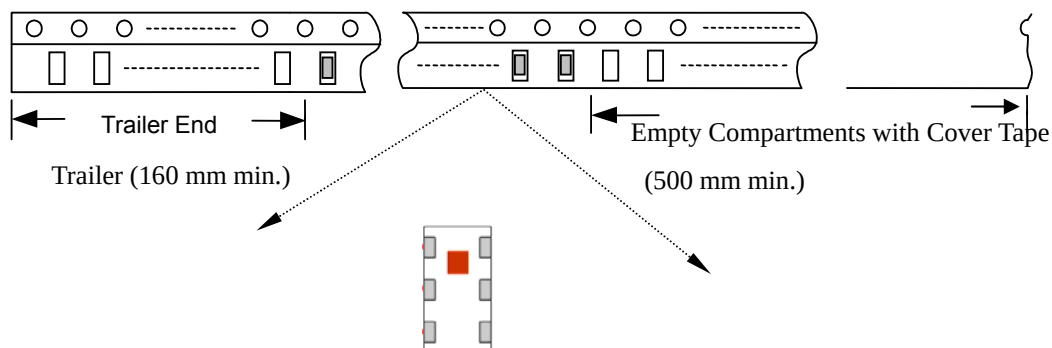
❖Reel Dimensions (Unit: mm)



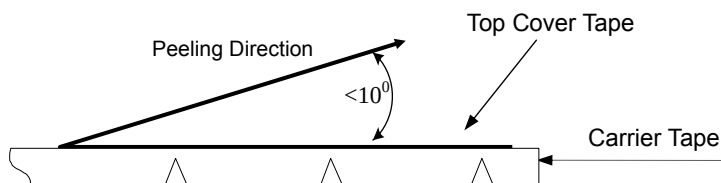
Label: Customer's Name,
ACX P/N, Q'ty, Date,
ACX Corp.

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 .

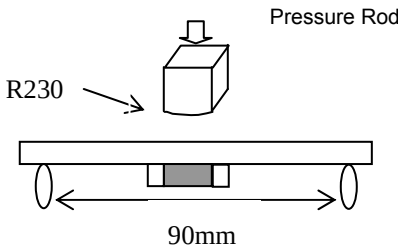
❖Storage Conditions

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

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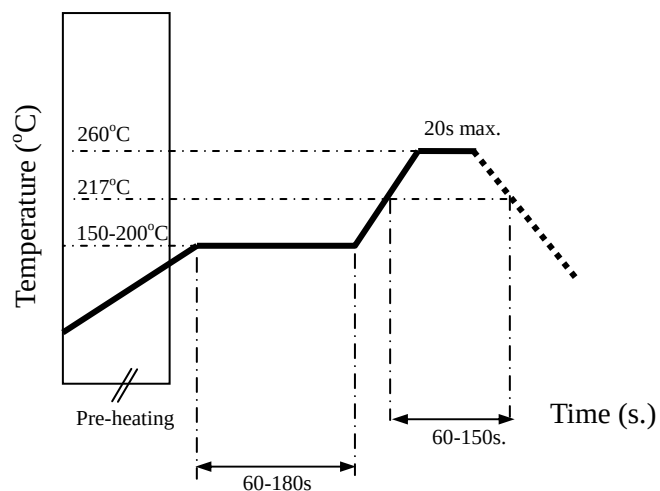
Mechanical & Environmental Characteristics

Item	Requirements	Procedure
Solderability	1. No apparent damage 2. More than 95% of the terminal electrode shall be covered with new solder	1. Preheat: $120 \pm 5^{\circ}\text{C}$ 2. Solder: $245 \pm 5^{\circ}\text{C}$ 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 2. Fulfill the electrical specification	1. Solder specimen onto test jig (FR4, 0.8mm) using the recommend soldering profile. 2. Apply a bending force of 2mm deflection.  90mm
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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