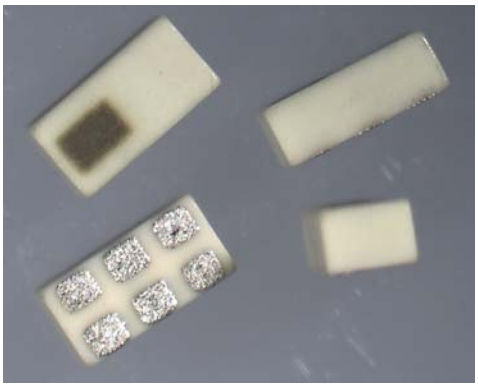
DP 1608 Series

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)	VSWR	Attenuation (dB)	Isolation (dB)
DP1608-R2455MNQ2_	2400~2500	0.8 max. / 0.6 typ.	2.0 max.	45 min. / 50 typ. @4800~5000MHz 15 min. / 33 typ. @7200~7500MHz	40 min. / 50 typ. @2400~2500MHz
	4900~5100	1.3 max. / 1.0 typ.	2.0 max.	40 min. / 50 typ. @2400~2500MHz	40 min. / 50 typ. @4800~5000MHz
	5150~5950	1.0 max. / 0.8 typ.	2.0 max.	22 min. / 25 typ. @10300~11700MHz 15 min. / 25 typ. @15300~16200MHz	40 min. / 45 typ. @5000~6000MHz

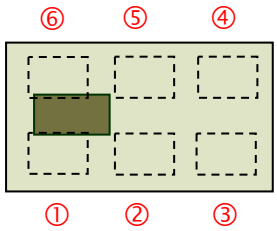
Q'ty/Reel (pcs) : 4000
Operating Temperature Range : -40 ~ +85 °C
Storage Temperature Range : -40 ~ +85 °C
Storage Period : 12 months max.
Power Capacity : 3W max.

Part Number

DP ① 1608 ② - R ③ 2455 ④ MNQ2 ⑤ □ ⑥ /LF ⑦

① Type	DP : Diplexer	② Dimensions (L × W)	1.6 × 0.8 mm
③ Material Code	R	④ Frequency Range	2455=2400MHz/5500MHz
⑤ Specification Code	MNQ2	⑥ Packaging	T: Tape & Reel B: Bulk
⑦ Soldering	/LF=lead-free		

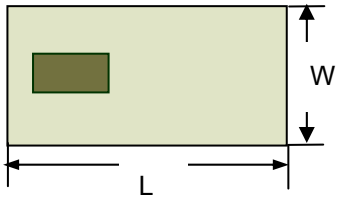
Terminal Configuration



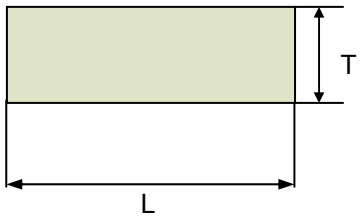
No.	Terminal Name	No.	Terminal Name
①	GND	④	Lower Freq. Port
②	Common Port	⑤	GND
③	GND	⑥	Higher Freq. Port

Dimensions

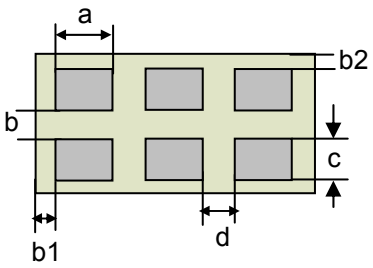
Unit : mm



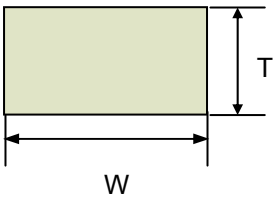
<Top View>



<Side View>

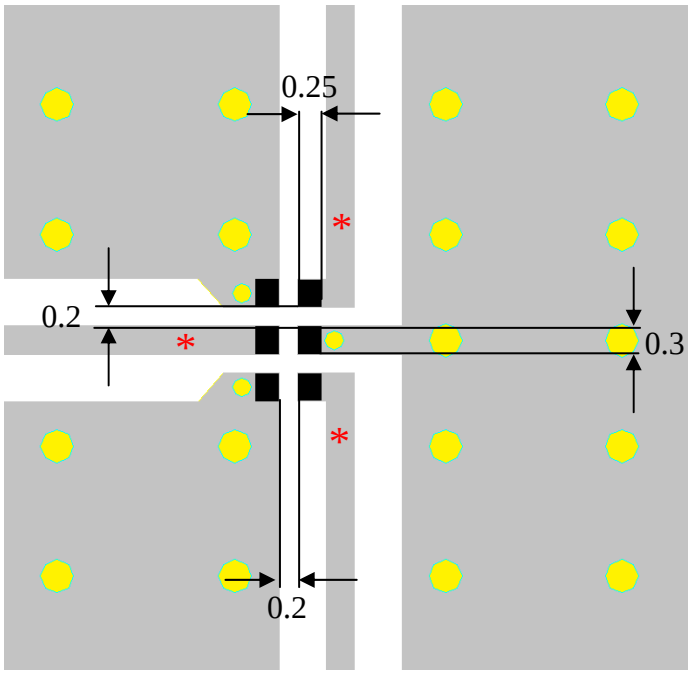


<Bottom View>



<Side View>

Mark	L	W	T	a	b	c	d	b1	b2
Dimensions	1.6±0.1	0.8±0.1	0.7 max.	0.3 ±0.1	0.2 ±0.1	0.25 ±0.1	0.2 ±0.1	0.15 ±0.05	0.05 ±0.05



Solder Resist

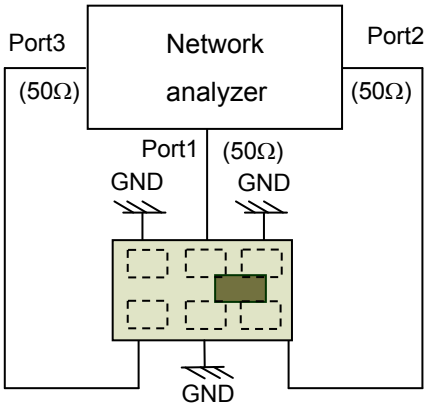
Land

Through-hole (ϕ 0.35)

Through-hole (ϕ 0.2)

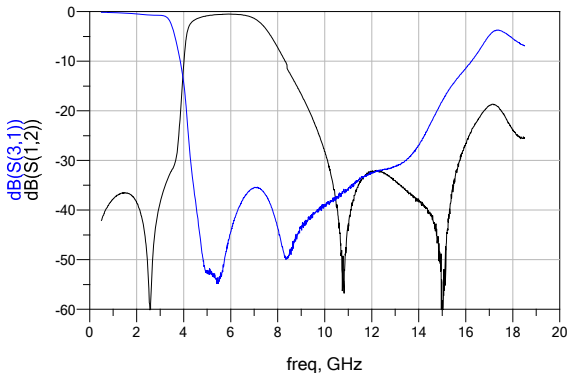
* Line width should be designed to match 50ohm characteristic impedance, depending on PCB material and thickness.

Measuring Diagram

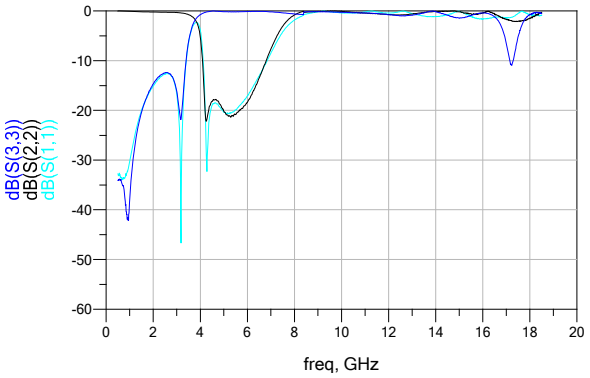


Typical Electrical Characteristics (T=25°C)

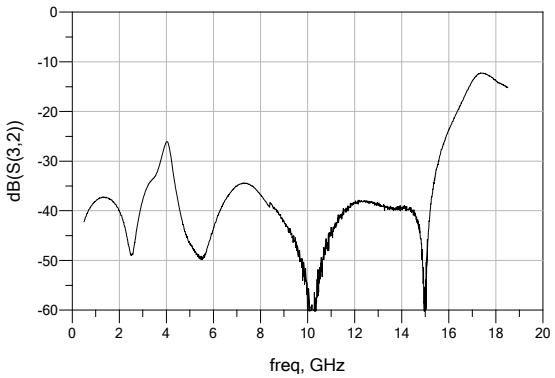
Attenuation



Return Loss



Isolation



Notes

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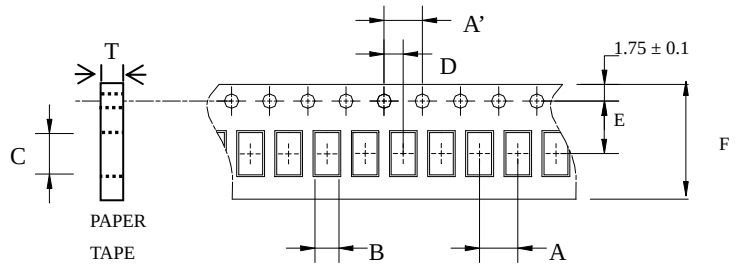
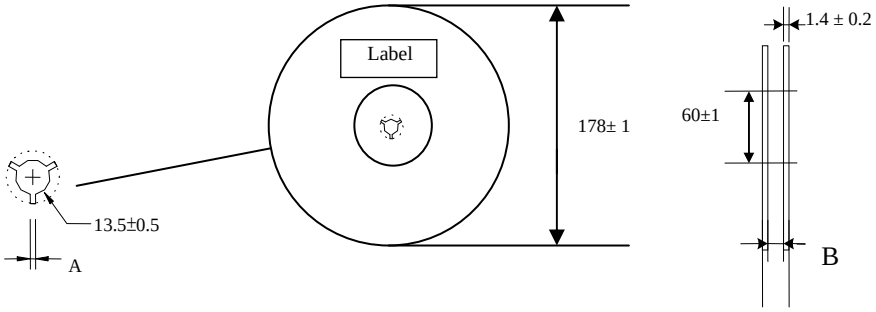
Taping Specifications

❖Tape Dimensions (Unit: mm) & Quantity



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

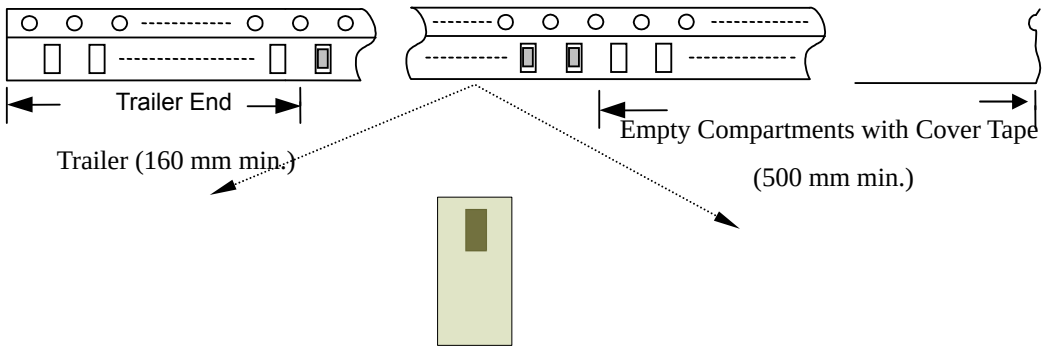
❖Reel Dimensions (Unit: mm)



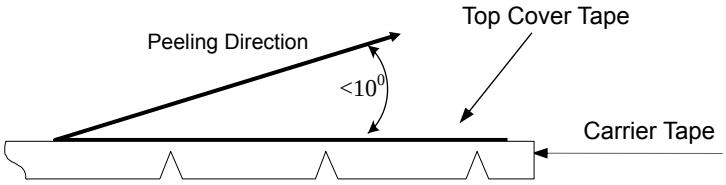
Label: Customer's Name,
ACX P/N, Q'ty, Date,
ACX Corp.

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

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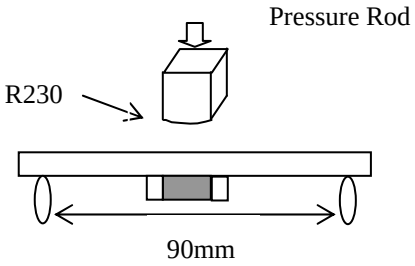
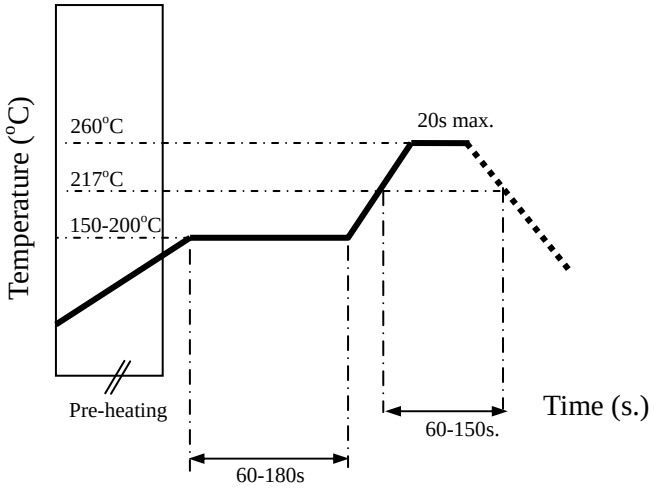
Mechanical & Environmental Characteristics

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. 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± 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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