ACX
Advanced Ceramic X

DP 1608 Series

Multilayer Chip Diplexers

Features

❖ Monolithic structure including two 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)	Return Loss (dB)	Attenuation (dB)	Isolation (dB)
DP1608-R2461BLM1	2400~2500	0.8 max. @ 25℃ / 1.0 max. @-40~105℃	10 min.	15 min. @30~1000MHz 35 min. @4800~5000MHz 30 min. @5000~7125MHz 30 min. @7200~7500MHz 15 min. @7700~7900MHz 15 min. @7500~12000MHz	30 min. @2400~2500MHz 30 min. @5150~5950MHz 10 min. @15000~18000MHz
	5150~7125	1.25 max. @ 25℃ / 1.5 max. @-40~105℃	10 min.	15 min. @10~1000MHz 15 min. @1000~2300MHz 30 min. @2400~2500MHz 20 min. @2700~3500MHz 25 min. @9800~14250MHz 12 min. @14700~20000MHz	

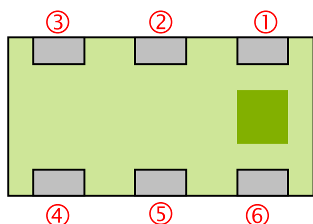
Q'ty/Reel (pcs) : 4000
Operating Temperature Range : -40 ~ +105 °C
Storage Temperature Range : -40 ~ +105 °C
Storage Period : 12 months max.
Power Capacity : 3W max.

Part Number

DP ① 1608 ② - R ③ 2461 ④ BLM1 ⑤ □ ⑥ /LF ⑦

① Type	DP : Diplexer	② Dimensions (L × W)	1.6 × 0.8 mm
③ Material Code	R	④ Frequency Range	2461=2450MHz /6100MHz
⑤ Specification Code	BLM1	⑥ Packaging	T: Tape & Reel B: Bulk
⑦ Soldering	/LF=lead-free		

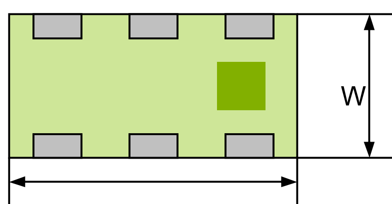
Terminal Configuration



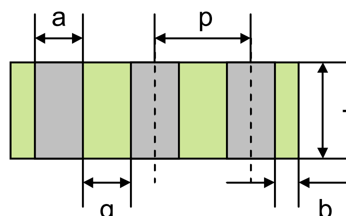
No.	Terminal Name	No.	Terminal Name
①	Higher Freq. Port	④	GND
②	GND	⑤	Common Port
③	Lower Freq. Port	⑥	GND

Dimensions and Recommended PC Board Pattern

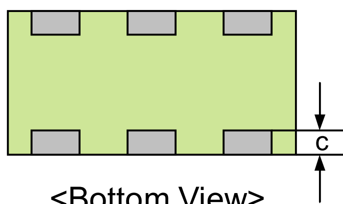
Unit : mm



<Top View>

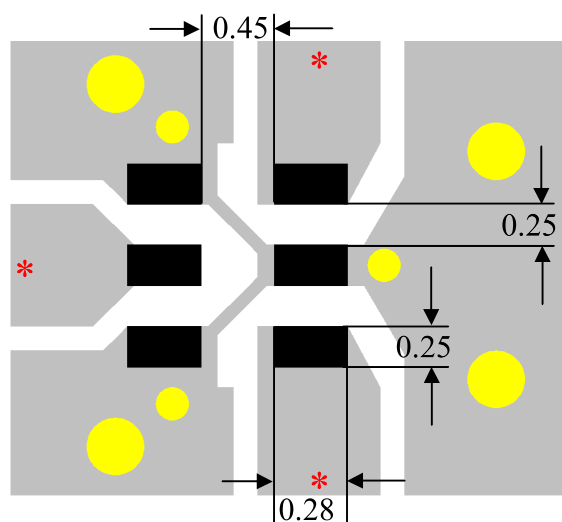


<Side View>



<Bottom View>

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



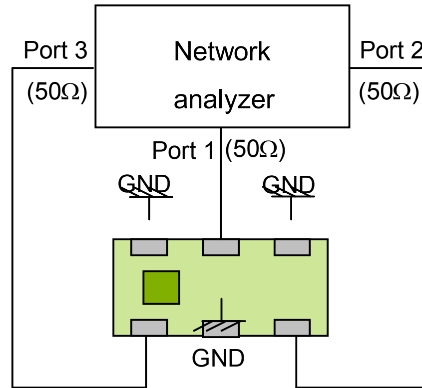
Solder Resist

Land

Through-hole (ϕ 0.35 / ϕ 0.2)

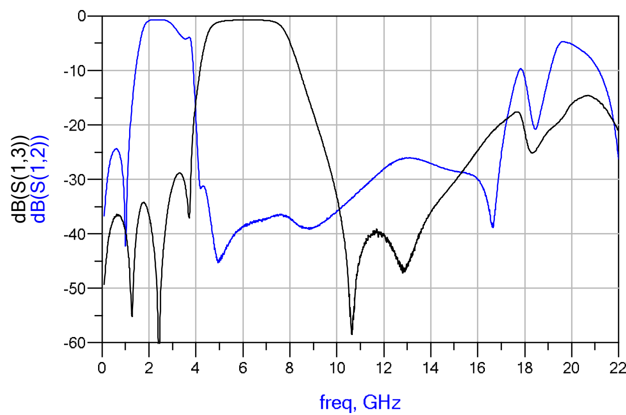
* Line width should be designed to match 50ohm characteristic impedance, depending on PCB material and thickness.

Measuring Diagram

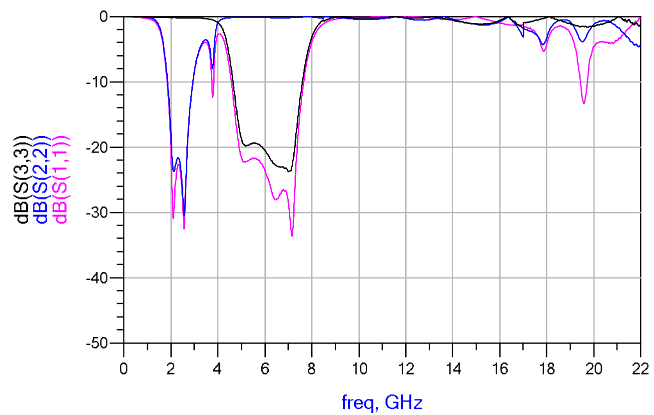


Electrical Characteristics (T=25°C)

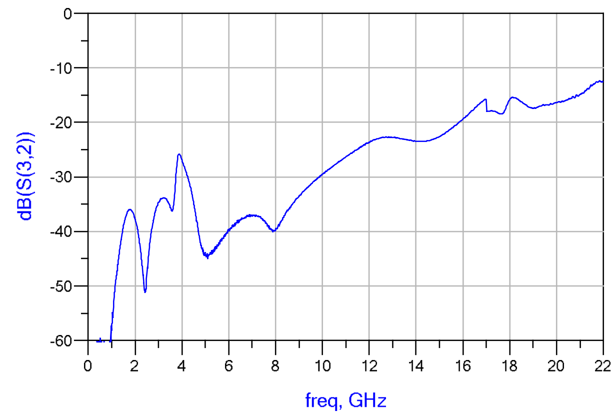
Attenuation



Return Loss



Isolation



Notes

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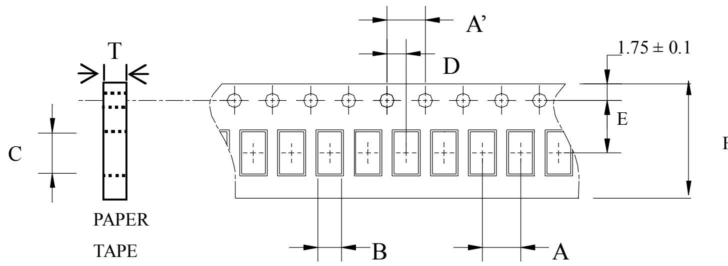
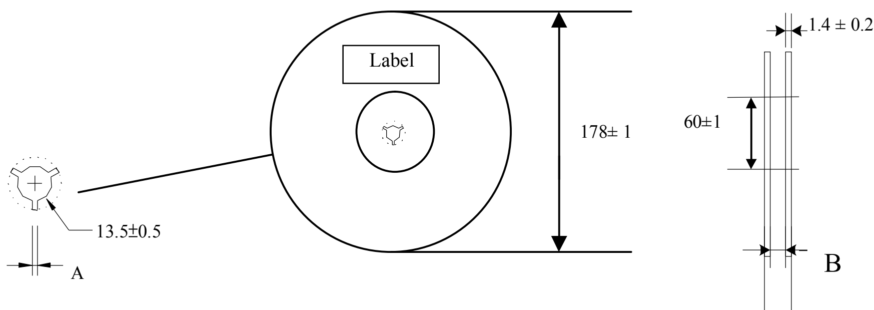
Taping Specifications

❖Tape Dimensions (Unit: mm) & Quantity



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

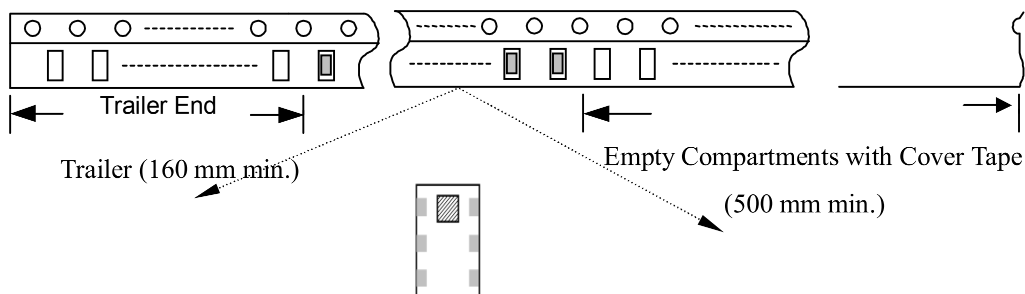
❖Reel Dimensions (Unit: mm)



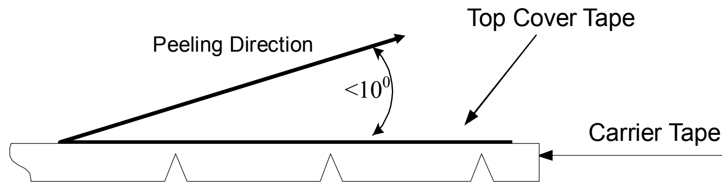
Label: Customer’s Name,
ACX P/N, Q’ty, Date,
ACX Corp.

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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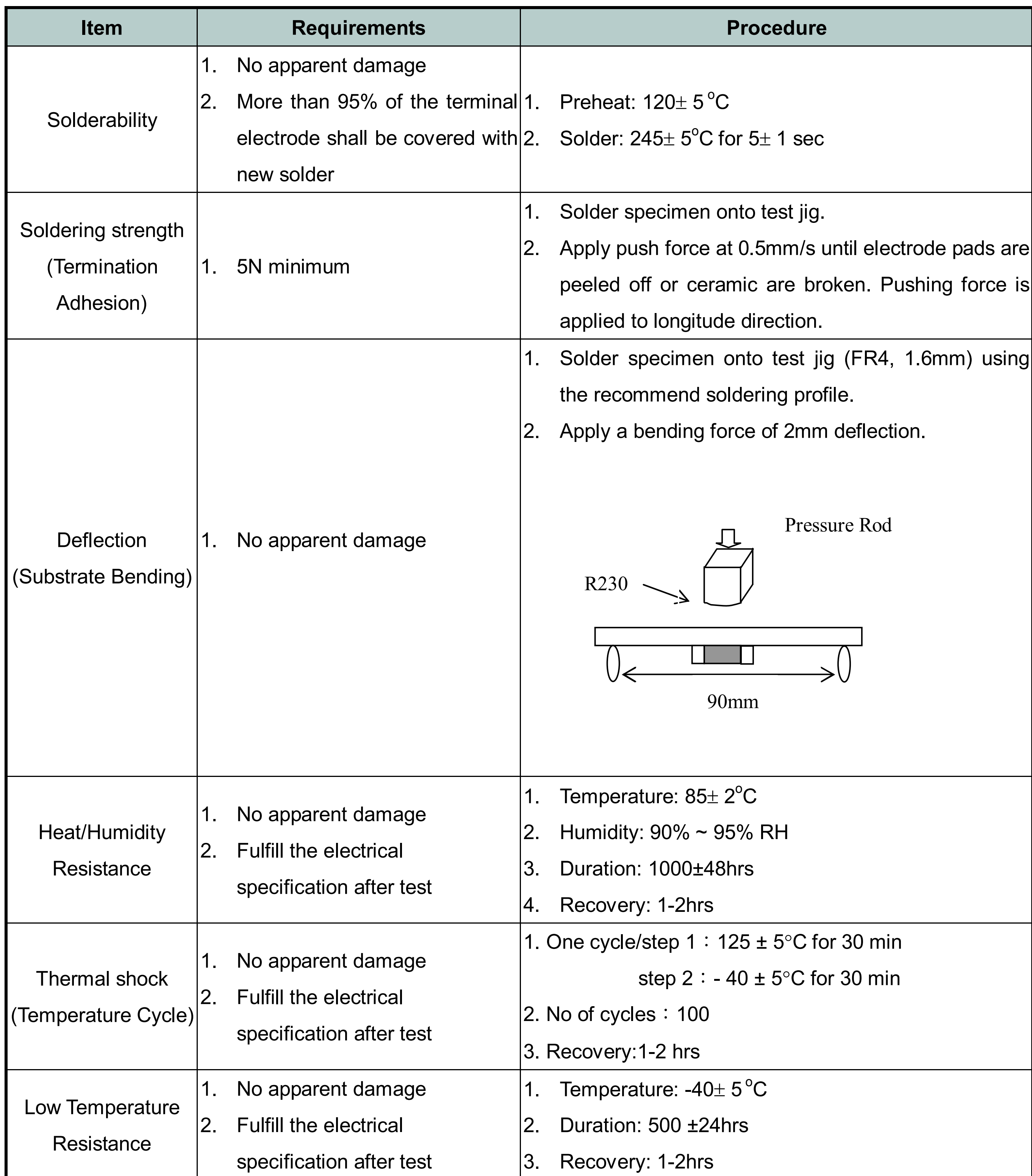
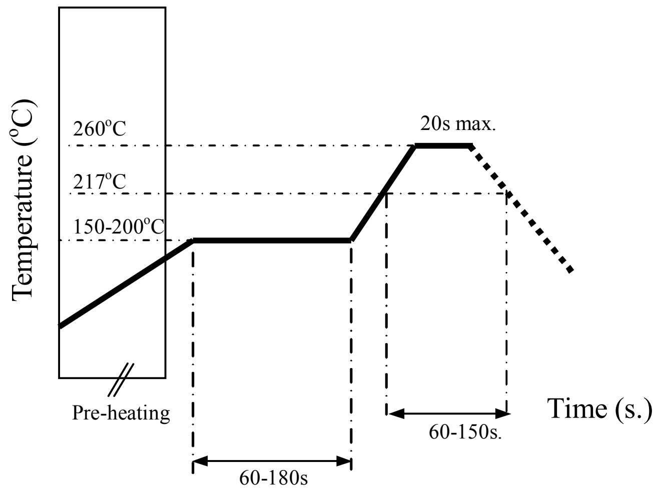
Mechanical & Environmental Characteristics

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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