

DP 2015 Series

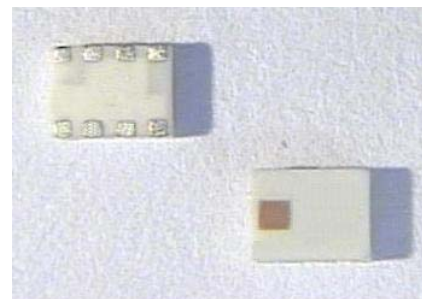
Multilayer Chip Diplexers

Features

- ❖ Monolithic structure including one low-pass and one band -pass filters with loss pole at adjacent passband.
- ❖ RoHS compliant

Applications

- ❖ Wireless communication Dual-band / dual-mode 2.4GHz/5GHz WLAN



Specifications

Part Number	Freq. Range (MHz)	ANT Port Impedance (ohm)	RX/TX Port Impedance (ohm)	Insertion Loss @ BW (dB)	VSWR @ BW	Attenuation (dB)	Isolation (dB)
DP2015-A2455AA_	2400 ~ 2500	50	RX : Conj. match To MT7668	2.2 max @ 25°C 2.5 max @ 105°C	2.0 max.	21min.@4800~5000 MHz 23min.@5000~5950 MHz 20min.@7200~7500 MHz	
		50	TX : Conj. Match To MT7668	1.5 max @ 25°C 1.8 max @ 105°C	2.0 max.	27min.@4800~5000 MHz 23min.@5000~5950 MHz 20min.@7200~7500 MHz	30min.@4900~5950 MHz
	4900 ~ 5950	50	50	1.3 max @ 25°C 1.6 max @ 105°C	2.0 max.	30min.@2400~2500 MHz 10min.@8100~8800 MHz 15min.@8820~9800 MHz 23min.@9800~11900 MHz	25min.@2400~2500 MHz

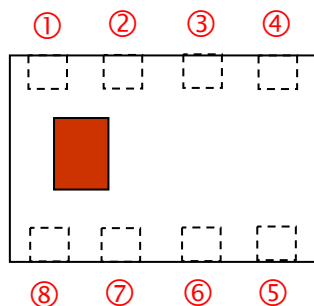
Q'ty/Reel (pcs) : 4,000
 Operating Temperature Range : -40 ~ +105 °C
 Storage Temperature Range : -40 ~ +105 °C
 Storage Period : 12 months max.*
 *12 months in vacuum sealed bag and 1 week after opened. Please keep unused parts in vacuum sealed bags.
 Solder Paste : SAC 305 type is recommended.
 Power Capacity : 3W max.

Part Number

DP 2015 - A 2455 AA □ /LF
 ① ② ③ ④ ⑤ ⑥ ⑦

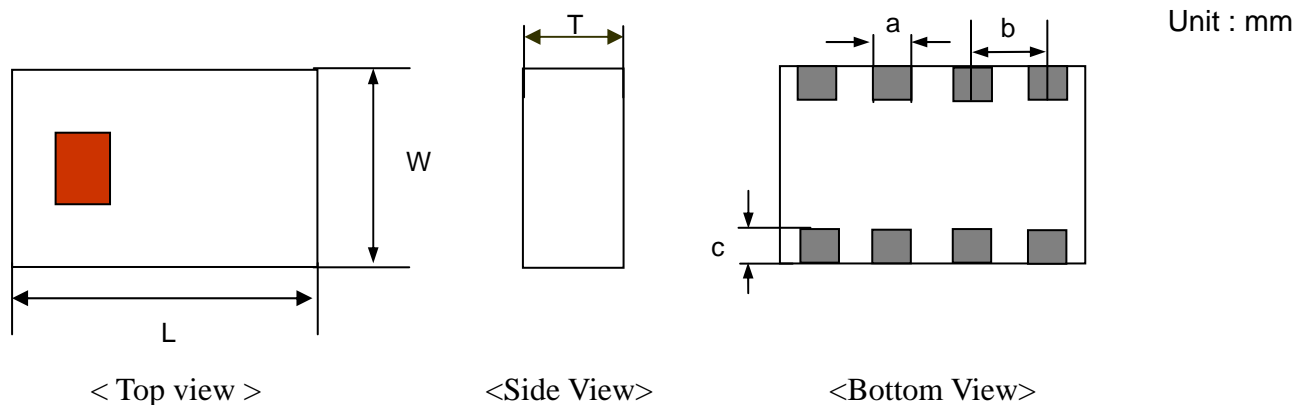
① Type	DP : Diplexer	② Dimensions (L x W)	2.0 x 1.5 mm
③ Material Code	A	④ Frequency Range	2455=2400MHz /5500MHz
⑤ Specification Code	AA	⑥ Packaging	T: Tape & Reel B: Bulk
⑦ Soldering	/LF=lead-free		

Terminal Configuration

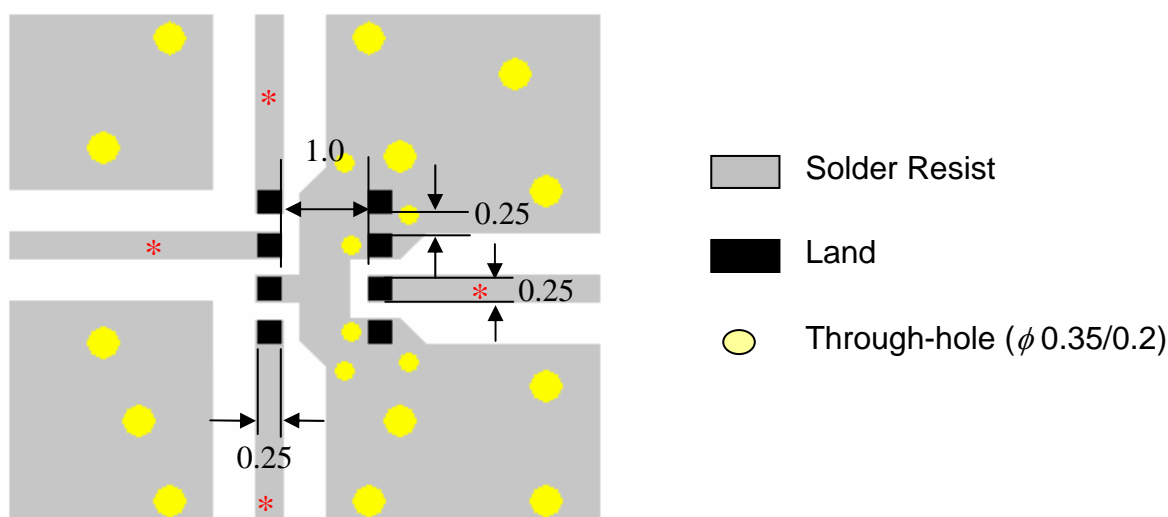


No.	Terminal Name	No.	Terminal Name
①	TRXA	⑤	GND
②	GND	⑥	GND
③	RXG	⑦	ANT
④	TXG	⑧	GND

Dimensions and Recommended PC Board Pattern

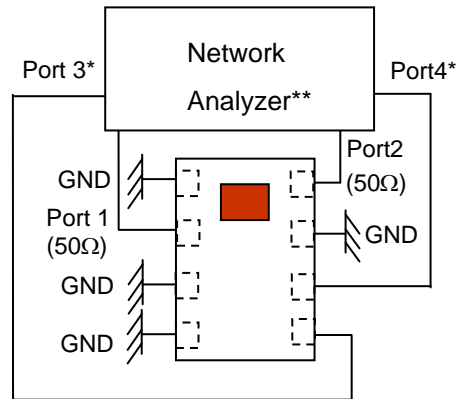


Mark	L	W	T	a	b	c
Dimensions	2.0 ± 0.1	1.5 ± 0.1	0.65 ± 0.1	0.25 +0.1/-0.05	0.5 ± 0.05	0.25 +0.1/-0.05



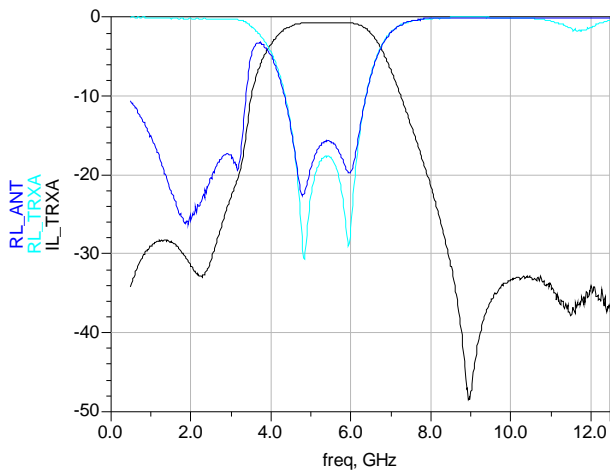
* Line width should be designed to match 50 Ω characteristic impedance, depending on PCB material and thickness.

Measuring Diagram

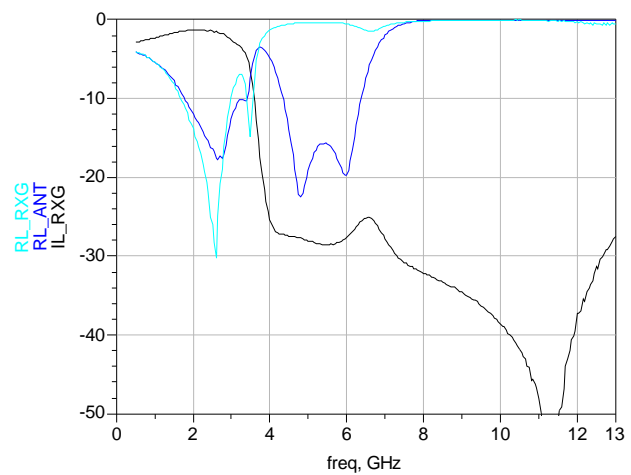


Typical Electrical Characteristics (T=25°C)

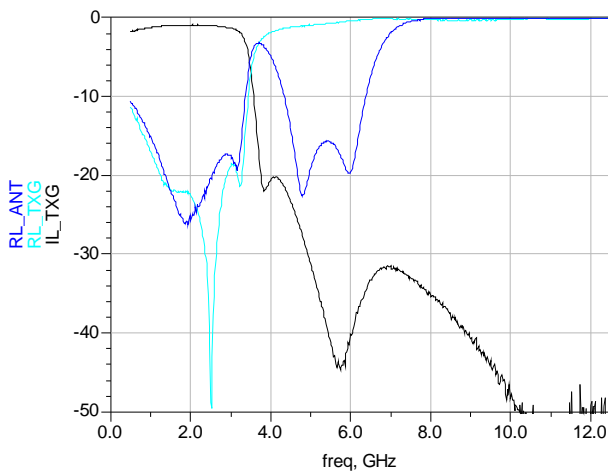
TRXA Attenuation and Return Loss



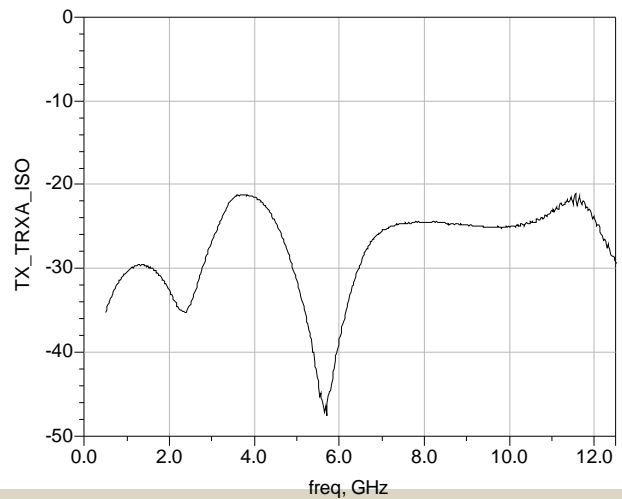
RXG Attenuation and Return Loss



TXG Attenuation and Return Loss



Isolation

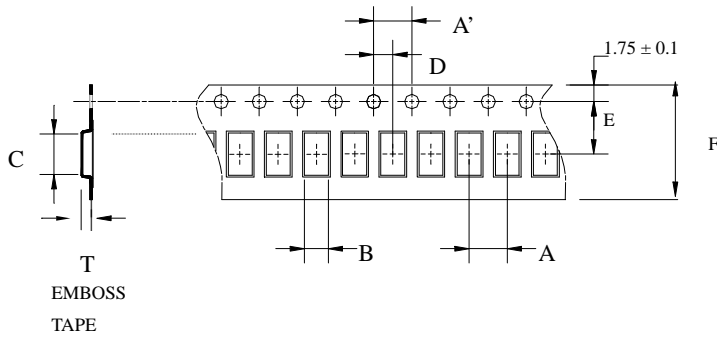


Notes

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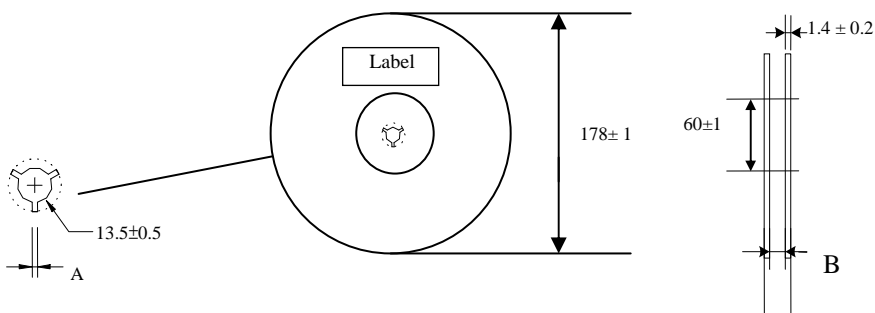
Taping Specifications

❖Tape Dimensions (Unit: mm) & Quantity



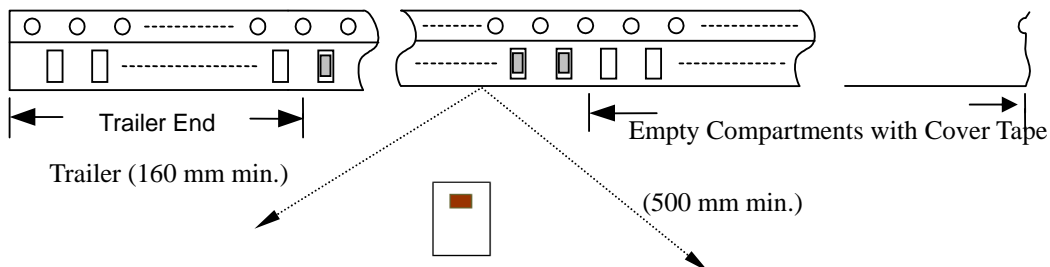
Type	A	A'	B	C	D	E	F	T	Quantity/reel	Tape material
2015	4.0±	4.0±	1.75±	2.30±	2.0±	3.5±	8.0±	0.80±	4,000pcs	Plastic (Embossed)
	0.10	0.10	0.10	0.10	0.05	0.10	0.10	0.05		

❖Reel Dimensions (Unit: mm)

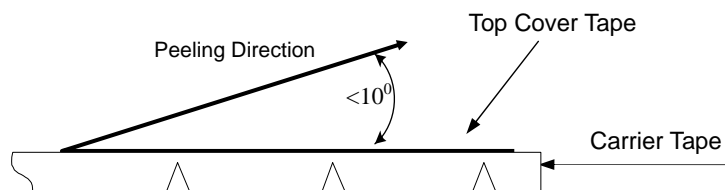


Type	A	B
2015	2.3±0.5	9.0±0.3

❖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 .

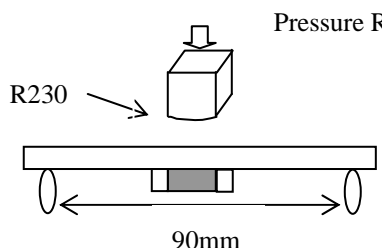
❖ **Storage Conditions**

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

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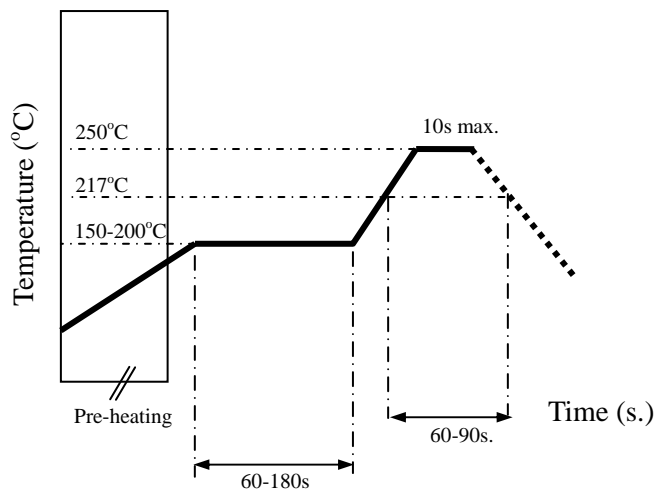
Mechanical & Environmental Characteristics

Item	Requirements	Procedure
Solderability	<ol style="list-style-type: none"> No apparent damage More than 75% of the terminal electrode shall be covered with new solder 	<ol style="list-style-type: none"> Preheat: $120 \pm 5^\circ\text{C}$ Solder: $245 \pm 5^\circ\text{C}$ for 5 ± 1 sec
Soldering strength (Termination Adhesion)	<ol style="list-style-type: none"> 1kg minimum 	<ol style="list-style-type: none"> 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)	<ol style="list-style-type: none"> No apparent damage Fulfill the electrical specification 	<ol style="list-style-type: none"> Solder specimen onto test jig (FR4, 0.8mm) using the recommend soldering profile. Apply a bending force of 2mm deflection 
Heat/Humidity Resistance	<ol style="list-style-type: none"> No apparent damage Fulfill the electrical specification after test 	<ol style="list-style-type: none"> Temperature: $85 \pm 2^\circ\text{C}$ Humidity: 90% ~ 95% RH Duration: 1000 ± 48hrs Recovery: 1-2hrs
Thermal shock (Temperature Cycle)	<ol style="list-style-type: none"> No apparent damage Fulfill the electrical specification after test 	<ol style="list-style-type: none"> 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	<ol style="list-style-type: none"> No apparent damage Fulfill the electrical specification after test 	<ol style="list-style-type: none"> 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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