

DP 2012 Series

Multilayer Chip Diplexers

Features

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

Applications

- ❖ Wireless communication Dual-band / dual-mode



Specifications

Part Number	Passband (MHz)	Insertion Loss (dB)	VSWR	Attenuation (dB)
DP2012-A0822NB	617-746	0.4 max	2.0 max.	30 min. @ 1710-2170 MHz
	746-960	0.5 max		30 min. @ 2170-2400 MHz 35 min. @ 2400-2700 MHz
	1710-2700	0.5 max.	2.0 max.	25 min. @ 698-960 MHz

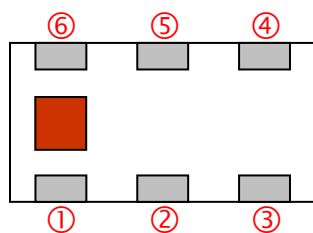
Q'ty/Reel (pcs) : 4,000
 Operating Temperature Range : -40 ~ +85 °C
 Storage Temperature Range : -40 ~ +85 °C
 Storage Period : 12 months max.
 Power Capacity : 3W max.

Part Number

DP 2012 - A 0822 NB □ /LF
 ① ② ③ ④ ⑤ ⑥ ⑦

① Type	DP : Diplexer	② Dimensions (L × W)	2.0 × 1.2 mm
③ Material Code	A	④ Frequency Range	0822=800MHz /2200MHz
⑤ Specification Code	NB	⑥ Packaging	T: Tape & Reel B: Bulk
⑦ Soldering	/LF=lead-free		

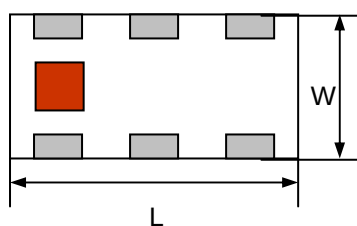
Terminal Configuration



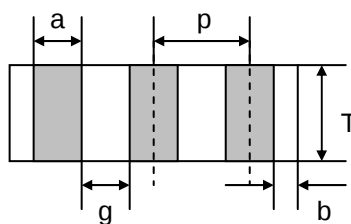
No.	Terminal Name	No.	Terminal Name
①	GND	④	Lower Freq. Port
②	Common Port	⑤	GND
③	GND	⑥	Higher Freq. Port

Dimensions and Recommended PC Board Pattern

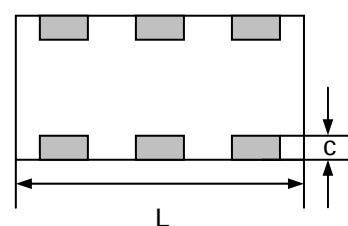
Unit : mm



< Top View >



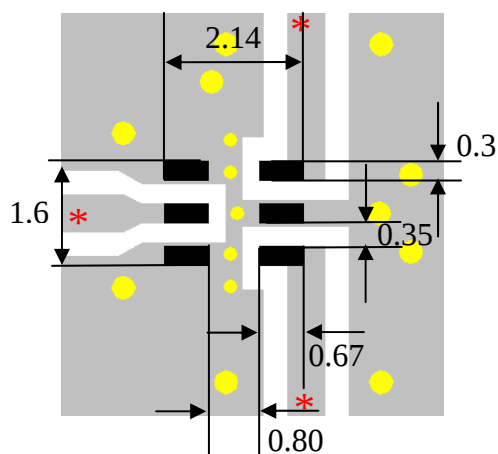
< Side View >



< Bottom View >

Mark	L	W	T	a	b	c	g	p
Dimensions	2.0 ± 0.1	1.25 ± 0.1	0.9 ± 0.1	0.3 ± 0.1	0.2 ± 0.1	0.3+0.1 / -0.2	0.35 ± 0.1	0.65 ± 0.05

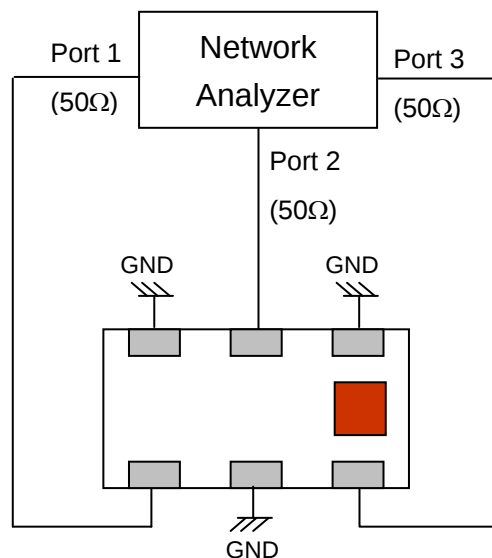
Recommended PC Board Pattern



-  Solder Resist
-  Land
-  Through-hole (ϕ 0.35 / 0.20)

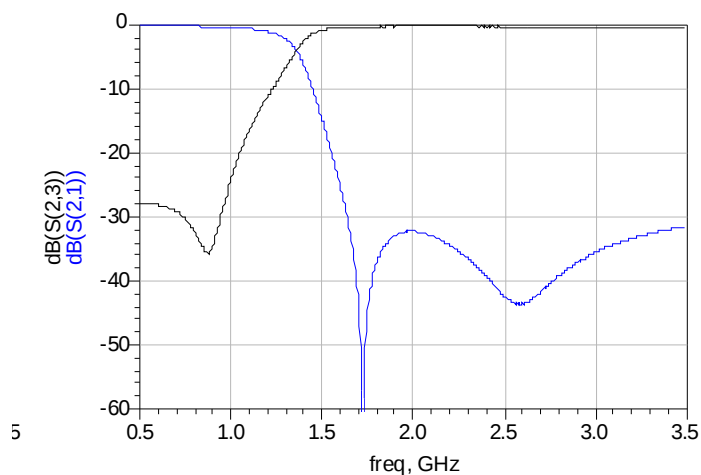
* Line width should be designed to match 50Ω characteristic impedance, depending on PCB material and thickness.

Measuring Diagram

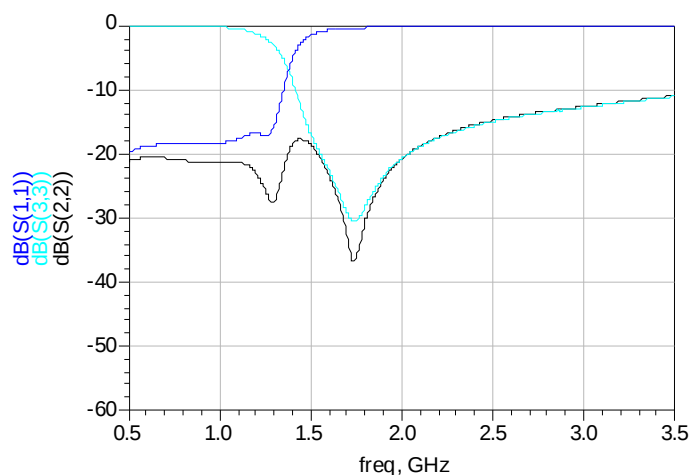


Typical Electrical Characteristics (T=25°C)

Attenuation



Return Loss

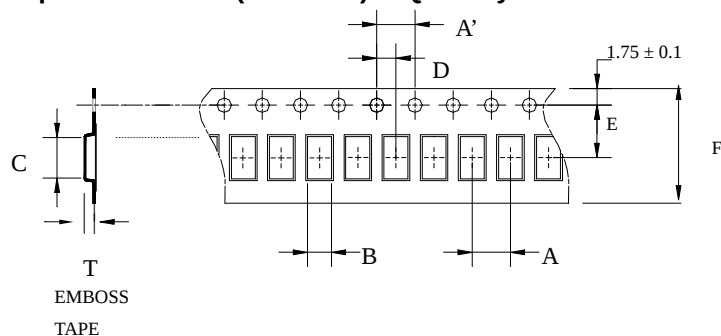


Notes

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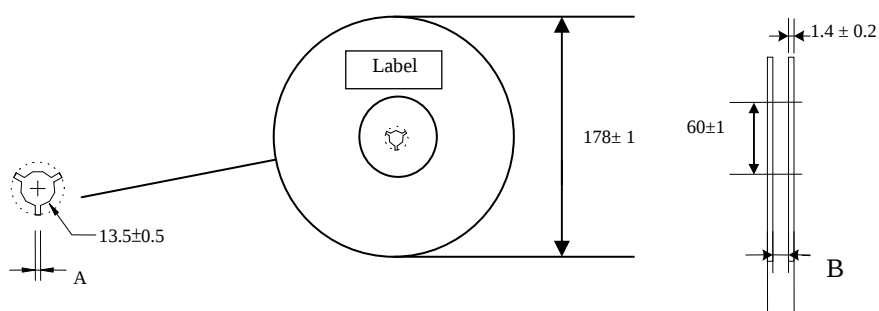
Taping Specifications

❖Tape Dimensions (Unit: mm) & Quantity



Type	A	A'	B	C	D	E	F	T	Quantity/reel	Tape material
2012	4.0±	4.0±	1.35±	2.15±	2.0±	3.5±	8.0±	1.08±	4,000pcs	Plastic (Embossed)
	0.1	0.1	0.05	0.05	0.05	0.1	0.1	0.05		

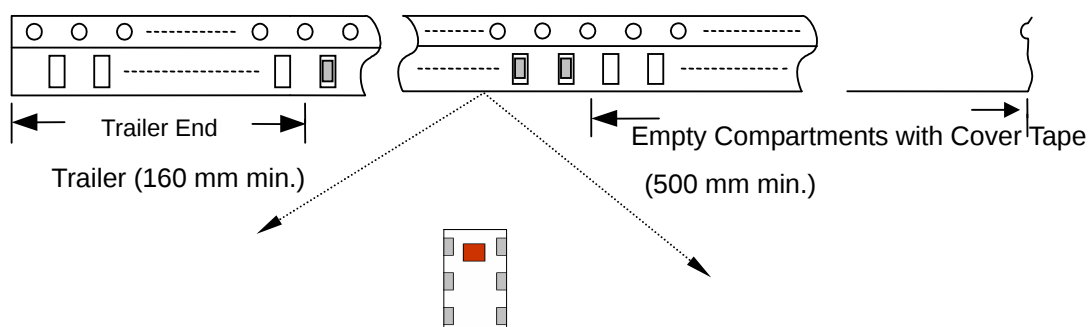
❖Reel Dimensions (Unit: mm)



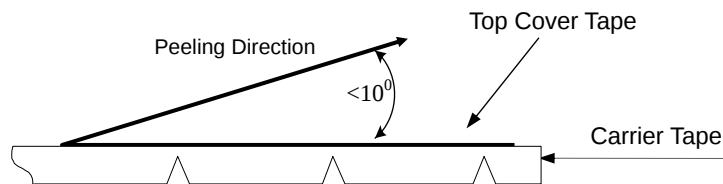
Label: Customer's Name,
ACX P/N, Q'ty, Date,
ACX Corp.

Type	A	B
2012	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 .

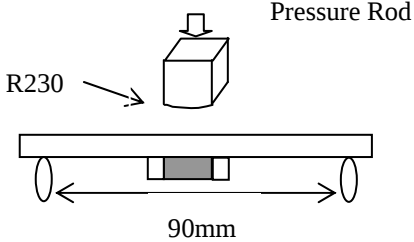
❖ Storage Conditions

- (1) Temperature: $5 \sim 35^\circ\text{C}$, relative humidity (RH): 45~75%.
- (2) Non-corrosive environment.

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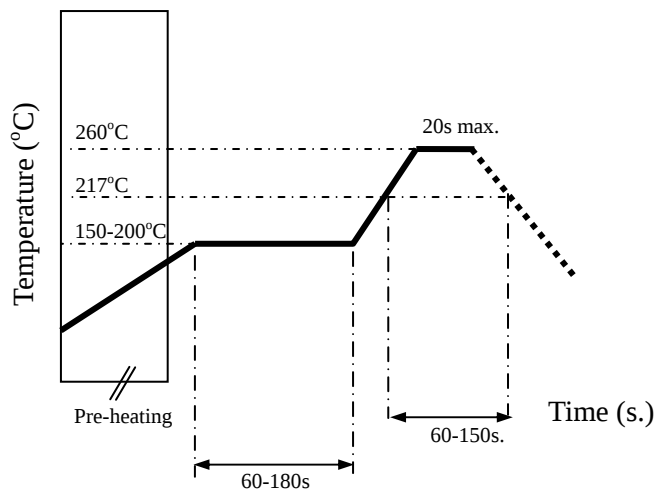
Mechanical & Environmental Characteristics

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 
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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