

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

- ❖ Dual-band / dual-mode for LTE Mobile Communication.



Target Specifications

Part Number	Passband (MHz)	Insertion Loss (dB)	Return Loss (dB)	Attenuation (dB)
DP2012-A1926NA_	698~1710	0.38 typ./0.8 max.	15 typ./10 min.	17 typ./15 min. @2500~2690MHz
	1710~1980	0.50 typ./0.8 max.	18 typ./10 min.	
	2110~2170	1.05 typ./1.2 max.	17 typ./10 min.	
	2500~2690	1.10 typ./1.2 max.	12 typ./10 min.	16 typ./15 min. @1710~1980MHz. 16 typ./15 min. @2110~2170MHz

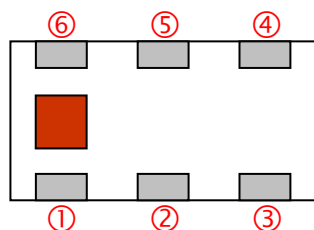
Q'ty/Reel (pcs) : 4,000
 Operating Temperature Range : -40 ~ +85 °C
 Storage Temperature Range : -40 ~ +85 °C
 Storage Period : 12 months max.
 Power Capacity : 3W max.

Part Number

DP 2012 - A 1926 NA □ /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	1926=1900MHz/2600MHz
⑤ Specification Code	NA	⑥ Packaging	T: Tape & Reel B: Bulk
⑦ Soldering	/LF=lead-free		

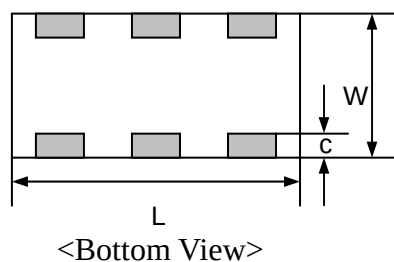
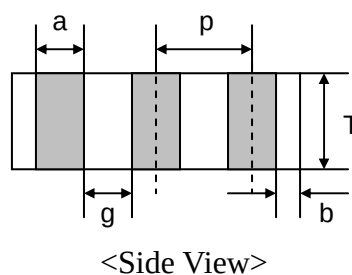
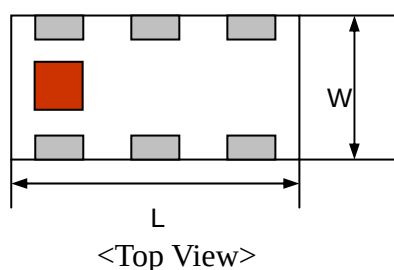
Terminal Configuration



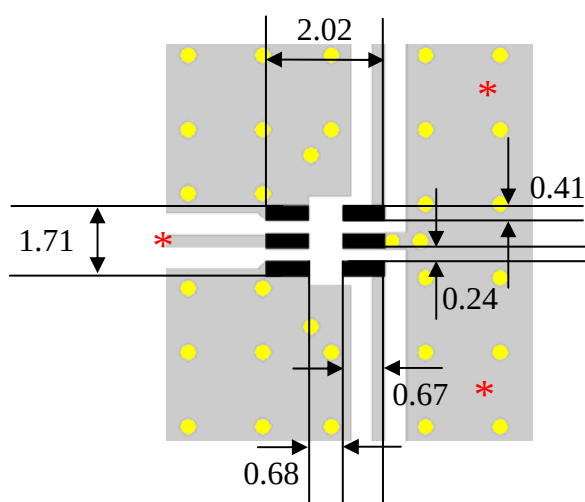
No.	Terminal Name	No.	Terminal Name
①	GND	④	Lower Freq. Port
②	Common Port	⑤	GND
③	GND	⑥	Higher Freq. Port

Dimensions and Recommended PC Board Pattern

Unit : mm



Mark	L	W	T	a	b	c	g	p
Dimensions	2.0 ± 0.15	1.2 ± 0.15	0.9 ± 0.10	0.3 ± 0.15	0.2 ± 0.15	0.3 ± 0.15	0.35 ± 0.15	0.65 ± 0.15

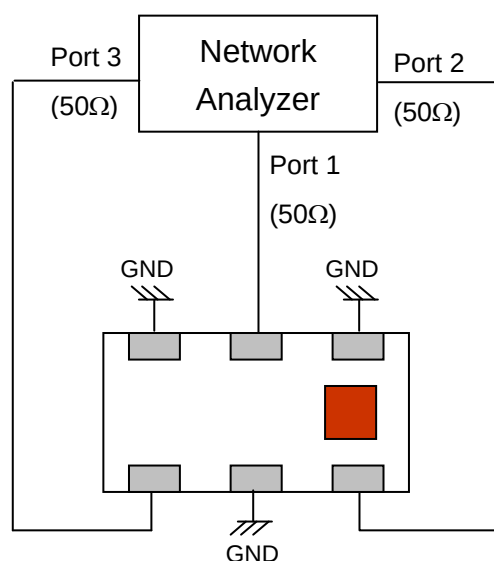


- Solder Resist
- Land
- Through-hole (φ 0.35)

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

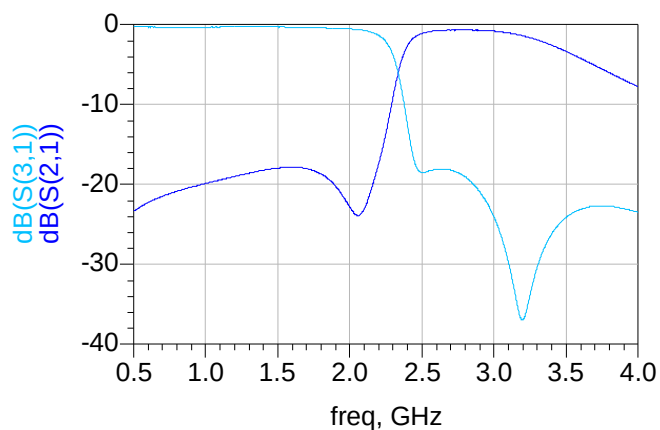
Measuring Diagram

Unit : mm

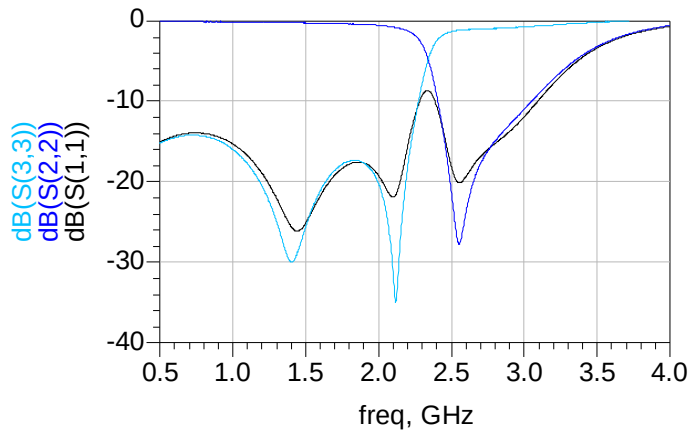


Typical Electrical Characteristics (T=25°C)

Attenuation



Return Loss

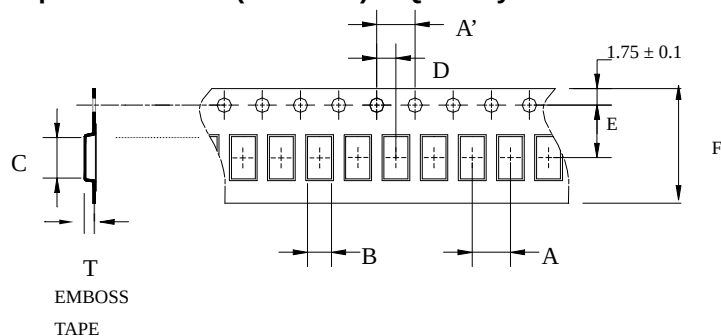


Notes

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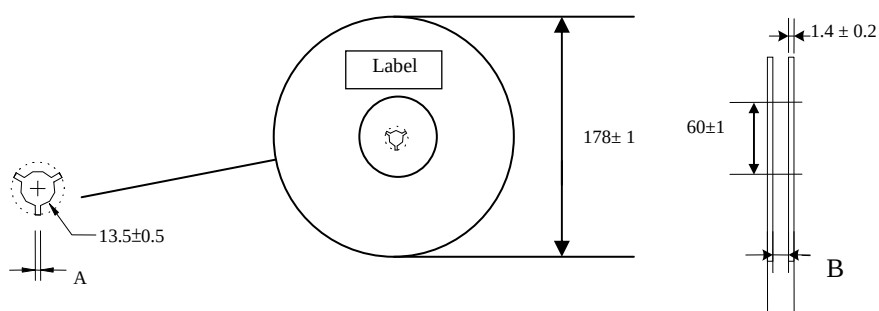
Taping Specifications

❖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		

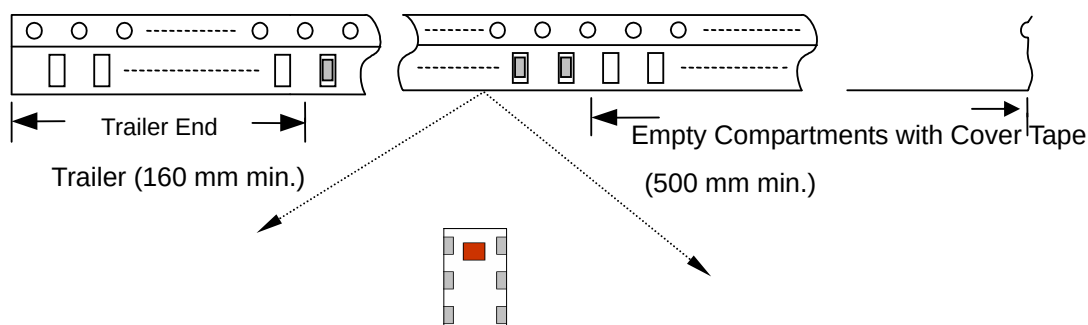
❖Reel Dimensions (Unit: mm)



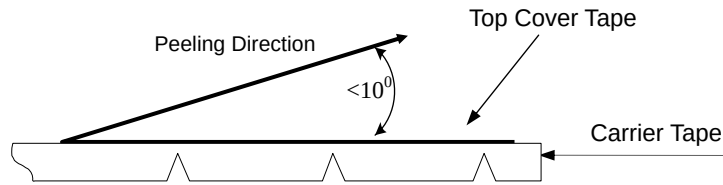
Label: Customer's Name,
ACX P/N, Q'ty, Date,
ACX Corp.

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 .

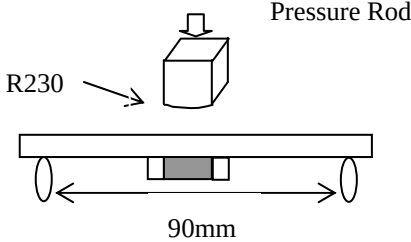
❖ Storage Conditions

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

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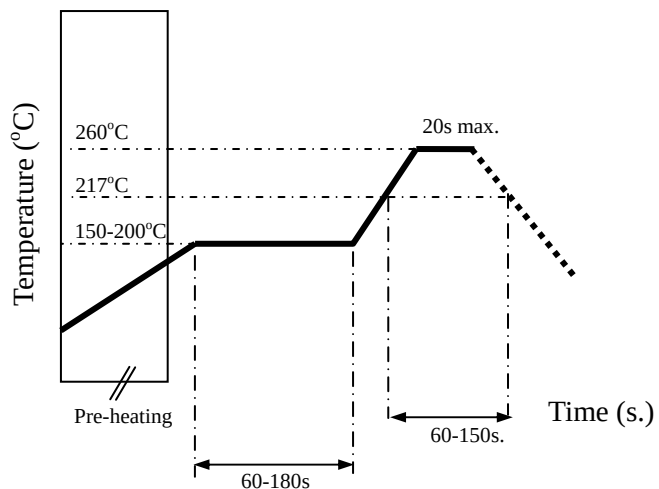
Mechanical & Environmental Characteristics

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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Advanced Ceramic X Corp.

No.165 Hanyang Road, Hsinchu Industrial District, Hsinchu Hsien, Taiwan, 30350

TEL: 886-3-5987008 FAX: 886-3-5987001

E-mail: acx@acxc.com.tw

<http://www.acxc.com.tw>