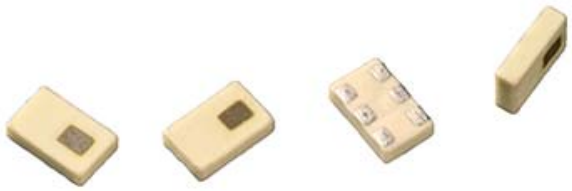
DP 2012 Series

Multilayer Chip Diplexers

Features

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

❖RoHS compliant.



Applications

❖ Dual-band / dual-mode LTE mobile communication.

Specifications

Part Number	Passband (MHz)	Insertion Loss (dB)	Return Loss (dB)	Attenuation (dB)	Isolation (dB)
DP2012-R1746LA	617 - 960	0.35 max. / 0.17 typ.	10min. / 13 typ.	17 min. / 20 typ. @3300 - 3400MHz 17 min. / 20 typ. @3400 - 3800MHz 22 min. / 25 typ. @5150 - 5925MHz	25min. / 30 typ. @617 - 960MHz 25 min. / 30 typ. @1427 - 1511MHz 25 min. / 30 typ. @1710 - 2170MHz 25 min. / 30 typ. @2170 - 2690MHz 17 min. / 20 typ. @3300 - 3400MHz 17 min. / 20 typ. @3400 - 3800MHz 22 min. / 25 typ. @5150 - 5925MHz
	1427 - 1511	0.45 max. / 0.29 typ.			
	1710 - 2170	0.75 max. / 0.57 typ.	10 min. / 12 typ.		
	2300 - 2496	1.1 max. / 0.85 typ.			
	2496 - 2690	1.3 max. / 1.15 typ.			
	3300 - 3400	1.3max. / 1.2 typ.	10 min. / 12 typ.	25 min. / 30 typ. @617 - 960MHz 25 min. / 30 typ. @1427 - 1511MHz 25 min. / 30 typ. @1710 - 2170MHz 23 min. / 28 typ. @2170 - 2690MHz 10 min. / 15 typ. @10300 - 11850MHz 15 min. / 20 typ. @15450 - 17775MHz	
	3400 - 3800	1.1 max. / 0.97 typ.			
	5150 - 5925	0.9 max. / 0.72 typ.			

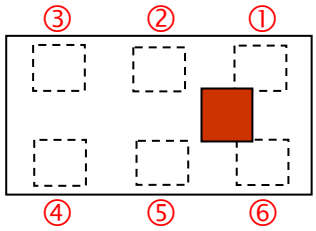
Q'ty/Reel (pcs) : 4,000
Operating Temperature Range : -40 ~ +85 °C
Storage Temperature Range : -40 ~ +85 °C
Storage Period : 12 months max.
Power Capacity : 3W max.

Part Number

DP	2012	-	R	1746	LA	□	/LF
①	②		③	④	⑤	⑥	⑦

① Type	DP : Diplexer	② Dimensions (L × W)	2.0 × 1.2 mm
③ Material Code	R	④ Frequency Range	1746=1700MHz /4600MHz
⑤ Specification Code	LA	⑥ Packaging	T: Tape & Reel B: Bulk
⑦ Soldering	/LF=lead-free		

Terminal Configuration

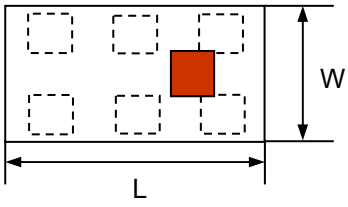


<Top view >

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 >

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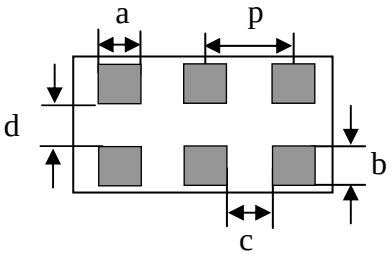

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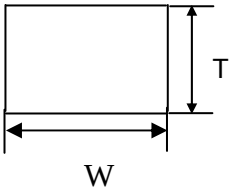
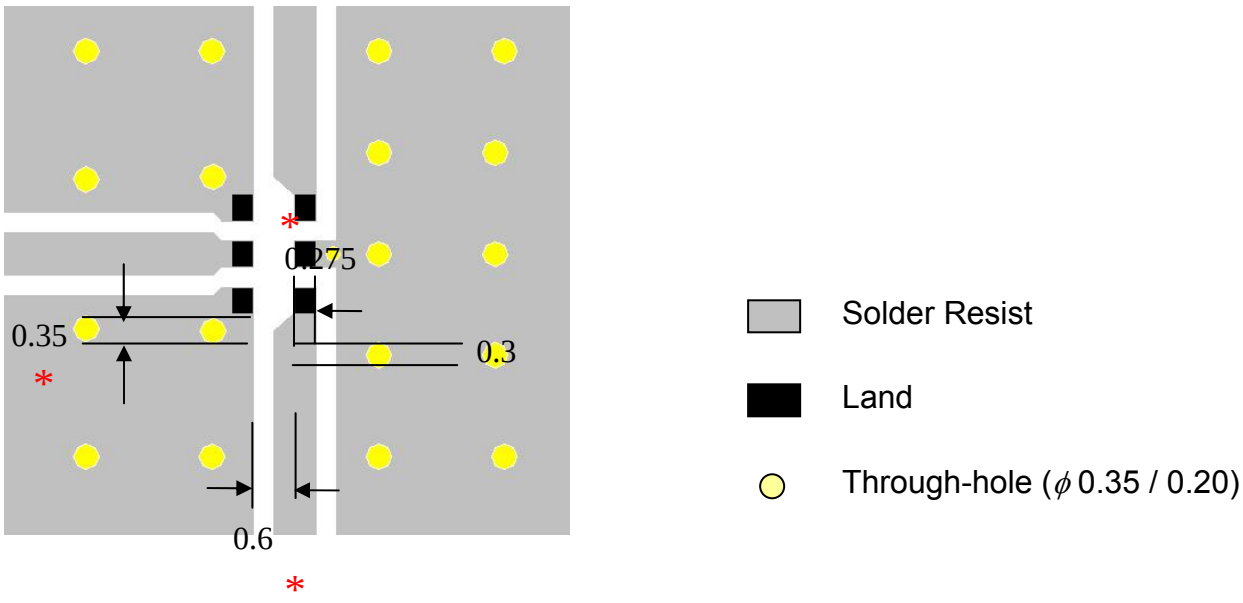


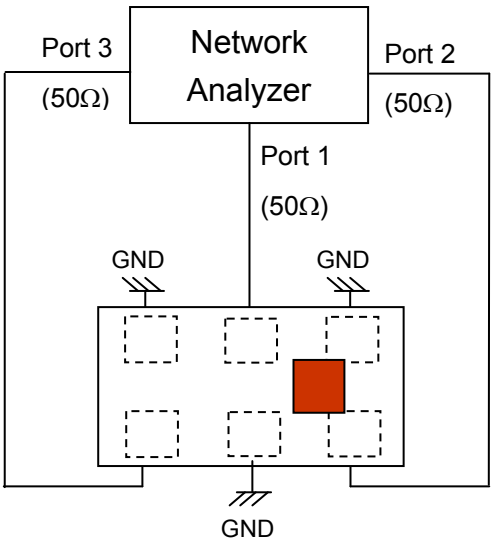
< Side view >

Mark	L	W	T	a	b	c	d	p
Dimensions	2.0 ±0.1	1.25 ±0.1	0.6 max.	0.35 ±0.1	0.275 ±0.1	0.3 ±0.15	0.6 ±0.1	0.65 ±0.1

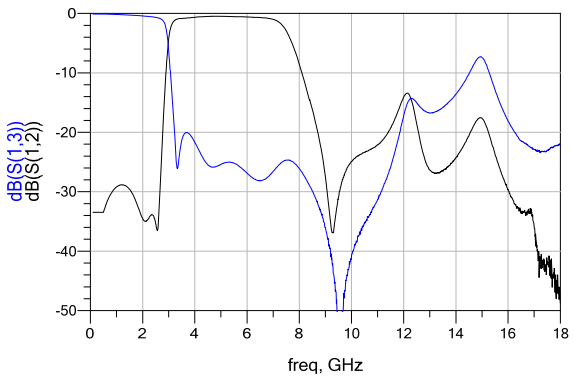


* Line width should be designed to match 50Ω characteristic impedance, depending on PCB material and thickness.

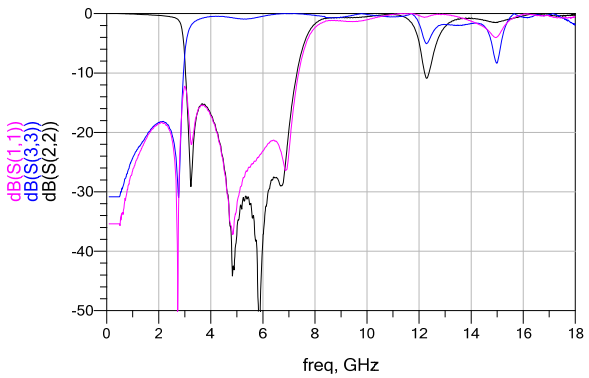
Measuring Diagram



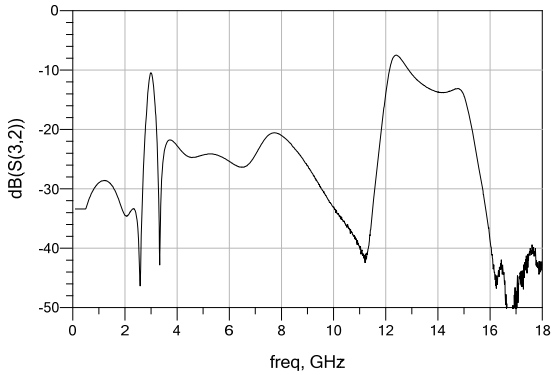
Attenuation



Return Loss



Isolation



Notes

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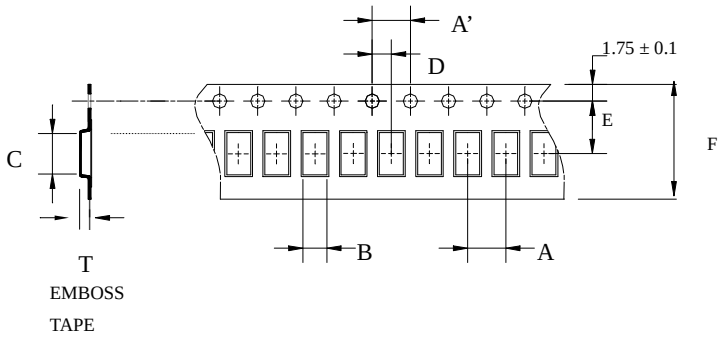
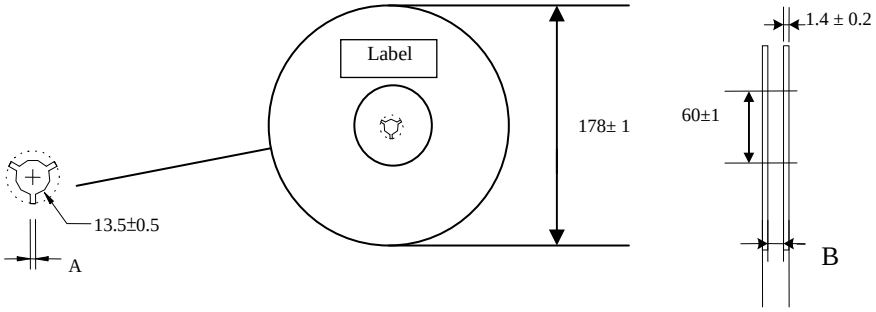
Taping Specifications

❖Tape Dimensions (Unit: mm) & Quantity



Type	A	A'	B	C	D	E	F	T	Quantity/reel	Tape material
2012	4.0± 0.1	4.0± 0.1	1.35± 0.05	2.15± 0.05	2.0± 0.05	3.5± 0.1	8.0± 0.1	0.65± 0.05	4,000pcs	Plastic (Embossed)

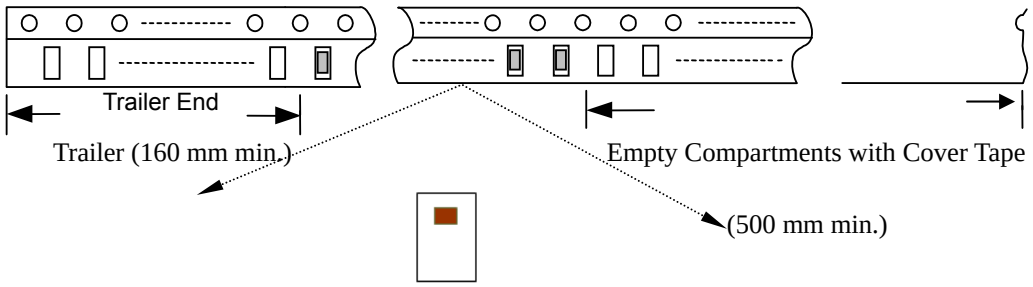
❖Reel Dimensions (Unit: mm)



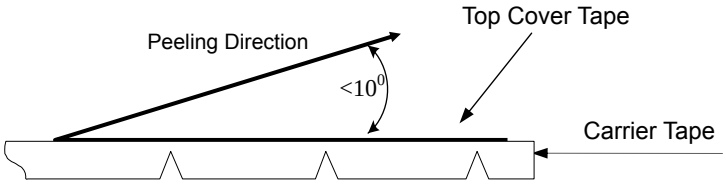
Label: Customer's Name,
ACX P/N, Q'ty, Date,
ACX Corp.

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 ~35℃, relative humidity (RH): 45~75%.
(2) Non-corrosive environment

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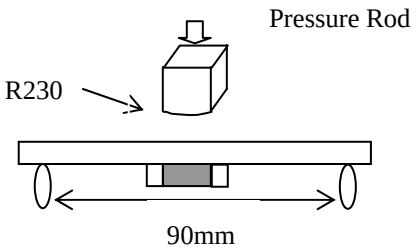
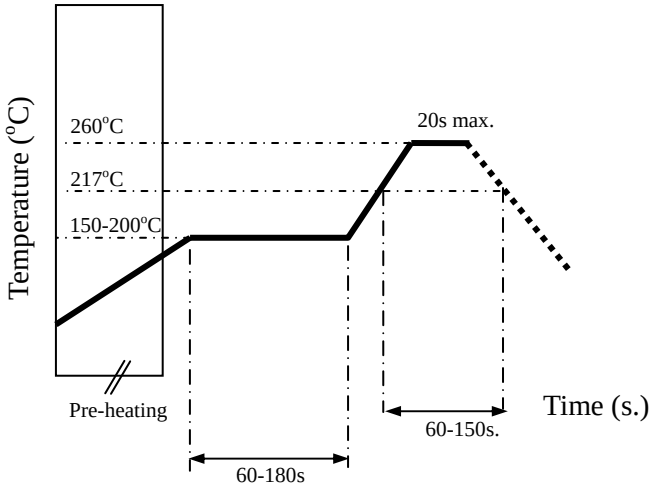
Mechanical & Environmental Characteristics

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. 10N 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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