DP 2520 Series (Preliminary)

Multilayer Chip Diplexers

Features

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

Applications

❖ GPS / ISM communication systems

Specifications

Part Number	Passband (MHz)	Insertion Loss (dB)	Ripple (dB)	Passband VSWR	Attenuation (dB)
DP2520-L1524SA_	1570~1610	0.7 max.	0.5 max.	2.0 max.	7 min. @ 2400 ~ 2500 MHz
	2400~2500	3.5 max.	1.0 max.	2.0 max.	42 min. @ 824 ~ 894 MHz
					42 min. @ 880 ~ 960 MHz
					33 min. @ 1570 ~ 1610 MHz
					30 min. @ 1710 ~ 1785 MHz
					33 min. @ 1850 ~ 1910 MHz
					25 min. @ 2100 ~ 2170 MHz
					40 min. @ 4800 ~ 5000 MHz
					30 min. @ 7200 ~ 7500 MHz

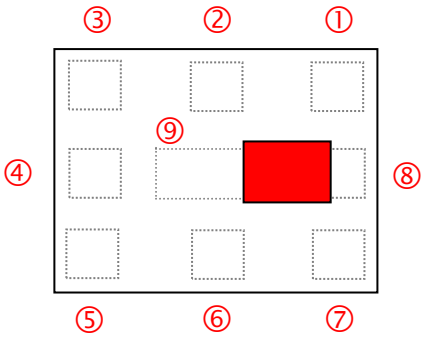
Q'ty/Reel (pcs) : 3,000
Operating Temperature Range : -40 ~ +85 °C
Storage Temperature Range : +5 ~ +35 °C, Humidity 45~75%RH
Storage Period : 12 months max.*
*12 months in vacuum sealed bag and 1 week after opened. Please keep unused parts in vacuum sealed bags.
Solder Paste : SAC 305 type is recommended.
Power Capacity : 2W max.

Part Number

DP ① 2520 ② - L ③ 1524 ④ SA ⑤ □ ⑥ /LF ⑦

① Type	DP : Diplexer	② Dimensions (L × W)	2.5 × 2.0 mm
③ Material Code	L	④ Frequency Range	1524 = 1575MHz /2400MHz
⑤ Specification Code	SA	⑥ Packaging	T: Tape & Reel B: Bulk
⑦ Soldering	=lead-containing /LF=lead-free		

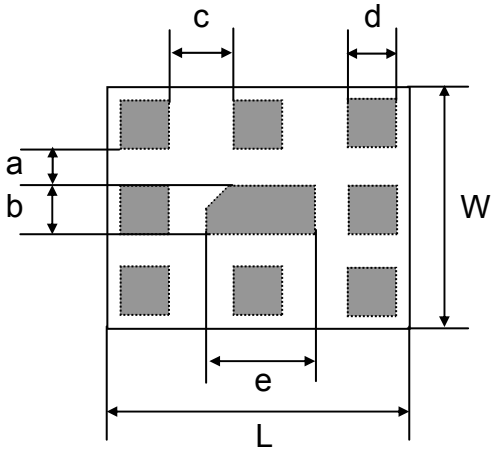
Terminal Configuration



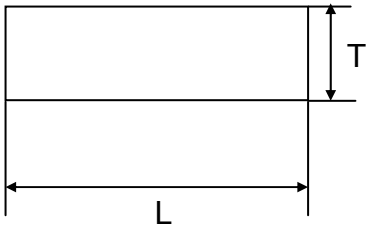
No.	Terminal Name	No.	Terminal Name
①	BT / WLAN	⑥	ANT
②	GND	⑦	GND
③	GPS	⑧	GND
④	GND	⑨	GND
⑤	GND		

Dimensions and Recommended PC Board Pattern

Unit : mm

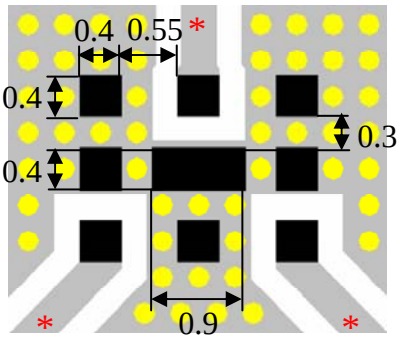


Bottom View



Side View

Mark	L	W	T	a	b	c	d	e
Dimensions	2.5 ± 0.2	2.0 ± 0.2	0.87max.	0.3 ± 0.1	0.4 ± 0.1	0.55 ± 0.1	0.4 ± 0.1	0.9 ± 0.1



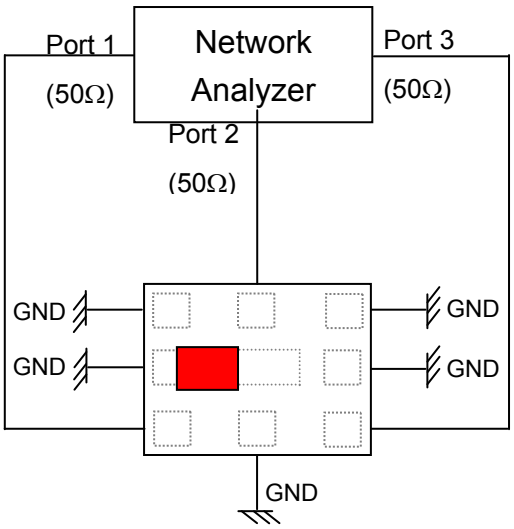
Solder Resist

Land

Through-hole (ϕ 0.20)

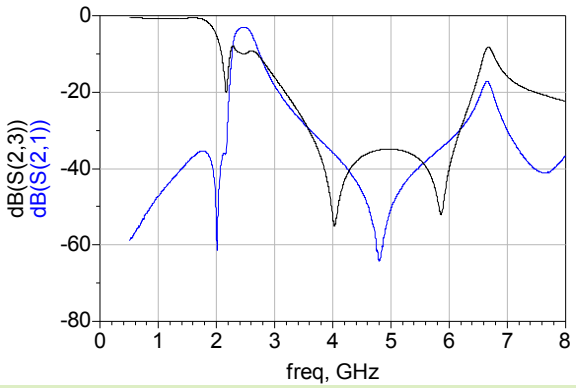
* Line width should be designed to match 50Ω characteristic impedance, depending on PCB material and thickness.

Measuring Diagram

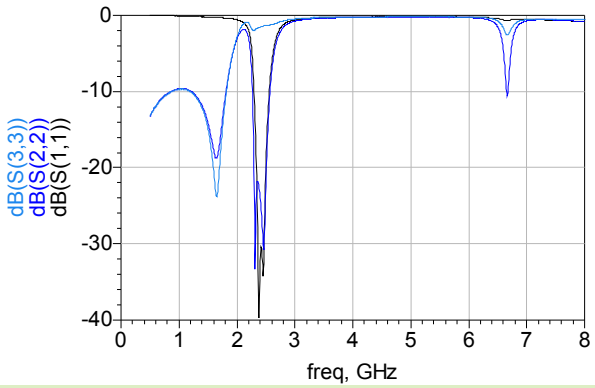


Typical Electrical Characteristics (T=25°C)

Attenuation



Return Loss



Notes

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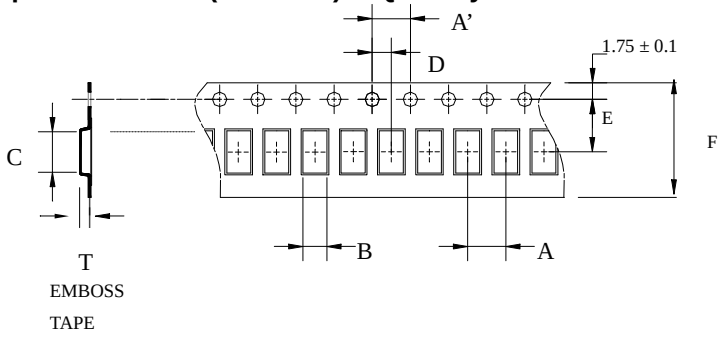
ACX
Advanced Ceramic X

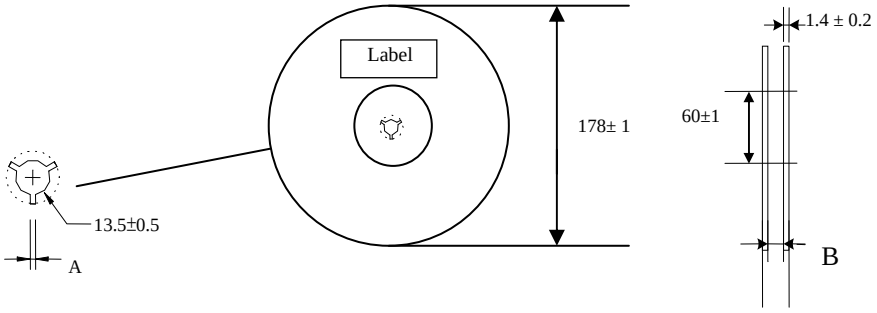
Taping Specifications

❖Tape Dimensions (Unit: mm) & Quantity



Type	A	A'	B	C	D	E	F	T	Quantity/reel	Tape material
2520	4.0± 0.1	4.0± 0.1	2.35± 0.1	2.80± 0.1	2.0± 0.1	3.5± 0.1	8.0± 0.1	1.15± 0.10	3,000pcs	Plastic (Embossed)

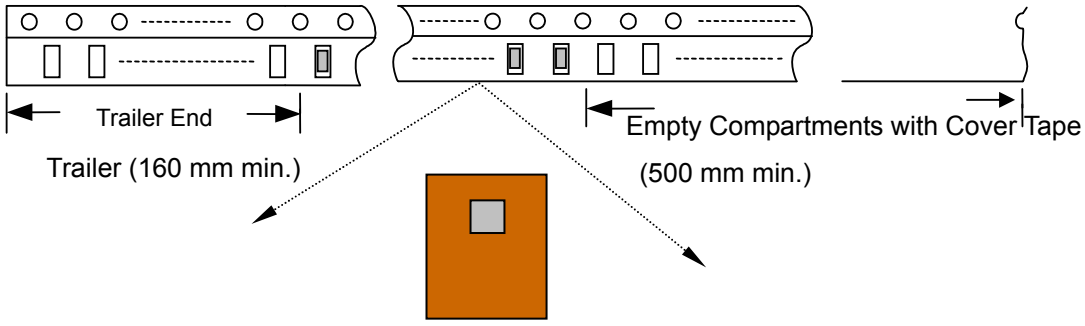
❖Reel Dimensions (Unit: mm)



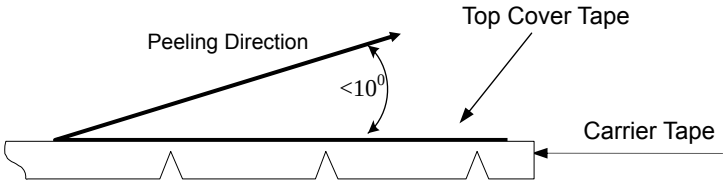
Label: Customer's Name,
ACX P/N, Q'ty, Date,
ACX Corp.

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: 15 ~35℃, relative humidity (RH): 45~75%.
(2) Non-corrosive environment.

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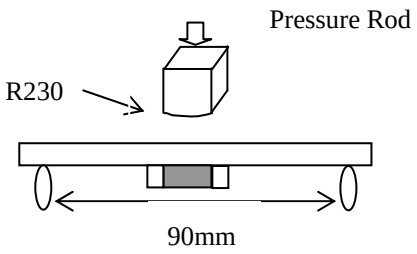
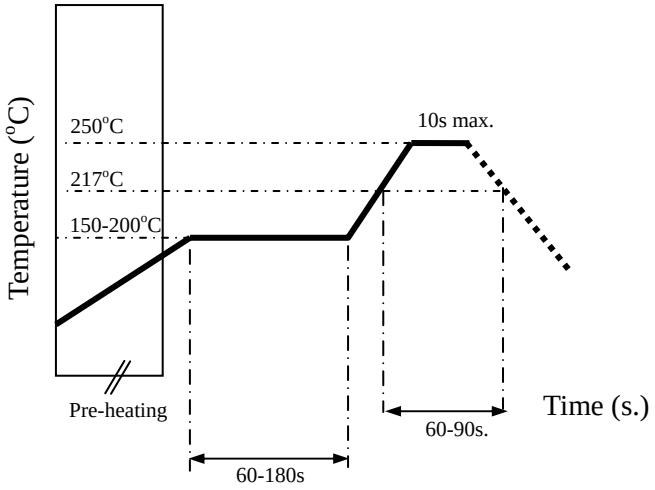
Mechanical & Environmental Characteristics

Item	Requirements	Procedure
Solderability	1. No apparent damage 2. More than 75% 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. 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 2. Fulfill the electrical specification	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± 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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