

TP 2520 Series (Preliminary)

Multilayer Chip Triplexers

Features

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

Applications

- ❖ LTE Mobile Communication.

Target Specifications

Part Number	Passband (MHz)	Insertion Loss (dB)	Return Loss (dB)	Attenuation (dB)	Isolation (dB)
TP2520-A081830 CA	698~960	0.7 max.	14 min.	7 min. @ 1427 ~ 1511MHz 12 min. @ 1710 ~ 2170MHz 27 min. @ 2500 ~ 2690MHz 35 min. @ 3400 ~ 3600MHz	Low to Middle 14 min. @698~960MHz 7 min. @1427~1511MHz 13 min. @1710~2170MHz
	1427~1511	1.2 max.	14 min.	14 min. @ 698 ~ 960MHz 10 min. @ 2500 ~ 2690MHz	Low to High 15 min. @698~960MHz 30 min. @2500~2690MHz
	1710~2170	1.2 max.	14 min.	15 min. @ 3400 ~ 3600MHz	30 min. @3400~3600MHz
	2500~2690	1.5 max.	14 min.	18 min. @ 698 ~ 960MHz 16 min. @ 1427 ~ 1511MHz	Middle to High 15 min. @1427~1511MHz 15 min. @1710~2170MHz
	3400~3600	0.6 max.	14 min.	15 min. @ 1710 ~ 2170MHz	13 min. @2500~2690MHz 15 min. @3400~3600MHz

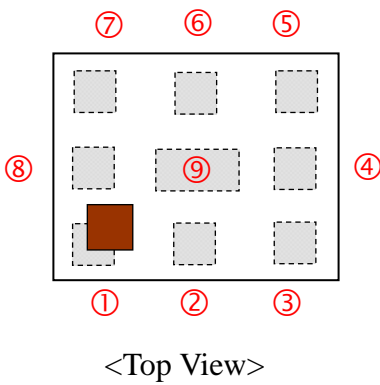
Q'ty/Reel (pcs) : 3,000
 Operating Temperature Range : -40 ~ +85 °C
 Storage Temperature Range : -40 ~ +85 °C
 Storage Period : 12 months max.
 Power Capacity : 3W max.

Part Number

TP 2520 - A 081830 CA □ /LF
 ① ② ③ ④ ⑤ ⑥ ⑦

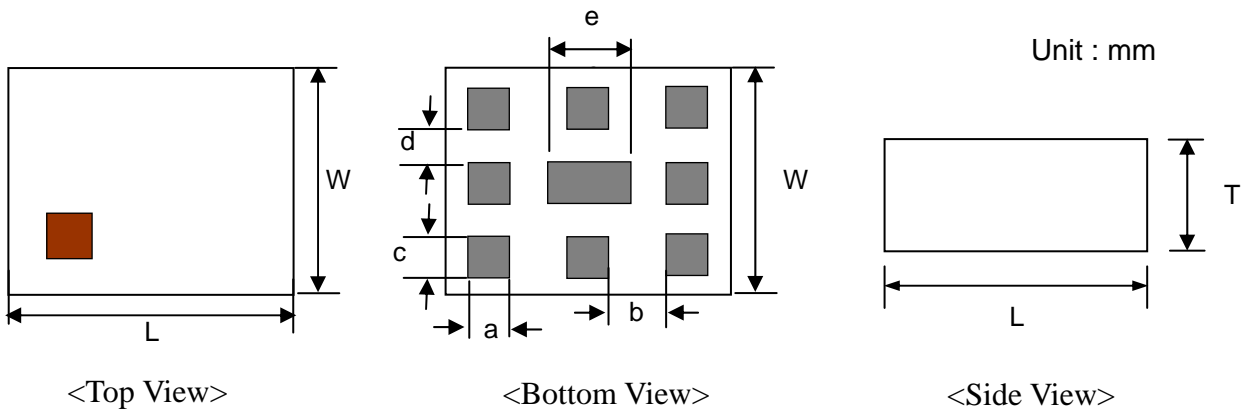
① Type	TP : Triplexer	② Dimensions (L x W)	2.5 x 2.0 mm
③ Material Code	A	④ Frequency Range	081830=800MHz /1800MHz/3000MHz
⑤ Specification Code	CA	⑥ Packaging	T: Tape & Reel B: Bulk
⑦ Soldering	/LF=lead-free		

Terminal Configuration

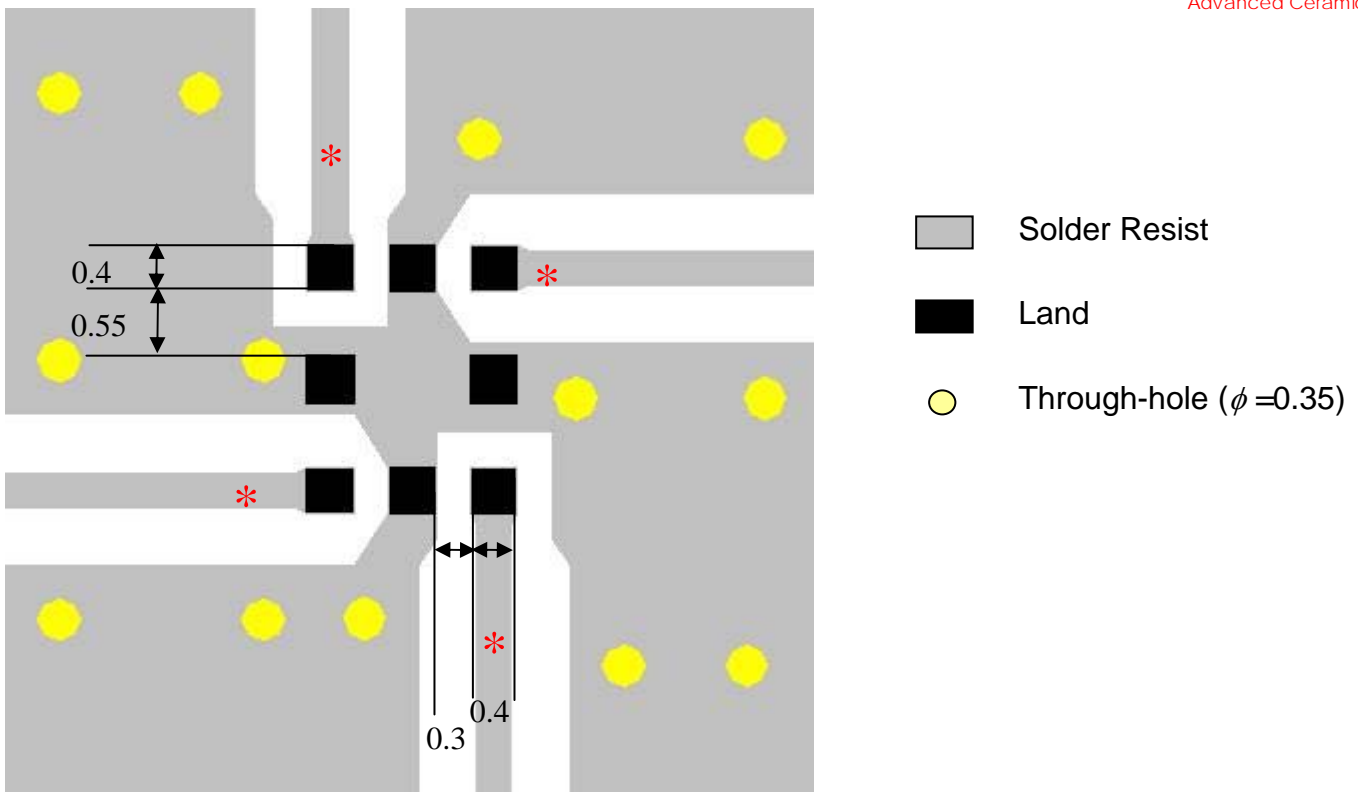


No.	Terminal Name	No.	Terminal Name
①	High band	⑥	GND
②	GND	⑦	Ant
③	Middle band	⑧	GND
④	GND	⑨	GND
⑤	Low band		

Dimensions and Recommended PC Board Pattern

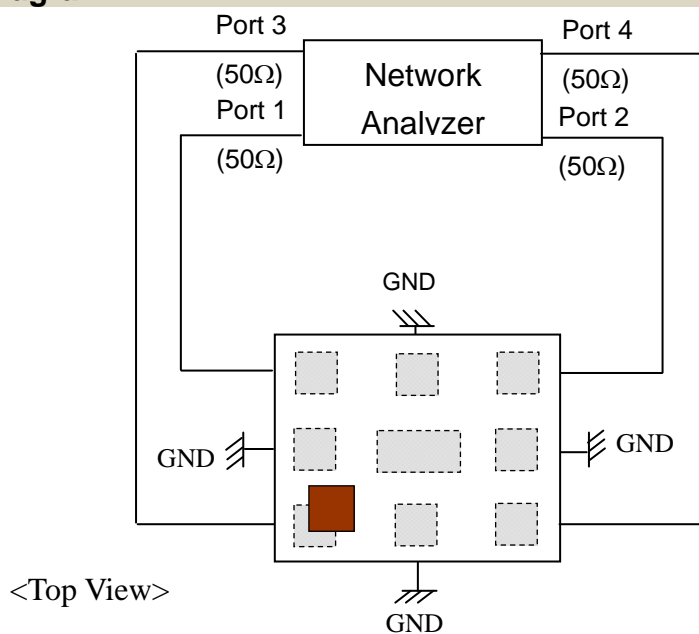


Mark	L	W	T	a	b	c	d	e
Dimensions	2.5 ±	2.0 ±	0.9 ±	0.4 ±	0.55 ±	0.4 ±	0.3 ±	0.9 ±
	0.2	0.2	0.1	0.1	0.15	0.1	0.1	0.15



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

Measuring Diagram

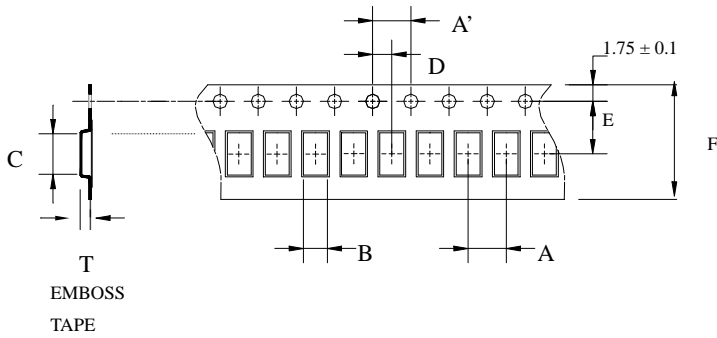


Notes

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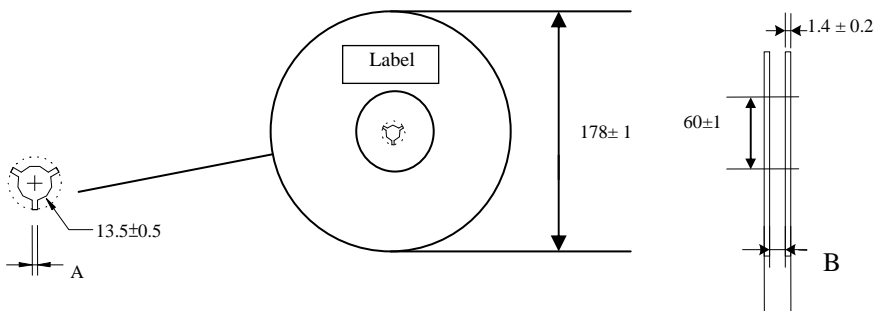
Taping Specifications

❖ Tape Dimensions (Unit: mm) & Quantity



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

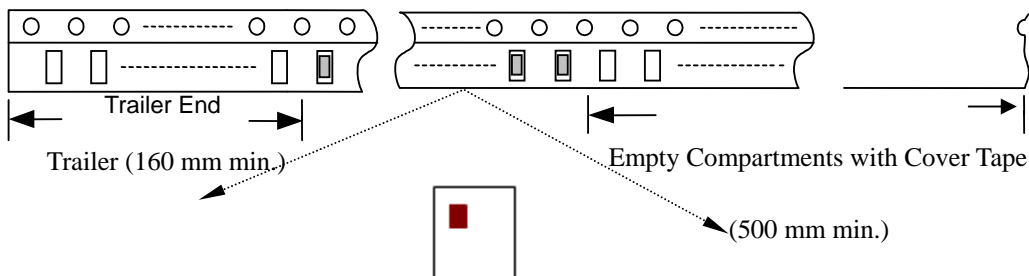
❖ Reel Dimensions (Unit: mm)



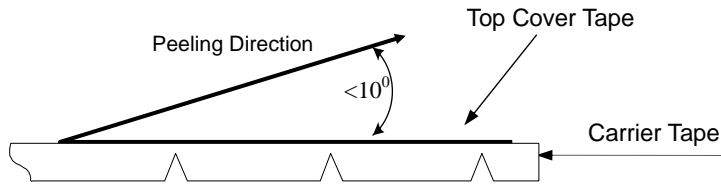
Label: Customer's Name,
ACX P/N, Q'ty, Date,
ACX Corp.

Type	A	B
2520	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 .

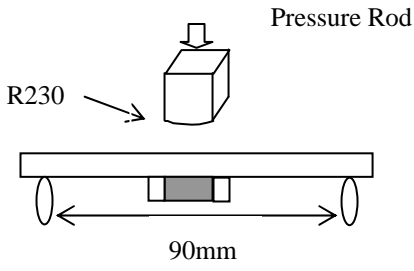
❖ **Storage Conditions**

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

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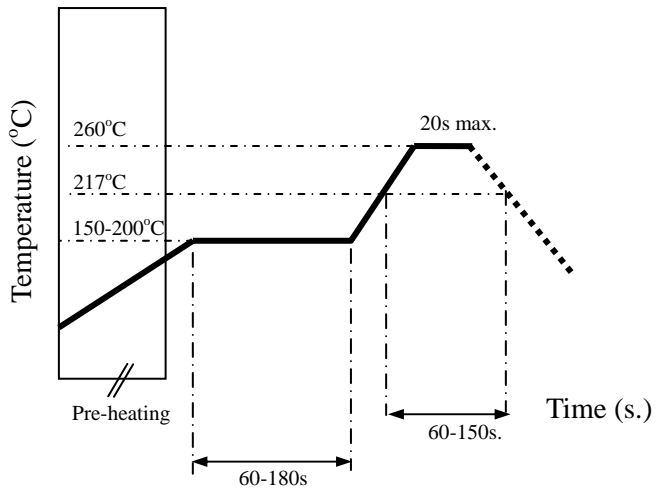
Mechanical & Environmental Characteristics

Item	Requirements	Procedure
Solderability	<ol style="list-style-type: none"> No apparent damage More than 95% 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 	<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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