

DP 3216 Series

Multilayer Chip Diplexers



Features

- ❖ Monolithic structure including one low-pass and one high-pass filters with loss pole at adjacent passband.
- ❖ Replacing three inductors and eight capacitors.
- ❖ RoHS compliant

Applications

- ❖ Dual-band / dual-mode cellular phones.

Specifications

Part Number	Passband (MHz)	Attenuation @ Low Band (dB)	Attenuation @ High Band (dB)	Passband Return Loss (dB)	Q'ty/ Reel (pcs)
DP3216-A0819AA_	824-894	0.55 max.	20 min.	12 min.	3,000
	1850-1990	20 min.	0.50 max.	12 min.	

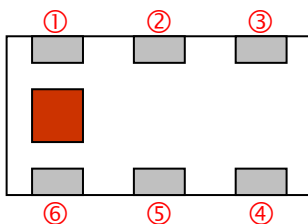
Operating Temperature Range : -40 ~ +85 °C
 Storage Temperature Range : -40 ~ +85 °C
 Storage Period : 12 months max.
 Power Capacity : 2W max.

Part Number

DP 3216 - A 0819 AA □ /LF
 ① ② ③ ④ ⑤ ⑥ ⑦

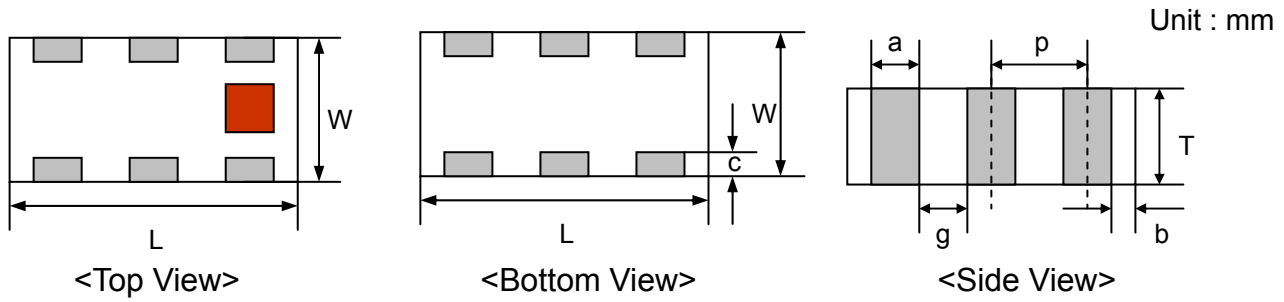
① Type	DP : Diplexer	② Dimensions (L × W)	3.2 × 1.6 mm
③ Material Code	A	④ Frequency Range	0819=800MHz/1900MHz
⑤ Specification Code	AA	⑥ Packaging	T: Tape & Reel B: Bulk
⑦ Soldering	/LF=lead-free		

Terminal Configuration

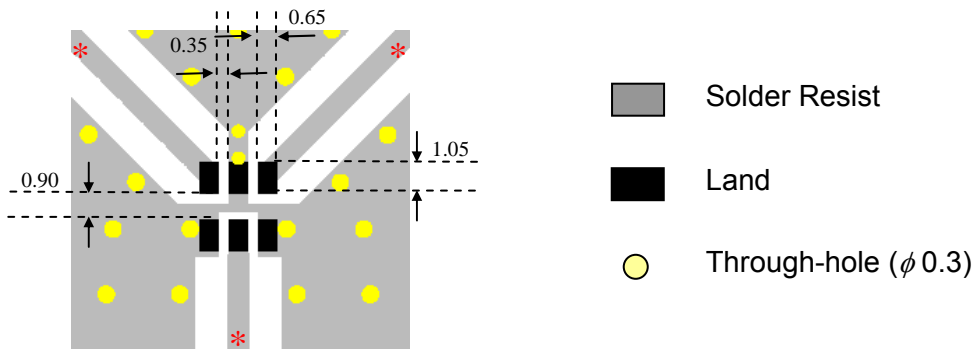


No.	Terminal Name	No.	Terminal Name
①	Lower Freq. Port (P3)	④	GND
②	GND	⑤	Common Port (P2)
③	Higher Freq. Port (P1)	⑥	GND

Dimensions and Recommended PC Board Pattern

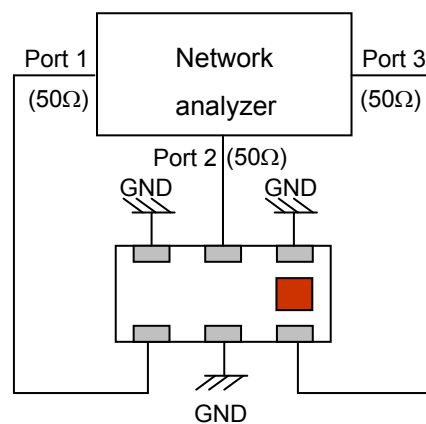


Mark	L	W	T	a	b	c	g	p
Dimensions	3.2±0.15	1.6±0.15	0.95±0.1	0.55± 0.15	0.325± 0.15	0.3+ 0.1/-0.2	0.45± 0.15	1.0± 0.1

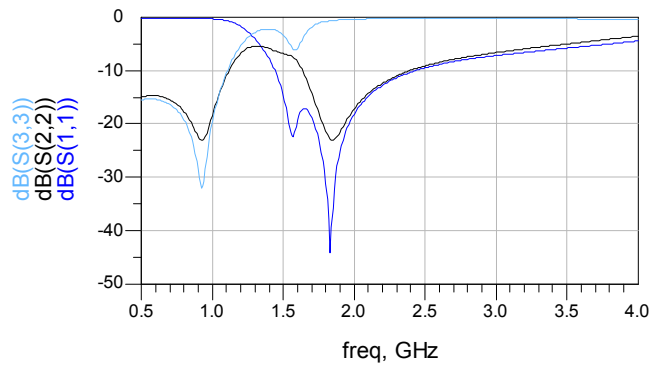
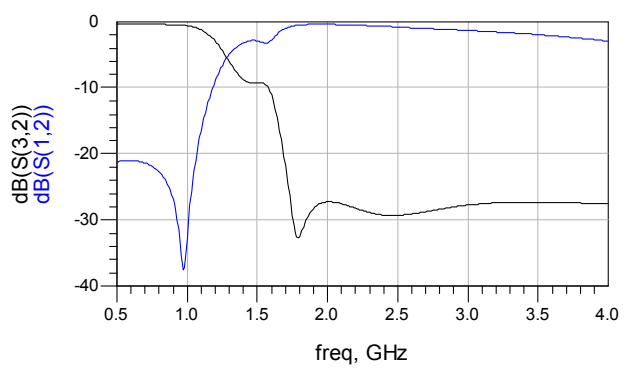


* Line width should be designed to match 50ohm characteristic impedance, depending on PCB material and thickness.

Measuring Diagram



Typical Electrical Characteristics (T=25°C)

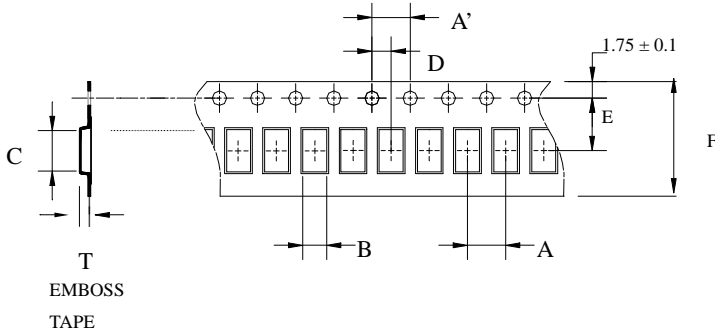


Notes

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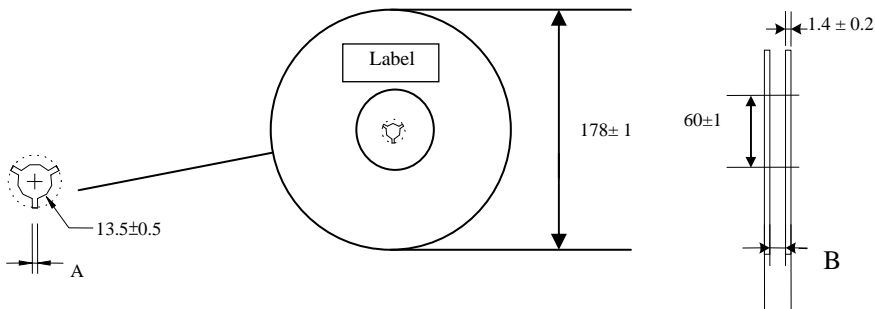
Taping Specifications

❖Tape Dimensions (Unit: mm) & Quantity



Type	A	A'	B	C	D	E	F	T	Quantity/reel	Tape material
3216	4.0±	4.0±	1.85±	3.50±	2.0±	3.5±	8.0±	1.27±	3,000pcs	Plastic (Embossed)
	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.05		

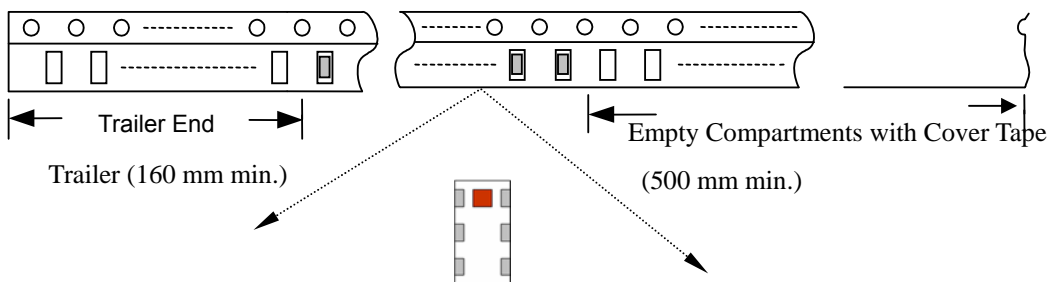
❖Reel Dimensions (Unit: mm)



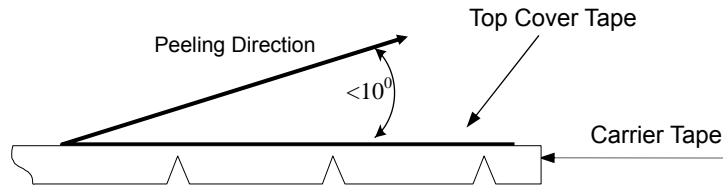
Label: Customer's Name,
ACX P/N, Q'ty, Date,
ACX Corp.

Type	A	B
3216	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 .

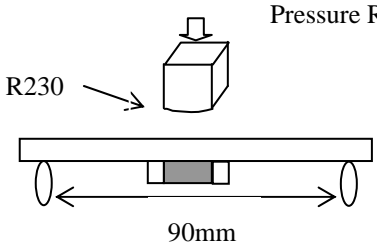
❖ **Storage Conditions**

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

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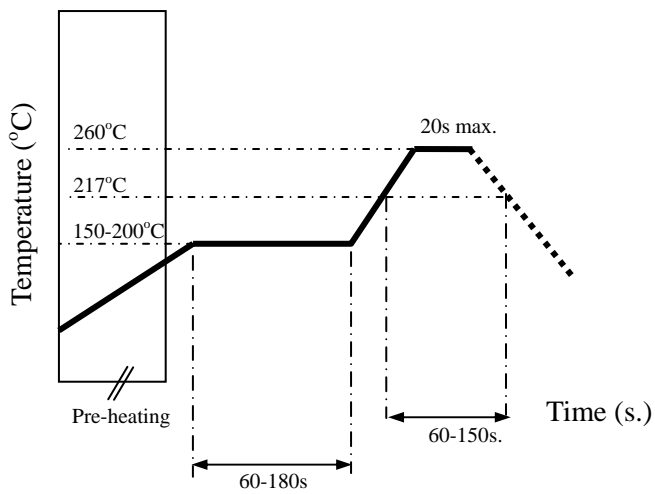
Mechanical & Environmental Characteristics

Item	Requirements	Procedure
Solderability	<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"> 10N 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, 1.6mm) 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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Advanced Ceramic X Corp.

16 Tzu Chiang Road, Hsinchu Industrial District Hsinchu Hsien 303, Taiwan

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

E-mail: acx@acxc.com.tw

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