

PD1608 Series

Multilayer Chip Power Divider

Features

- ❖ Monolithic SMD with small, low-profile and light-weight type.
- ❖ RoHS compliant

Applications

- ❖ 1.555~1.595 GHz wireless communication systems, including WLAN card, etc.



Specifications

Part Number	Freq. Range (MHz)	Insertion Loss @ BW (dB)	Isolation (dB)	Phase Balance (degree)	Amplitude Balance (dB)	VSWR @ BW
PD1608-A1R5FAA_	1555~1595	0.9 max.	12.5 min.	0 +/- 4	0 +/- 0.85	1.8 max.

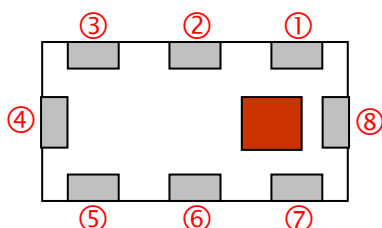
Q'ty/Reel (pcs) : 4,000
 Operating Temperature Range : -40 ~ +85 °C
 Storage Temperature Range : -40 ~ +85 °C
 Storage Period : 12 months max.
 Power Capacity : 3W max.

Part Number

PD 1608 - A 1R5 FAA □ /LF
 ① ② ③ ④ ⑤ ⑥ ⑦

① Type	PD : Power Divider	② Dimensions (L × W)	1.6 × 0.8 mm
③ Material Code	A	④ Frequency Range	1R5=1500MHz
⑤ Specification Code	FAA	⑥ Packaging	T: Tape & Reel B: Bulk
⑦ Soldering	/LF=lead-free		

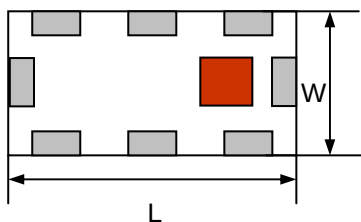
Terminal Configuration



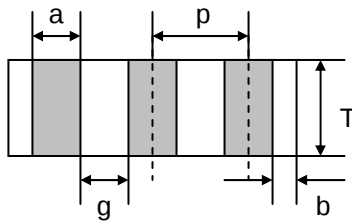
No.	Terminal Name	No.	Terminal Name
①	GND	⑤	FER1
②	IN	⑥	GND
③	GND	⑦	FER2
④	OUT1	⑧	OUT2

Dimensions and Recommended PC Board Pattern

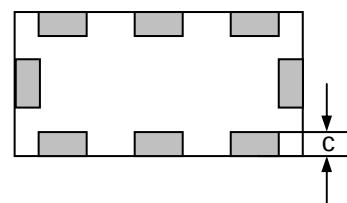
Unit : mm



<Top View>

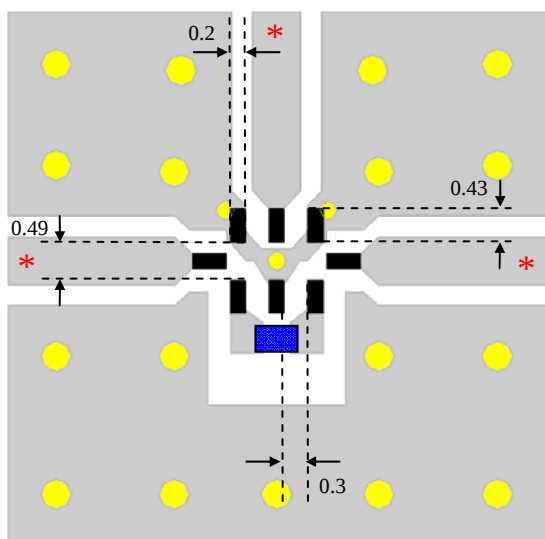


<Side View>



<Bottom View>

Mark	L	W	T	a	b	c	g	p
Dimensions	1.6 ± 0.1	0.8 ± 0.1	0.6 ± 0.1	0.2 ± 0.1	0.2+0.1 /-0.15	0.15 ± 0.1	0.3 ± 0.1	0.50 ± 0.05



Solder Resist

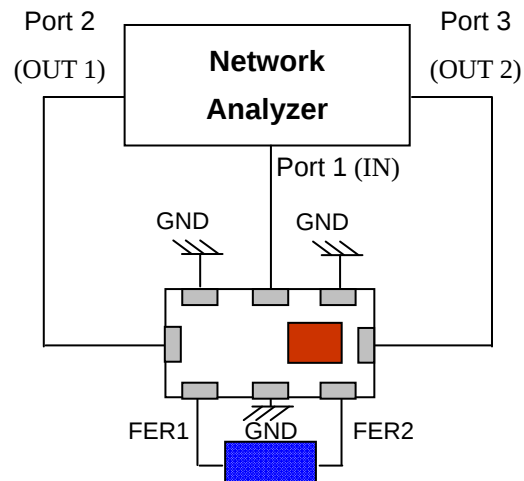
Land

Through-hole (ϕ 0.35 & 0.2)

100 ohm external resistor is required between OUT 1 and OUT 2

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

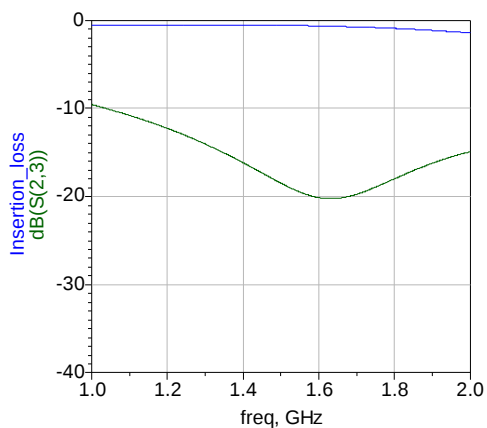
Measuring Diagram



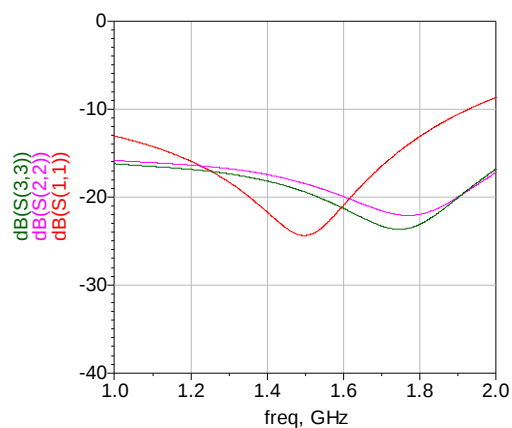
- * 100 ohm external resistor is required between FER 1 and FER 2
- * Insertion loss is defined as the S-parameter S21 and S31.

Electrical Characteristics (T=25°C)

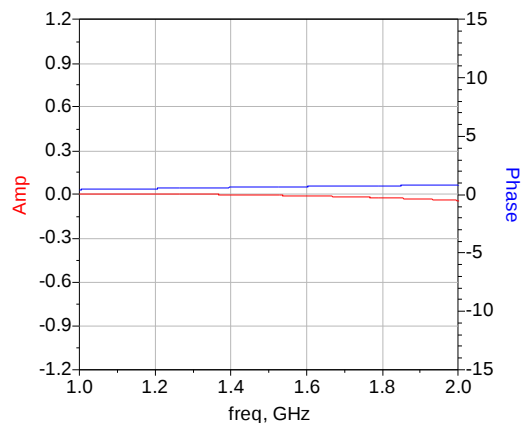
Insertion Loss and Isolation



Return Loss



Phase Balance and Amplitude Balance

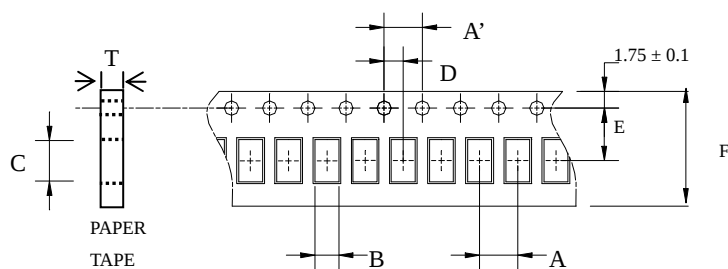


Notes

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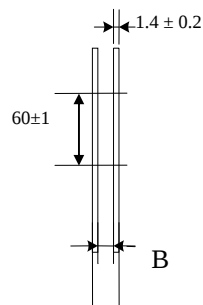
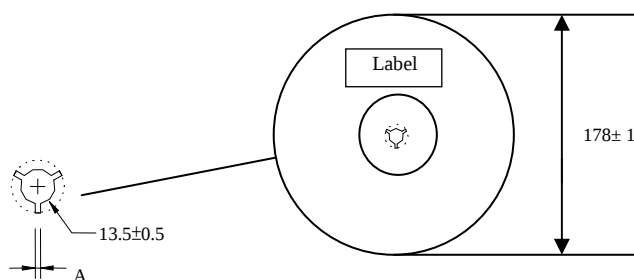
Taping Specifications

❖Tape Dimensions (Unit: mm) & Quantity



Type	A	A'	B	C	D	E	F	T	Quantity/reel	Tape material
1608	4.0± 0.1	4.0± 0.1	1.10± 0.1	1.92± 0.1	2.0± 0.1	3.5± 0.1	8.0± 0.1	0.75± 0.05	4,000pcs	Paper

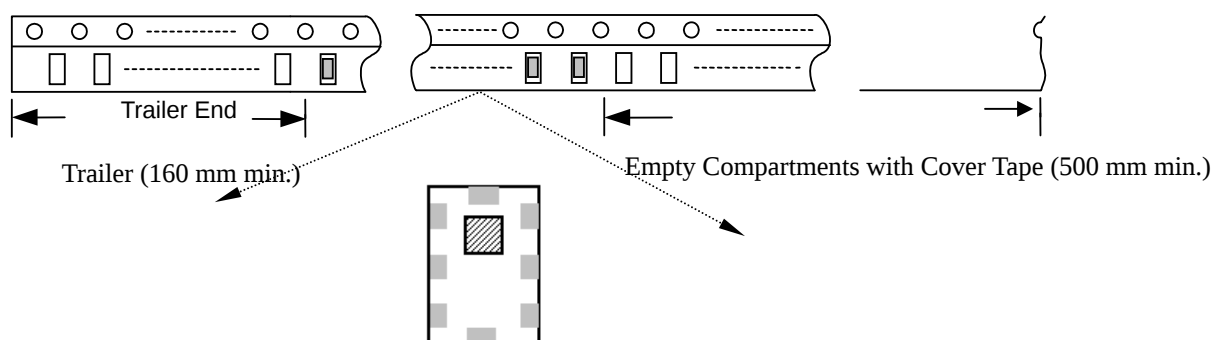
❖Reel Dimensions (Unit: mm)



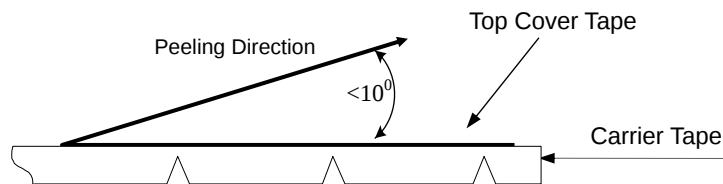
Label: Customer's Name,
ACX P/N, Q'ty, Date,
ACX Corp.

Type	A	B
1608	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 .

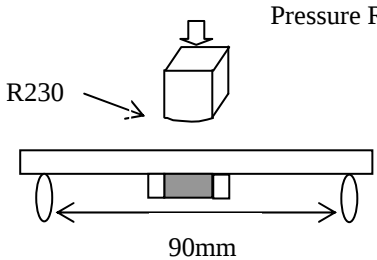
❖ Storage Conditions

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

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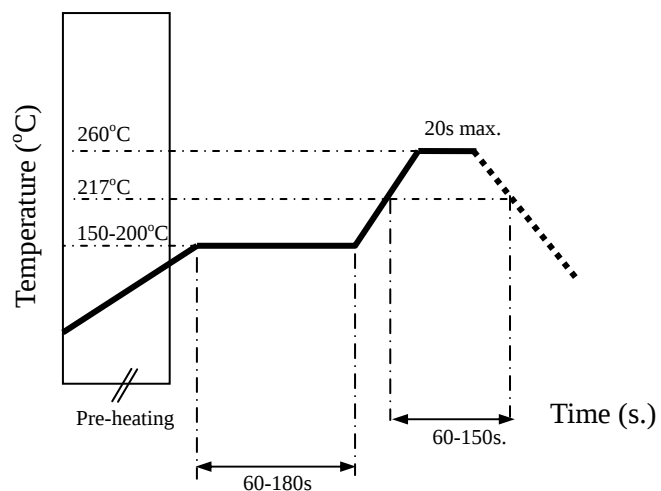
Mechanical & Environmental Characteristics

Item	Requirements	Procedure
Solderability	- No apparent damage - More than 95% of the terminal electrode shall be covered with new solder.	- Preheat: $120 \pm 5^{\circ}\text{C}$ - Solder: $245 \pm 5^{\circ}\text{C}$ for 5 ± 1 sec
Soldering strength (Termination Adhesion)	10N minimum	- 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)	No apparent damage	- Solder specimen onto test jig (FR4, 1.6mm) using the recommend soldering profile. - Apply a bending force of 2mm deflection 
Heat/Humidity Resistance	- No apparent damage - Fulfill the electrical specification after test	- Temperature: $85 \pm 2^{\circ}\text{C}$ - Humidity: 90% ~ 95% RH - Duration: 1000 ± 48 hrs - Recovery: 1-2hrs
Thermal shock (Temperature Cycle)	- No apparent damage - Fulfill the electrical specification after test	- 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	- No apparent damage - Fulfill the electrical specification after test	- Temperature: $-40 \pm 5^{\circ}\text{C}$ - Duration: 500 ± 24 hrs - Recovery: 1-2hrs

Soldering Conditions

❖ Typical Soldering Profile for Lead-free Process

Reflow Soldering :



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