PD1608 Series

Multilayer Chip Power Divider

Features

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

❖RoHS Compliant

Applications

❖ Wireless communication systems, including DECT/PACS/PHS/GSM/DCS phones, WLAN card, Bluetooth modules, Hyper-LAN, etc.

Specifications

Part Number	Freq. Range (MHz)	Insertion Loss @ BW (dB)		Phase Balance (degree)	Isolation (dB)	Frequency (MHz)	Attenuation (dB)	VSWR @ BW
PD1608-E2R4BAB_	2400~2500	OUT1	3.4 +/- 0.6	0 +/- 3	25 min.	4800 ~ 5000	8 min.	1.5 max.
		OUT2	3.4 +/- 0.6			7200 ~ 7500	15 min.	

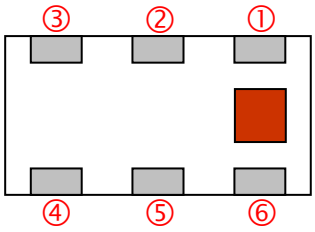
Q'ty/Reel (pcs) : 4,000
Operating Temperature Range : -40 ~ +105 °C
Storage Temperature Range : -40 ~ +105 °C
Storage Period : 12 months max.
Power Capacity : 3W max.

Part Number

PD ① 1608 ② - E ③ 2R4 ④ BAB ⑤ □ ⑥ /LF ⑦

① Type	PD : Power Divider	② Dimensions (L × W)	1.6 × 0.8 mm
③ Material Code	E	④ Frequency Range	2R4=2400MHz
⑤ Specification Code	BAB	⑥ Packaging	T: Tape & Reel B: Bulk
⑦ Soldering	/LF=lead-free		

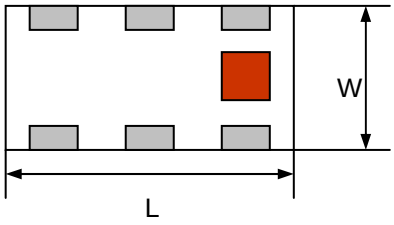
Terminal Configuration



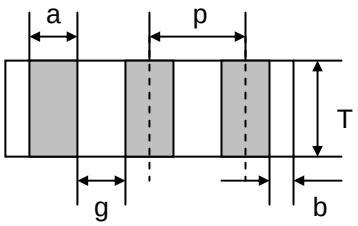
No.	Terminal Name	No.	Terminal Name
①	GND	④	OUT1
②	IN	⑤	NC or GND
③	GND	⑥	OUT2

Dimensions and Recommended PC Board Pattern

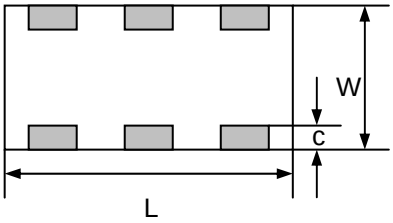
Unit : mm



< Top View >

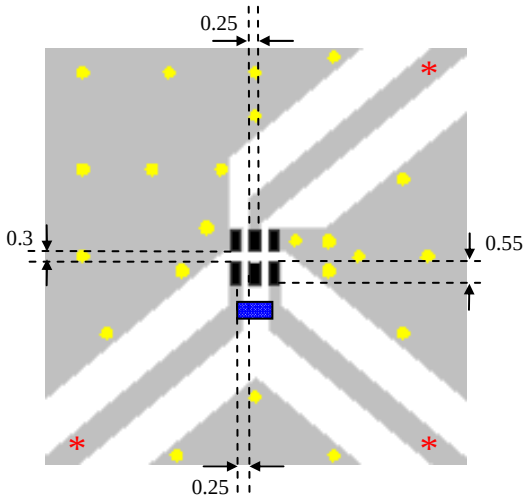


< Side View >



< 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

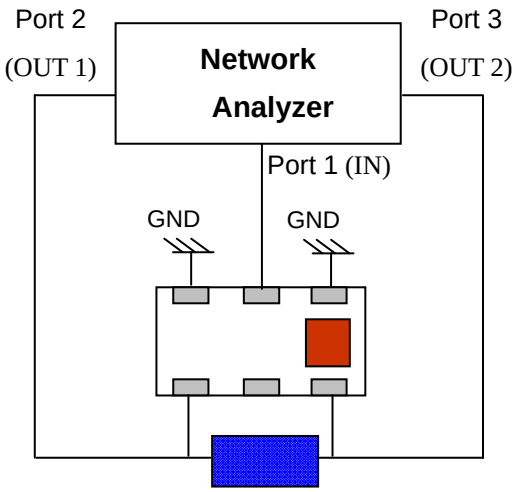
Land

Through-hole (ϕ 0.35)

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.

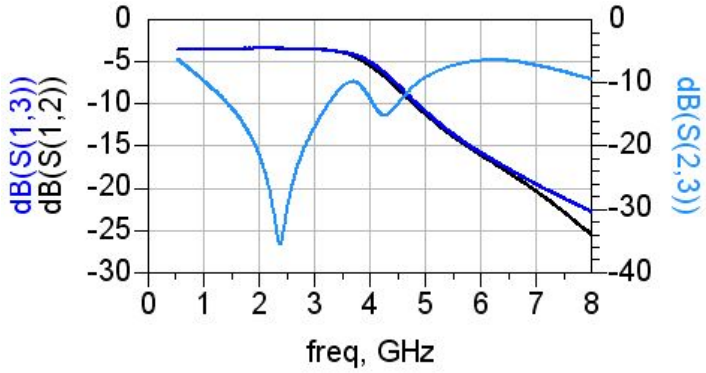
Measuring Diagram



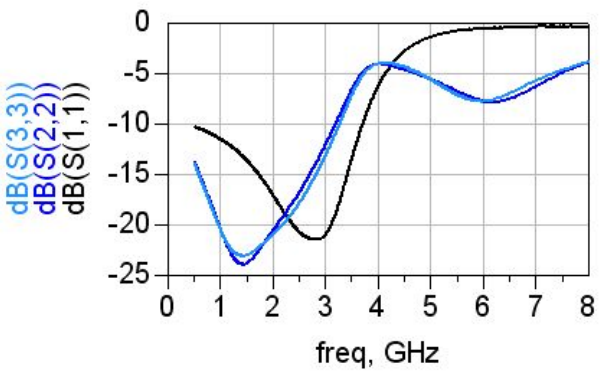
* 100 ohm external resistor is required between OUT 1 and OUT 2
* Insertion loss is defined as the S-parameter S21 and S31.

Electrical Characteristics (T=25°C)

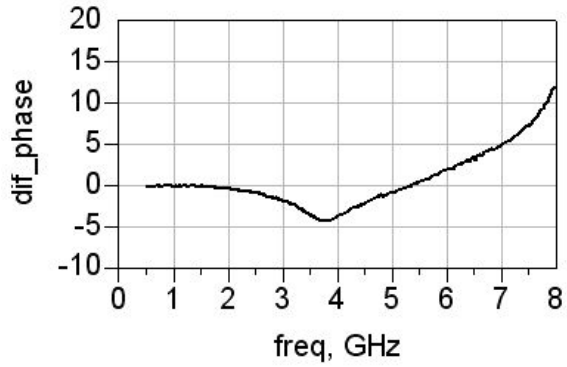
Attenuation and Isolation



Return Loss

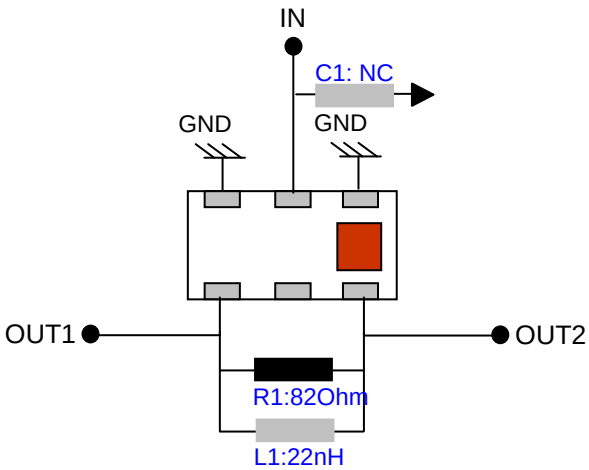


Phase Balance



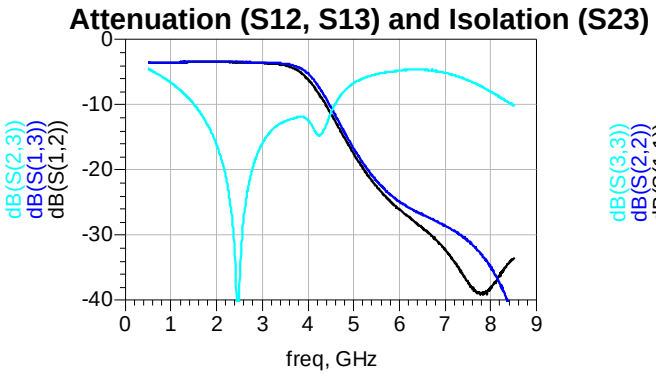
Application Note for High Isolation Requirement (30dB min)

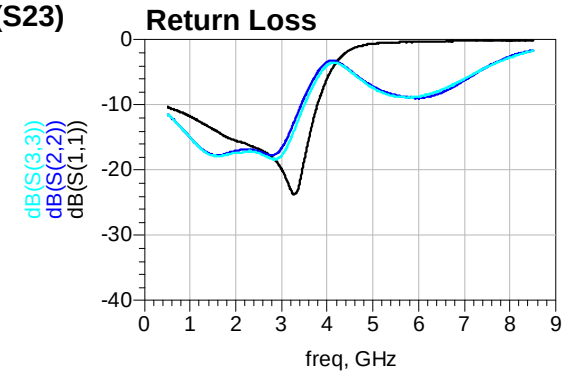
※Recommended Circuits

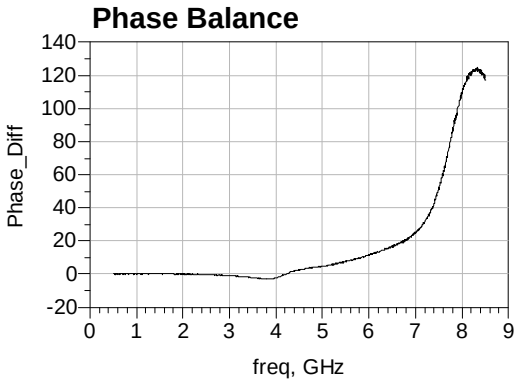


* Isolation can be fine tuned by R1, L1, and C1, and these three components depend on the client's PCBA layout and stack-up.

※Electrical Characteristics (T=25℃)







Notes

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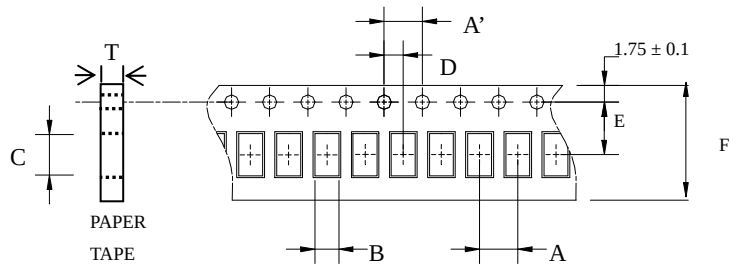
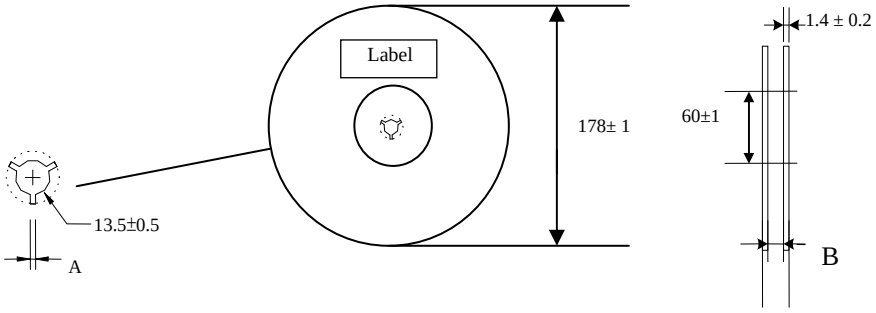
Taping Specifications

❖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

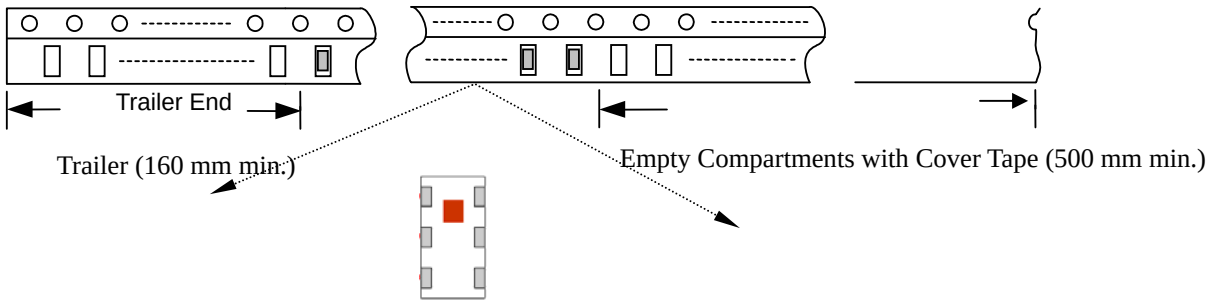
❖Reel Dimensions (Unit: mm)



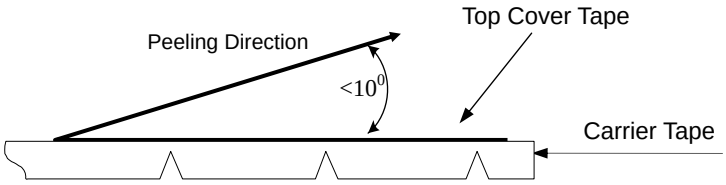
Label: Customer's Name,
ACX P/N, Q'ty, Date,
ACX Corp.

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

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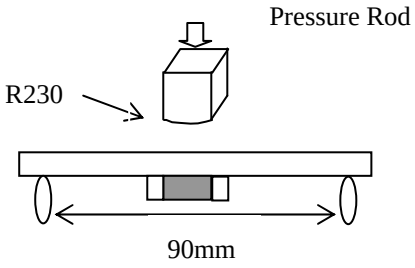
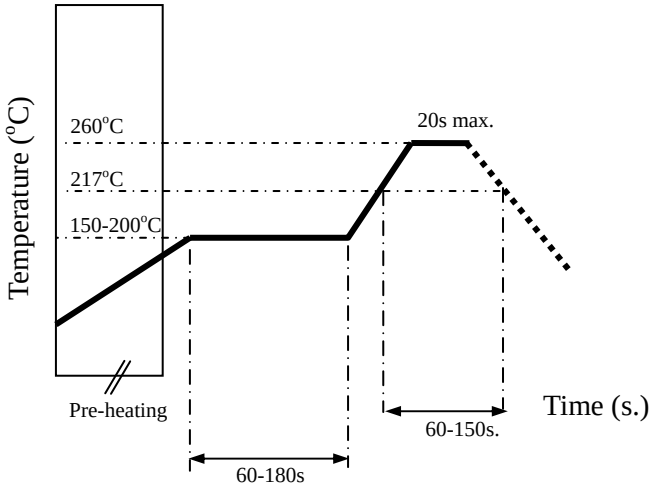
Mechanical & Environmental Characteristics

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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