

High Precision Chip Attenuators

■PAT Series W type

Features

- Single attenuating element realizes excellent attenuating characteristics
- Wide frequency range makes it possible to handle circuits with different frequency with ease
- The distribution of the terminals, signal terminals in the middle and ground terminal at ends, are designed for easy integration to coaxial connectors

Lead free　Halogen free　RoHS Compliance

Applications

- Attenuator for coaxial lines/circuit
- Attenuator for measuring instrumentation

◆Part numbering system

PAT 3042 - C - 3dB - A - T1

- Series code
- Size : PAT3042,PAT4556,PAT3060H
- Impedance: C=50Ω
- Attenuation
- Attenuation tolerance (PAT3042/4556)
- Packing quantity: T=Tape (T1/T2), B=Bulk

◆Electrical Specification

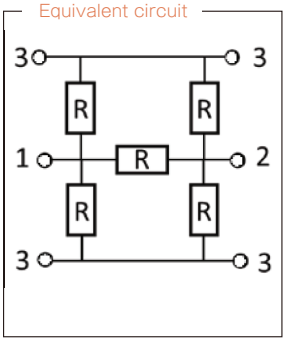
Type	PAT3042	PAT4556	PAT3060H
Attenuation	0-10(1dB step), 16,20dB	0-10(1dB step), 13,16,20dB	1,2,3,5,6,10dB
Attenuation tolerance	Refer table1		±0.5dB
Impedance	50Ω(C)	50Ω(C)	50Ω(C)
VSWR	<1.1(DC-2GHz) <1.2(2-5GHz), <1.3(5-10GHz)		<1.2
Operating frequency	DC ~ 10GHz		DC ~ 6GHz
Rated power	250mW	500mW	5W
Rated operating temperature	70℃		
Operating temperature	−55℃~+125℃		
Packaging quantity	50pcs/bag (B) 1,000pcs/reel (T1) 2,000pcs/reel (T2)	50pcs/bag (B) 1,000pcs/reel (T1)	100pcs/bag (B) 1,000pcs/reel (T1)

Attenuation tolerance				
Attenuation *	Rank	DC~ 2GHz	2 ~ 5GHz	5 ~ 10GHz
0~10dB	A	±0.1dB	±0.2dB	±0.4dB
0~10dB	B	±0.2dB	±0.3dB	±0.5dB
16,20dB (13dB) **	B	±0.2dB	±0.3dB	±0.5dB

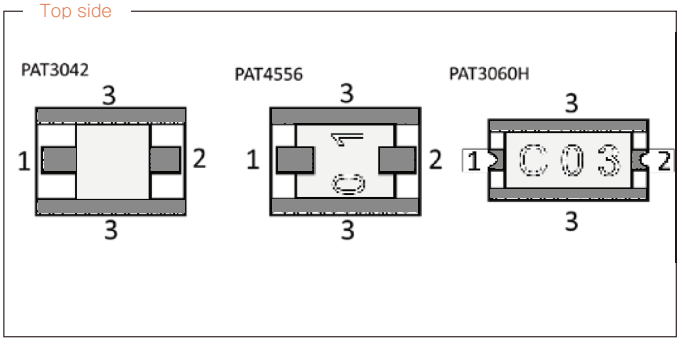
* : Applicable products: PAT3042 and PAT4556
** : Applicable product is only PAT4556

◆Equivalent Circuit and pin arrangement

Equivalent circuit

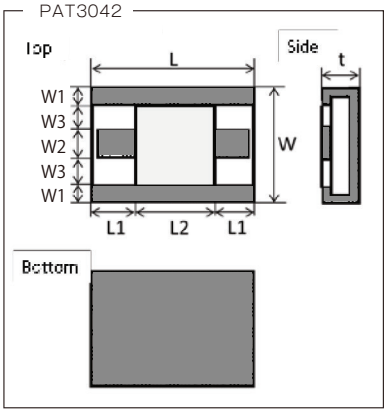


Top side

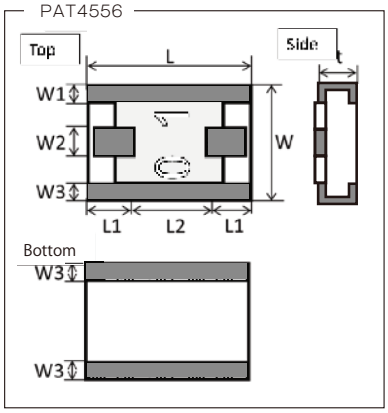


◆Dimensions

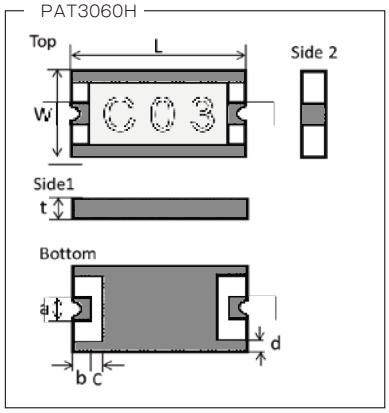
PAT3042



PAT4556



PAT3060H



Type	PAT3042					
Size(inch)	1612					
Symbol	0dB	1dB	2,3dB	4,5,6dB	7,8,9,10dB	16,20dB
L	4.2±0.20					
W	3.0±0.20					
t	0.8±0.15					
W1	0.40±0.15	0.30±0.15	0.40±0.15			
W2	0.66±0.10	0.66±0.10	0.90±0.10			
W3	0.77±0.10	0.85±0.10	0.65±0.10			
L1	—	1.90±0.20	1.90±0.20	1.75±0.20	1.60±0.20	1.15±0.20
L2	4.20±0.20	0.30±0.20	0.30±0.20	0.60±0.20	0.90±0.20	1.80±0.20

(unit : mm)

Type	PAT4556	
Size(inch)	2218	
Symbol	0dB	1 ~ 20dB
L	5.60±0.20	
W	4.50±0.20	
t	0.80±0.15	
W1	0.60±0.10	
W2	0.64±0.10	1.3±0.10
W3	0.60±0.10	

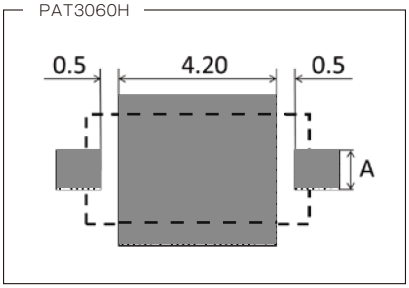
(unit : mm)

Type	PAT3060H
Size(inch)	2412
L	6.00±0.20
W	3.00±0.20
t	0.70±0.15
a	0.80±0.15
b	0.45±0.10
c	0.50±0.10
d	max 0.5

(unit : mm)

◆Recommended land patterns(soldering footprints)

PAT3060H



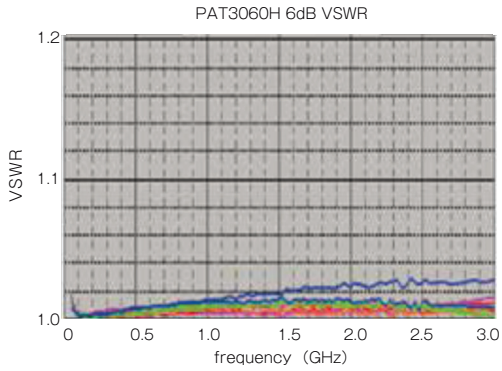
PCB material	Pattern A size
Glass epoxy t=0.6mm	1.07mm
Teflon t=0.6mm	1.52mm

・Refer to the information on the next page on how to use PAT3042/PAT 4556

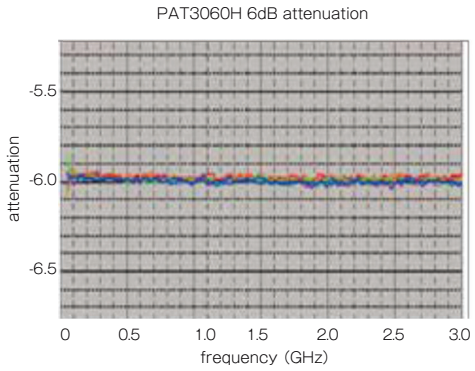
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◆High frequency characteristics (measured value)



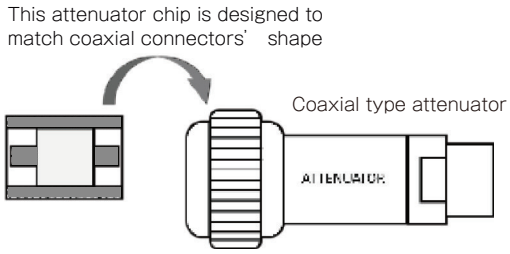
Measured samples : 5pcs



Measured samples : 5pcs

◆Mounting example

The shape of this attenuator chip is designed to match coaxial connectors' shape so that it can be integrated easily. In this case, the center conductor should be soldered to the signal terminals (the middle terminals) and metallic shield should be soldered to the ground terminals (the end terminals.)



◆Derating Curve

