



# Precision chip attenuators

■ PAT series, RAT series

## Features

- Excellent noise characteristics, small stray/parasitic inductance and capacitance
- Excellent high frequency characteristics
- PAT0510S are the smallest and lightest thin film chip attenuators.

## Applications

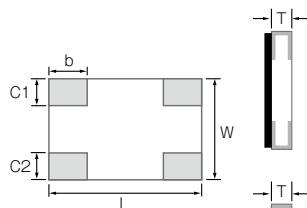
- Wireless communication devices, wireless communication modules, etc.

## Specifications

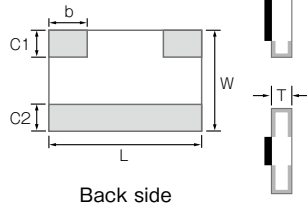
\* All made to order.

### Dimensions

PAT0510S  
PAT3042S (50Ω)  
PAT3042S (75Ω)



PAT0816  
PAT1220  
PAT1632



Back side

| Dimension (mm) | PAT0510S (0402) | PAT0816 (0603) | PAT1220 (0805) | PAT1632 (1206) | PAT3042S (50Ω) (1712) | PAT3042S (75Ω) (1712) |
|----------------|-----------------|----------------|----------------|----------------|-----------------------|-----------------------|
| L              | 1.00±0.05       | 1.60±0.10      | 2.00±0.10      | 3.20±0.20      | 4.20±0.20             | 4.20±0.20             |
| W              | 0.50±0.05       | 0.80±0.10      | 1.25±0.10      | 1.60±0.20      | 3.00±0.20             | 3.00±0.20             |
| T              | 0.34±0.05       | 0.40±0.10      | 0.40±0.10      | 0.40±0.10      | 0.80±0.15             | 0.80±0.15             |
| b              | 0.27±0.05       | 0.50±0.15      | 0.60±0.20      | 1.00±0.20      | 0.50±0.20             | 0.30±0.20             |
| C1             | 0.12±0.04       | 0.20±0.10      | 0.35±0.20      | 0.40±0.20      | 0.95±0.20             | 0.55±0.20             |
| C2             | 0.12±0.04       | 0.20±0.10      | 0.35±0.20      | 0.40±0.20      | 0.90±0.20             | 0.60±0.20             |

### Electrical characteristics

| Series name                 | PAT0510S             |         |          | PAT0816                           |         |          | PAT1220                                                  | PAT1632  |                                 | PAT3042S                  |          |
|-----------------------------|----------------------|---------|----------|-----------------------------------|---------|----------|----------------------------------------------------------|----------|---------------------------------|---------------------------|----------|
| Attenuation                 | 0 ~ 3dB              | 4 ~ 7dB | 8 ~ 10dB | 0 ~ 3dB                           | 4 ~ 7dB | 8 ~ 10dB | 0 ~ 10dB                                                 | 0 ~ 10dB | 16dB                            | 0 ~ 10dB                  | 16, 20dB |
| Attenuation tolerance       | ±0.3dB               | ±0.5dB  | ±1.0dB   | ±0.3dB                            | ±0.5dB  | ±0.7dB   | ±0.3dB                                                   | ±0.3dB   | ±0.5dB                          | ±0.3dB                    | ±0.5dB   |
| Impedance                   | 50Ω (C)              |         |          | 50Ω (C)                           |         |          | 50Ω (C)                                                  |          | 50Ω (C), 75Ω (D)                |                           |          |
| VSWR                        | <1.3                 |         |          | <1.3 (~6GHz),<br><1.5 (6 ~ 10GHz) |         |          | <1.3                                                     | <1.3     |                                 | <1.2 (50Ω),<br><1.3 (75Ω) |          |
| Operating frequency         | DC ~ 10GHz           |         |          | DC ~ 10GHz                        |         |          | DC ~ 3GHz                                                |          | ~ 3GHz (50Ω),<br>~ 2GHz (75Ω)   |                           |          |
| Rated power                 | 32mW                 |         |          | 63mW                              |         |          | 100mW                                                    | 125mW    |                                 | 250mW                     |          |
| Rated operating temperature | 70℃                  |         |          |                                   |         |          |                                                          |          |                                 |                           |          |
| Operating temperature       | -55℃ ~ +125℃         |         |          |                                   |         |          |                                                          |          |                                 |                           |          |
| Packaging                   | 10,000pcs/reel (T10) |         |          | 5,000pcs/reel (T)                 |         |          | 100pcs/bag<br>1,000pcs/reel (T1) ,<br>5,000pcs/reel (T5) |          | 50pcs/bag<br>2,000pcs/reel (T2) |                           |          |

- Contact us for 1.0 x 0.5mm GBA type PAT0510.
- Contact us for high power attenuators up to 10W.

## Part numbering system

**PAT 1632 - C - 3dB - T (5)**

T=Tape, B=Bulk () - indicates taping quantity. Refer to packaging in the table above.

Attenuation Rectangular Corner

Impedance

Size, circuitry Attenuation

Product code

〈OLD P/N〉 **RAT 1010X - 3dB - C - B**