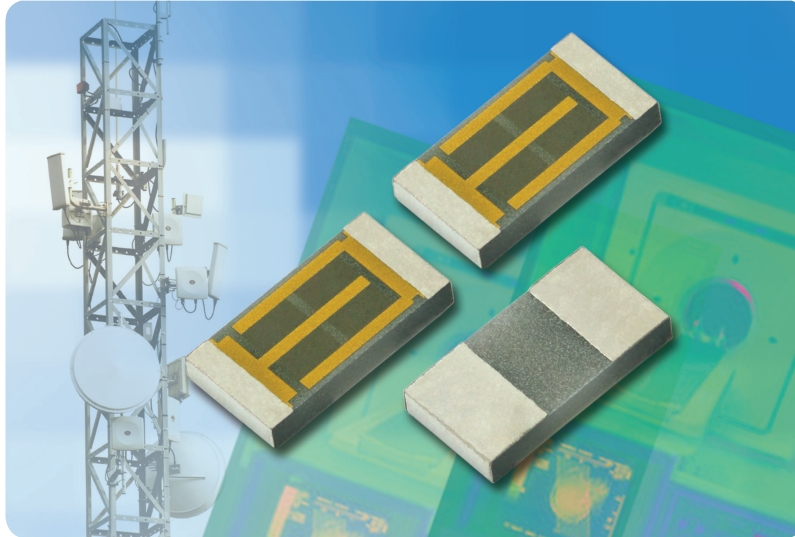




# THIN FILM CHIP RESISTORS

## PCAN Series

### High-Power Aluminum Nitride, Wraparound Surface-Mount, Precision Thin Film Chip Resistor (up to 6 W)



#### KEY BENEFITS

- Power rating to 6 W (2 W in 1206, 6 W in 2512)
- High thermal conductivity aluminum nitride substrate
- Resistance range 30  $\Omega$  to 175  $\Omega$
- Resistor tolerance to  $\pm 0.1\%$
- TCR to  $\pm 25$  ppm/ $^{\circ}\text{C}$
- Lead bearing, RoHS compliant lead (Pb)-free, and epoxy bondable gold terminations available
- Flame resistant UL 94 V-0

#### APPLICATIONS

- Industrial
- Military
- Aerospace
- Medical
- Telecommunications

#### RESOURCES

- Datasheet: PATT - [www.vishay.com/doc?60125](http://www.vishay.com/doc?60125)
- For technical questions contact [thinfilm@vishay.com](mailto:thinfilm@vishay.com)

One of the World's Largest Manufacturers of  
Discrete Semiconductors and Passive Components

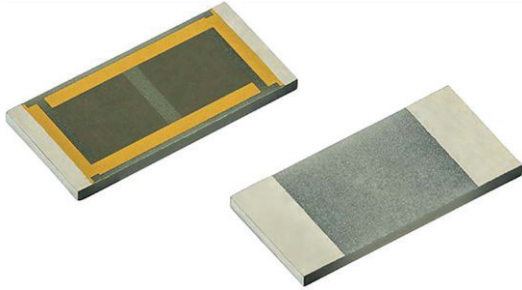




# THIN FILM CHIP RESISTORS

## PCAN Series

### High-Power Aluminum Nitride, Wraparound Surface-Mount, Precision Thin Film Chip Resistor (up to 6 W)



PCAN series chip resistors are designed on aluminum nitride ceramic substrates with enlarged backside terminations to reduce the thermal resistance between the topside resistor layer and the solder joint on the end users circuit assembly.

Actual power handling capability is limited by the end user mounting process. As with any high power chip resistor the ability to remove the heat is critical to the overall performance of the device.

#### FEATURES

- High thermal conductivity aluminum nitride substrate
- Power rating up to 6.0 W
- Resistance range 30  $\Omega$  to 175  $\Omega$
- Resistor tolerance to  $\pm 0.1$  %
- TCR to  $\pm 25$  ppm/ $^{\circ}$ C
- Flame resistant UL 94 V-0

#### APPLICATIONS

- Power supplies
- Power switching
- Braking system

#### TYPICAL PERFORMANCE

|      | ABSOLUTE |
|------|----------|
| TCR  | 25       |
| TOL. | 0.1      |

#### STANDARD ELECTRICAL SPECIFICATIONS

| TEST                           | SPECIFICATIONS  | CONDITIONS                            |
|--------------------------------|---|---------------------------------------|
| Material                       | Nichrome  | -                                     |
| Resistance Range               | 30 $\Omega$ to 175 $\Omega$                               | -                                     |
| TCR: Absolute                  | 25 ppm/ $^{\circ}$ C (standard) and 100 ppm/ $^{\circ}$ C | -                                     |
| Tolerance: Absolute            | 0.1 %, 0.25 %, 0.5 %, 1.0 % and 5.0 %                     | -55 $^{\circ}$ C to +150 $^{\circ}$ C |
| Power Rating: Resistor         | 2.0 W to 6.0 W <sup>(1)</sup>                             | Maximum at +70 $^{\circ}$ C           |
| Stability: Absolute            | $\Delta R$ 1.0 %  | 1000 h at +70 $^{\circ}$ C            |
| Voltage Coefficient            | < 0.1 ppm/V   | -                                     |
| Working Voltage                | 75 V to 200 V   | -                                     |
| Operating Temperature Range    | -55 $^{\circ}$ C to +150 $^{\circ}$ C                     | -                                     |
| Storage Temperature Range      | -55 $^{\circ}$ C to +150 $^{\circ}$ C                     | -                                     |
| Noise                          | < -30 dB  | -                                     |
| Shelf Life Stability: Absolute | $\pm 0.01$ %  | 1 year at +25 $^{\circ}$ C            |

#### Note

<sup>(1)</sup> Dependant on component mounting by user.

#### COMPONENT RATINGS

| CASE SIZE | POWER RATING (mW)   | WORKING VOLTAGE (V) | RESISTANCE RANGE ( $\Omega$ ) |
|-----------|---------------------|---------------------|-------------------------------|
| 1206      | 2000 <sup>(2)</sup> | 200                 | 30 to 175                     |
| 2512      | 6000 <sup>(2)</sup> | 200                 | 30 to 175                     |

#### Notes

- 0603 and 0805 case size under engineering qualification.
- <sup>(2)</sup> Dependant on component mounting by user.