



## Wirewound Resistors, Commercial Power, Printed Circuit Board, Tab Type Terminals



### FEATURES

- Variety of core lengths
- Terminals designed for direct mounting into a circuit board to be securely clamped
- Available potted in a ceramic case to increase power dissipation, contact factory by using the e-mail address at the bottom of this page
- Material categorization:  
for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



**RoHS**  
COMPLIANT  
HALOGEN  
**FREE**  
**GREEN**  
(5-2008)

### STANDARD ELECTRICAL SPECIFICATIONS

| GLOBAL MODEL <sup>(1)</sup> | HISTORICAL MODEL <sup>(1)</sup> | POWER RATING<br>$P_{25^{\circ}\text{C}}$<br>W | RESISTANCE RANGE<br>$\Omega$ | TOLERANCE<br>$\pm \%$ | WEIGHT<br>(typical)<br>g |
|-----------------------------|---------------------------------|---|------------------------------|-----------------------|--------------------------|
| PCT4050                     | PCT-4050                        | 2.0   | 0.10 to 390                  | 5, 10                 | 0.57                     |
| PCT4065                     | PCT-4065                        | 2.6   | 0.14 to 560                  | 5, 10                 | 0.59                     |
| PCT4085                     | PCT-4085                        | 3.4   | 0.20 to 785                  | 5, 10                 | 0.62                     |
| PCT4105                     | PCT-4105                        | 4.2   | 0.25 to 1.01K                | 5, 10                 | 0.65                     |
| PCT4145                     | PCT-4145                        | 5.8   | 0.36 to 1.46K                | 5, 10                 | 0.71                     |
| PCT4185                     | PCT-4185                        | 7.4   | 0.47 to 1.91K                | 5, 10                 | 0.77                     |
| PCT4215                     | PCT-4215                        | 8.6   | 0.56 to 2.25K                | 5, 10                 | 0.81                     |

#### Note

<sup>(1)</sup> PCT4000 model numbers are calculated from the power rating of 4 W per inch. The last three digits of the model number represent the mounting center spacing of the resistors in inches (decimal is between the first and second digit, mounting center spacing is available between 0.50" [12.70 mm] and 2.15" [54.61 mm]). Example: PCT4150 = 1.50 inches x 4 W per inch = 6 W.

### TECHNICAL SPECIFICATIONS

| PARAMETER                   | UNIT   | PCT4000 RESISTOR CHARACTERISTICS                                   |
|-----------------------------|--------|--|
| Power Rating                | W      | 4 per inch   |
| Temperature Coefficient     | ppm/°C | $\pm 300$ for 1.0 $\Omega$ and above; $\pm 600$ below 1.0 $\Omega$ |
| Short Time Overload         | -      | 5 x rated power for 5 s  |
| Maximum Working Voltage     | V      | $(P \times R)^{1/2}$   |
| Operating Temperature Range | °C     | -65 to +375  |
| Terminal Strength           | lb     | 10 minimum   |

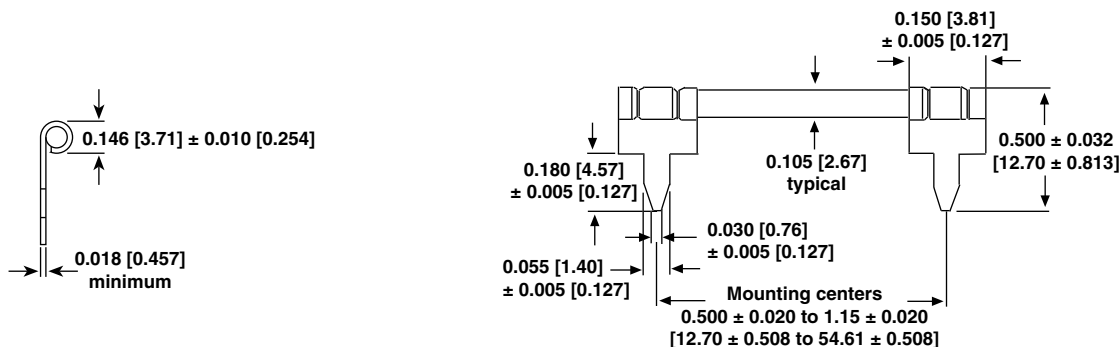
### GLOBAL PART NUMBER INFORMATION

Global Part Numbering example: PCT405015R00JB14

|  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|--|
| P  | C | T | 4 | 0   | 5 | 0 | 1 | 5   | R | 0 | 0 | J   | B | 1 | 4 |  |  |
| GLOBAL MODEL   |   |   |   | VALUE   |   |   |   | TOLERANCE   |   |   |   | PACKAGING   |   |   |   | SPECIAL  |  |
| (see Standard Electrical Specifications Global Model column for options) |   |   |   | R = decimal<br>K = thousand<br>R1500 = 0.15 $\Omega$<br>1K500 = 1500 $\Omega$ |   |   |   | H = $\pm 3.0 \%$<br>J = $\pm 5.0 \%$<br>K = $\pm 10.0 \%$ |   |   |   | B14 = lead (Pb)-free, bulk<br>B31 = lead (Pb)-free, four layer bulk |   |   |   | (dash number) (up to 2 digits) from 1 to 999 as applicable |  |

Historical Part Numbering example: PCT-4050 15  $\Omega$  5 % B14

|                  |                  |                |           |
|------------------|------------------|----------------|-----------|
| PCT-4050         | 15 $\Omega$      | 5 %            | B14       |
| HISTORICAL MODEL | RESISTANCE VALUE | TOLERANCE CODE | PACKAGING |

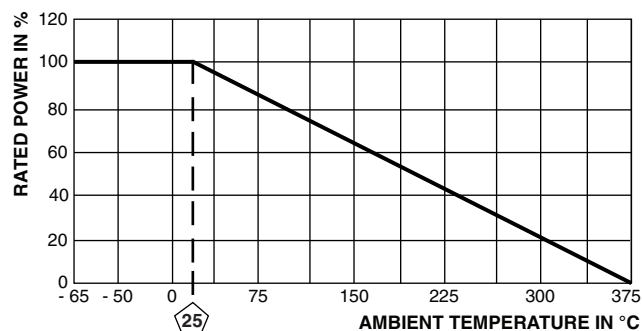
**DIMENSIONS** in inches [millimeters]**PCT4000****MATERIAL SPECIFICATIONS**

**Element:** nickel-chrome alloy or copper-nickel alloy, depending on resistance value

**Core:** woven fiberglass

**Terminals:** electro tin plated steel

**Part Marking:** none

**DERATING****PERFORMANCE**

| TEST                      | CONDITIONS OF TEST  | TEST LIMITS (EIA RS-344)               |
|---------------------------|---|--|
| Thermal Shock             | -55 °C to +275 °C, 5 cycles, 30 min dwell time                      | $\pm (5.0 \% + 0.05 \Omega) \Delta R$  |
| Short Time Overload       | 5 x rated power for 5 s   | $\pm (4.0 \% + 0.05 \Omega) \Delta R$  |
| Low Temperature Operation | -65 °C, full rated working voltage for 45 min                       | $\pm (3.0 \% + 0.05 \Omega) \Delta R$  |
| Humidity                  | 75 °C, 90 % to 100 % RH, 240 h                                      | $\pm (5.0 \% + 0.05 \Omega) \Delta R$  |
| Load Life                 | 1000 h at rated power, +25 °C, 1.5 h "ON", 0.5 h "OFF"              | $\pm (10.0 \% + 0.05 \Omega) \Delta R$ |
| Resistance to Solder Heat | Terminal immersed 3.5 s in molten solder at 1/8" to 3/16" from body | $\pm (4.0 \% + 0.05 \Omega) \Delta R$  |



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