

# TNP10 Series

## Thin Film TO-126 Resistor



Ohmite offers a high power heatsinkable TO-126 packaged resistor. They can achieve 1W in free air and 10W when attached to a proper heatsink. The non-inductive design is ideal for high speed circuits. These models exhibit low noise, high frequency operation and high density installation. Applications include: Constant current sources, electronic load circuits, LSI tests, measurement, audio PA systems and motor control.



### SPECIFICATIONS

| Series | Wattage* | Resistance Range ( $\Omega$ ) | Tolerance             | TCR (ppm/ $^{\circ}$ C) | Heat Resistance**  |
|--------|----------|-------------------------------|-----------------------|-------------------------|--------------------|
| TNP10S | 10W      | 0.09-0.1                      | 5% (J)                | $\pm 250$               | 5.9 $^{\circ}$ C/W |
|        |          | 0.1-9.1                       | $\pm 1\%$ (F), 5% (J) | $\pm 100$               |                    |
|        |          | 10-51K                        | $\pm 1\%$ (F)         | $\pm 50$                |                    |

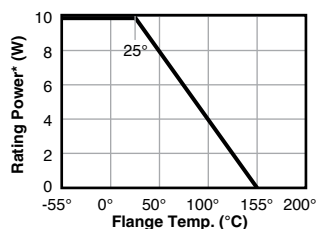
\* Flange temp. -55 $^{\circ}$  - 25 $^{\circ}$ C; 1W at free air \*\*From hot spot to flange

### CHARACTERISTICS

|                          |                                                                 |
|--------------------------|-----------------------------------------------------------------|
| <b>Resistance Range</b>  | Values listed below; others on request                          |
| <b>Temp. Range</b>       | -55 $^{\circ}$ C to +155 $^{\circ}$ C                           |
| <b>Rated Temperature</b> | +25 $^{\circ}$ C                                                |
| <b>Rated Power</b>       | 10W (-55 to 25 $^{\circ}$ C flange temperature),<br>1W free air |

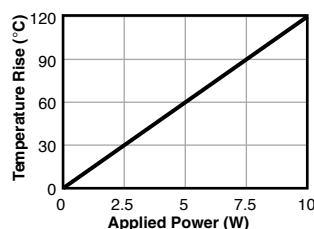
| Item                                   | Performance             | Condition                                        |
|----------------------------------------|-------------------------|--------------------------------------------------|
| <b>Dielectric Withstanding Voltage</b> | 2000VAC                 | 60 sec., between terminals and flange            |
| <b>Insulation Resistance</b>           | Over 1000M $\Omega$     | Between terminals and flange                     |
| <b>Moisture Resistance</b>             | $\pm(1.0\%+0.05\Omega)$ | 60 $^{\circ}$ C, 90 to 95%RH, DC 0.1W, 1000 hrs. |
| <b>Load Life</b>                       | $\pm(1.0\%+0.05\Omega)$ | 25 $^{\circ}$ C, 90min. ON, 30min. OFF, 1000hrs  |
| <b>Soldering Heat</b>                  | $\pm(1.0\%+0.05\Omega)$ | 350 $\pm 5^{\circ}$ C, 3 sec.                    |
| <b>Solderability</b>                   | Over 95% of surface     | 230 $\pm 5^{\circ}$ C, 3 sec.                    |
| <b>Vibration</b>                       | $\pm 0.25\%$            | IEC 60068-2-6                                    |

#### Derating

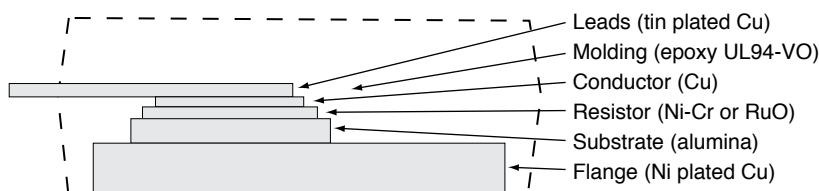


\*with 2.8K/W heatsink

#### Temperature Rise



#### Construction



### THIS PRODUCT IS DESIGNED FOR USE WITH PROPER HEATSINKING.

Maximum base plate temperature of the resistor must be monitored and kept within specified limits to establish the power rating. Best technique is to attach a thermocouple to the side of the base plate of the resistor. Temperature of plastic housing or heat sink cannot be used to establish rating of the resistor.

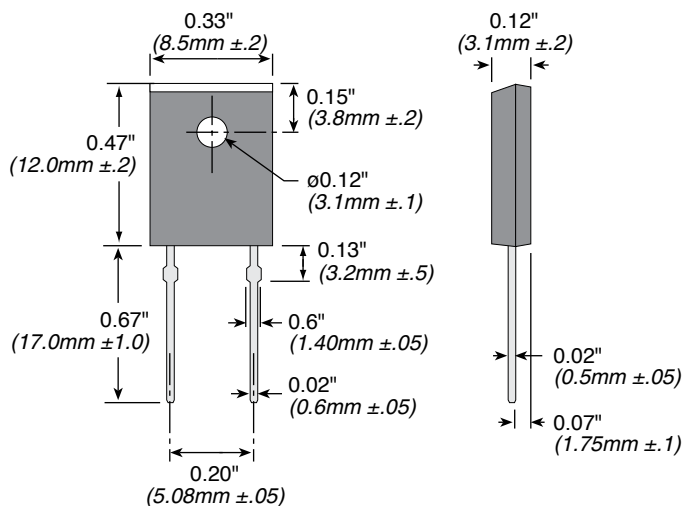
(continued)

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### DIMENSIONS

(in./mm)



### ORDERING INFORMATION

| TNP10SC50R0FE |            |                |                |
|---------------|------------|----------------|----------------|
| Series        | TCR        | Resistance     | Tolerance      |
|               | H = 250ppm | R500 = 0.500Ω  | F = 1%         |
|               | A = 100ppm | 1R00 = 1Ω      | J = 5%         |
|               | C = 50ppm  | 250R = 250Ω    |                |
|               |            | 1K00 = 1,000Ω  |                |
|               |            | 25K5 = 25,500Ω |                |
|               |            |                | RoHS compliant |

#### Standard part numbers

Other values on request

|               |               |               |
|---------------|---------------|---------------|
| TNP10SHR100JE | TNP10SA5R00FE | TNP10SC75R0FE |
| TNP10SHR150JE | TNP10SA7R50FE | TNP10SC100RFE |
| TNP10SAR200JE | TNP10SC10R0FE | TNP10SC120RFE |
| TNP10SHR250JE | TNP10SC12R0FE | TNP10SC150RFE |
| TNP10SHR330JE | TNP10SC15R0FE | TNP10SC200RFE |
| TNP10SAR500JE | TNP10SC20R0FE | TNP10SC330RFE |
| TNP10SA1R00FE | TNP10SC25R0FE | TNP10SC560RFE |
| TNP10SA1R50FE | TNP10SC27R0FE | TNP10SC1K00FE |
| TNP10SA2R00FE | TNP10SC47R0FE | TNP10SC10K0FE |
| TNP10SA3R00FE | TNP10SC50R0FE |               |

### ASSOCIATED PARTS



TNP10 resistors may be mounted with Ohmite  
**C Series (parts C126-XXX) heatsinks:**  
[http://www.ohmite.com/cat/sink\\_c.pdf](http://www.ohmite.com/cat/sink_c.pdf)