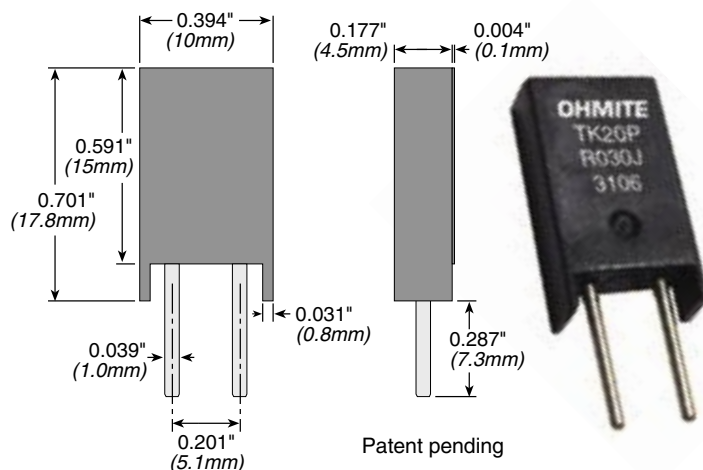


# TK/TN Series

## 20 and 15 Watt TO-220 Package Thick and Thin Film



Patent pending

Ohmite is proud to introduce the newest addition to our family of Heat Sinkable Power Resistors. The TK/TN Series offers 3 major advances over existing TO-220 products:

- Low Resistance Values down to 0.03 ohms for current sense applications
- Low Cost
- Thin Film Construction is the first Thin Film power resistor in heatsinkable packaging on the market.

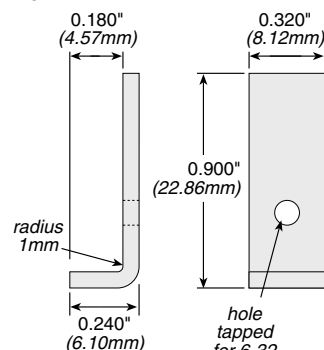
### WHY THIN FILM?

Thin film technology offers the following performance advantages:

- Extremely stable (low TCR)
- Low Noise (parasitic capacitance and resistance)
- Excellent High Frequency Performance
- High Accuracy (tight tolerances)

### BRACKET

6200E: recommended mounting bracket kit (optional)



TK/TN mounted vertically

## SPECIFICATIONS

### Material

**Resistive element:** Thick or thin film chip resistor

**Terminals:** Tin plated copper (100Sn)

**Case:** Ryton

**Heatsink plate:** Black anodized aluminum

| Electrical                                                                                                                | Thick film TK20                     | Thin film TN15           |
|---------------------------------------------------------------------------------------------------------------------------|-------------------------------------|--------------------------|
| <b>Power rating:</b>                                                                                                      | 20W                                 | 15W                      |
| (Heat-sink dependent; must be attached to a proper heat sink for full power rating. Max. case temp. cannot exceed 150°C.) |                                     |                          |
| <b>Derating:</b>                                                                                                          | Linear, 100% at 25°C to 0% at 150°C |                          |
| <b>Resistance Range:</b>                                                                                                  | 10mΩ-10KΩ                           | 4Ω-10KΩ                  |
| <b>Tolerance:</b>                                                                                                         | 5%                                  | 1%, 2%                   |
| <b>Max. working voltage:</b>                                                                                              | 0.01Ω-1KΩ:                          | $\sqrt{20^{\circ}R}$     |
|                                                                                                                           | 3KΩ-10KΩ:                           | 150V                     |
|                                                                                                                           | 4Ω-10KΩ:                            | $\sqrt{15^{\circ}R}$     |
| <b>Max. working current:</b>                                                                                              | 0.01Ω-0.1Ω:                         | 10A                      |
|                                                                                                                           | 0.3Ω-10KΩ:                          | $\sqrt{20/R}$            |
|                                                                                                                           | 4Ω-10KΩ:                            | $\sqrt{15/R}$            |
| <b>TCR:</b>                                                                                                               | 0.01Ω-0.1Ω:                         | ±300ppm                  |
|                                                                                                                           | 0.3Ω-10KΩ:                          | ±200ppm                  |
|                                                                                                                           | 4Ω-10KΩ:                            | ±50ppm (lower available) |
| <b>Thermal resistance. R<sub>th</sub>:</b>                                                                                | <6.25°C/W                           | <8.33°C/W                |

## ORDERING INFORMATION

| TK20P1R00JE           |             |                   |                  |             |
|-----------------------|-------------|-------------------|------------------|-------------|
| <b>Series</b>         | <b>TCR</b>  | <b>Resistance</b> | <b>Tolerance</b> | <b>RoHS</b> |
| TK20 = 20W thick film | (TN15 only) | Example:          | F = 1%           | Compliant   |
| TN15 = 15W thin film  | P = ±50ppm  | R075 = 75mΩ       | G = 2%           |             |
|                       | L = ±25ppm  | 7R50 = 7.5Ω       | J = 5%           |             |
|                       | V = ±10ppm  | 75R0 = 75Ω        |                  |             |
|                       | X = ±5ppm   | 7K50 = 7500Ω      |                  |             |

## STANDARD PART NUMBERS

| Ohms   | TK20<br>thick film<br>20 watt | TN15<br>thin film<br>15 watt                             |             |
|--------|-------------------------------|----------------------------------------------------------|-------------|
|        | 5% tol.                       | 1% tol.                                                  | 2% tol.     |
| 0.03   | TK20PR030JE                   |                                                          |             |
| 0.04   | TK20PR040JE                   |                                                          |             |
| 0.05   | TK20PR050JE                   |                                                          |             |
| 0.075  | TK20PR075JE                   |                                                          |             |
| 0.1    | TK20PR100JE                   |                                                          |             |
| 0.3    | TK20PR300JE                   |                                                          |             |
| 0.4    | TK20PR400JE                   |                                                          |             |
| 0.5    | TK20PR500JE                   |                                                          |             |
| 0.75   | TK20PR750JE                   |                                                          |             |
| 1      | TK20P1R00JE                   | TN15P4R00FE<br>TN15P5R00FE<br>TN15P7R50FE                | TN15P10R0GE |
| 3      | TK20P3R00JE                   |                                                          |             |
| 4      | TK20P4R00JE                   |                                                          |             |
| 5      | TK20P5R00JE                   |                                                          |             |
| 7.5    | TK20P7R50JE                   |                                                          |             |
| 10     | TK20P10R0JE                   | TN15P30R0FE<br>TN15P40R0FE<br>TN15P50R0FE<br>TN15P75R0FE | TN15P100RGE |
| 30     | TK20P30R0JE                   |                                                          |             |
| 40     | TK20P40R0JE                   |                                                          |             |
| 50     | TK20P50R0JE                   |                                                          |             |
| 75     | TK20P75R0JE                   |                                                          |             |
| 100    | TK20P100RJE                   | TN15P300RFE<br>TN15P400RFE<br>TN15P500RFE<br>TN15P750RFE | TN15P1K00GE |
| 300    | TK20P300RJE                   |                                                          |             |
| 400    | TK20P400RJE                   |                                                          |             |
| 500    | TK20P500RJE                   |                                                          |             |
| 750    | TK20P750RJE                   |                                                          |             |
| 1000   | TK20P1K00JE                   | TN15P3K00FE<br>TN15P4K00FE<br>TN15P5K00FE<br>TN15P7K50FE | TN15P10K0GE |
| 3000   | TK20P3K00JE                   |                                                          |             |
| 4000   | TK20P4K00JE                   |                                                          |             |
| 5000   | TK20P5K00JE                   |                                                          |             |
| 7500   | TK20P7K50JE                   |                                                          |             |
| 10,000 | TK20P10K0JE                   |                                                          |             |

Check product availability at [www.ohmite.com](http://www.ohmite.com)