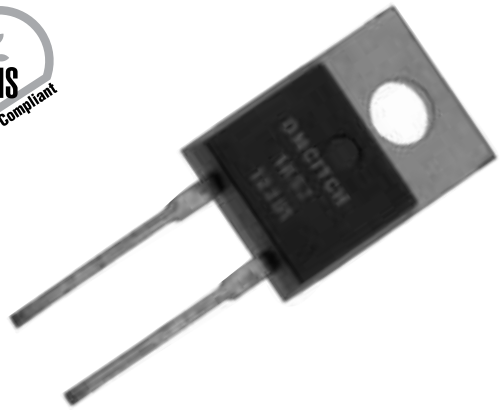
# TCH Series

## 35 Watt TO220 Package Thick Film Power



Ohmite's TCH35 TO220 package resistor provides 35W of steady state power when properly used in today's well defined heat sink applications.

These very low induction resistors are built under proprietary processes that deliver more power handling capability than other TO220 package resistors of similar size.

Standard terminal forms are provided for manual or automatic insertion.

A single screw mounting tab connects to the heat sink and should be accompanied by the use of a thermal compound. The TCH35 Series offers a low thermal resistance to the heat sink of <4.28°C/W.

### FEATURES

- 35W Power Rating @ 25°C
- Very Low Inductance Design
- Single Screw Mounting
- Low Thermal Resistance to Heat Sink @ RTH<4.28°C/W
- Resistance Element is Electrically Insulated from Metal Heat Sink Mounting Tab

### APPLICATIONS

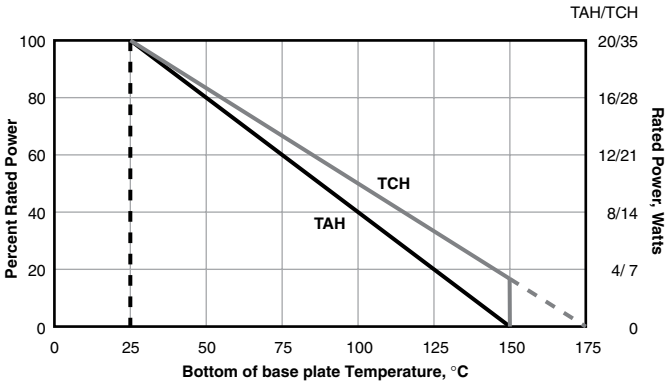
- Switching Power Supplies
- Snubbers
- High Frequency
- Voltage Regulation
- Low Energy Pulse Loading

### CHARACTERISTICS

| | |
|---|---|
| **Resistance Range** | 0.05Ω to 10KΩ (higher values on request, lower values subject to derating) |
| **Resistance Tolerance:** | ± 5% standard; ± 1% available on request |
| **Temperature Coefficient** | Referenced to 25°C, ΔR taken at +105°C<br>10Ω and above: ±50 ppm°C<br>For under 10Ω:<br>3R to 9R9: 100ppm<br>1R to 2R9: 300ppm<br>0R1 to 0R99: 700ppm<br>0R05 to 0R09: 1000ppm |
| **Max. Operating Voltage** | 350V |
| **Dielectric Strength** | 1800 VAC |
| **Insulation Resistance** | 10GΩ min. |
| **Momentary Overload** | 2x rated power for 5 seconds as long as the applied voltage ≤1.5 times the continuous operating voltage, where ΔR ±(0.3% + 0.01Ω) max |
| **Terminal Material** | Copper |
| **Terminal Plating** | Lead Free Solder (97% Tin, 3% Silver) |
| **Maximum Torque** | 0.9 Nm |
| **Power Rating** | 35 Watts @ 25°C case temperature; see derating curve, below |
| **Working Temperature Range** | -55°C to +175°C |
| **Solder Process** | The TCH35 cannot exceed 260°C for more than 10 seconds during soldering process |

| Test | Condition | Result ΔR |
|---|---|---|
| **Load Life** | MIL-R-39009, 2000 Hours @ Rated Pwr | ±(1.0% +0.01) Ω |
| **Thermal Shock** | MIL-R-STD-202, Method 107, Cond. F | ±(0.3% +0.01) Ω max |
| **High Freq Vibration** | MIL-R-STD-202, Method 204, Cond. D | ±(0.2% +0.01) Ω max |
| **Terminal Strength** | MIL-R-STD-202, Method 211, Cond. A (Pull Test) 2.4N | ±(0.2% +0.01) Ω max |
| **Moisture Resistance** | MIL-R-STD-202, Method 106 | ± (0.5% +0.01) Ω max |

### Derating



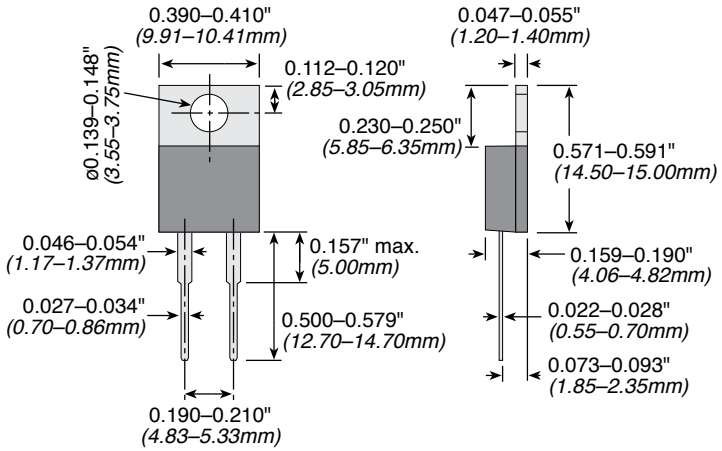

(continued)

# TCH Series

## 35 Watt TO220 Package Thick Film Power

## DIMENSIONS

(in./mm)




## ORDERING INFORMATION

**Tolerance**
F = 1%
J = 5% Standard

**Package Code**

**T C H 3 5 P 1 0 R 0 J E**

**Series**

**Ohm Value**
Example:
2R40 = 2.4 Ohms
2K40 = 2400 Ohms

**RoHS Compliant**
Non-compliant version unavailable

### Standard Part Numbers

| | | | | |
|---|---|---|---|---|
| TCH35P100RJE | TCH35P220RJE | TCH35P33R0JE | TCH35P510RJE | TCH35PR200JE |
| TCH35P10K0JE | TCH35P22R0JE | TCH35P390RJE | TCH35P51R0JE | TCH35PR220JE |
| TCH35P10R0JE | TCH35P240RJE | TCH35P39R0JE | TCH35P5K10JE | TCH35PR240JE |
| TCH35P150RJE | TCH35P24R0JE | TCH35P3K30JE | TCH35P5R10JE | TCH35PR330JE |
| TCH35P15R0JE | TCH35P2K00JE | TCH35P3K90JE | TCH35P5R60JE | TCH35PR390JE |
| TCH35P1K00JE | TCH35P2K20JE | TCH35P3R30JE | TCH35P750RJE | TCH35PR470JE |
| TCH35P1K50JE | TCH35P2K40JE | TCH35P3R90JE | TCH35P75R0JE | TCH35PR510JE |
| TCH35P1R00JE | TCH35P2R00JE | TCH35P470RJE | TCH35P7K50JE | TCH35PR560JE |
| TCH35P1R50JE | TCH35P2R20JE | TCH35P47R0JE | TCH35P7R50JE | TCH35PR750JE |
| TCH35P200RJE | TCH35P2R40JE | TCH35P4K70JE | TCH35PR100JE | TCH35PRO50JE |
| TCH35P20R0JE | TCH35P330RJE | TCH35P4R70JE | TCH35PR150JE | |

**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.