TDH Series

35 Watt DPAK Package
Thick Film Power Surface Mount

RoHS Compliant

Ohmite's TDH resistor is an economical solution to intermediate power application design requirements. TDH's reliable thick film on alumina substrate construction can be easily heat sinked for higher power performance. TDH resistors are ideal for pulse-loading, pre-charge, bleeder, and snubber applications.

FEATURES

- 35 Watt power rating at 25°C
- SMD - DPAK package configuration
- Heat resistance to cooling plate: Rth <4.28°C/W
- A molded case for environmental protection.
- Resistor element is electrically insulated from the metal sink tab.

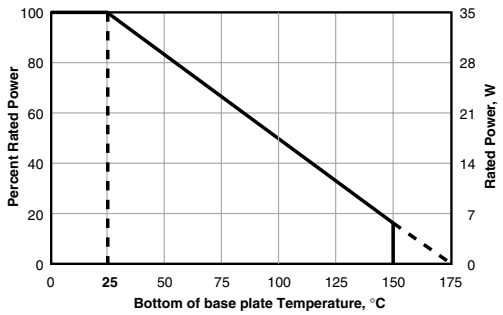
CHARACTERISTICS

Terminal	Copper
Terminal Plating	Lead Free Solder (97% Tin, 3% Silver)
Resistance Range	0.05Ω to 10KΩ other values on request
Tolerance	±1% to ±10% (0.5% on request)
Max. Operating Voltage	350V
Insulation Resistance	10GΩ min.
Power Rating	Depends upon case temperature. See derating curve. DPAK style power package for surface mounting applications; 35W power rating at 25°C case temperature.
Working Temperature Range	-55°C to +175°C
Solder Process	The TDH35P cannot exceed 220°C (260°C for the TDH35H) for more than 10 seconds during soldering process.
Derating	100% @ 25°C to 0% @ 150°C curve referenced to case temperature
Dielectric Strength	1,800VAC
Operating Temperature Range	-55°C to +150°C
Temperature Coefficient	10Ω and above, ±50ppm/°C, referenced to 25°C, ΔR taken at +105°C. Between 1 and 10Ω, ±(100ppm+0.002Ω)/°C, referenced to 25°C, ΔR taken at +105°C. For under 10Ω: 0R6 - 9R9: 100PPM 0R4 - 0R59: 150PPM 0R2 - 0R39: 250PPM 0R1 - 0R19: 500PPM 0R05 - 0R09: 1000PPM
Inductance	less than 20 nanohenries
Flatness	less than 0.1mm tolerance

Soldering note: During surface mount soldering the soldering temperature profile must not cause the metal tab of this device to exceed 220°C (260°C for the TDH35H)!

Test	Condition	Result
Load Life	MIL–R–39009, 2,000 hours	ΔR ±(1.0% +0.01Ω)
Moisture Resistance	MIL–Std–202, Method 106	ΔR =(0.5% +0.01Ω) max.
Short Time Overload	2 times rated power with applied voltage not to exceed 1.5 times maximum continuous operating voltage for 5 seconds	ΔR ±(0.3% +0.01Ω) max.
Thermal Shock	MIL–Std–202, Method 107, Cond. F	ΔR =(0.3% +0.01Ω) max.
Terminal Strength	MIL–Std–202, Method 211, Cond. A (Pull Test) 2.4N	ΔR =(0.2% +0.01Ω) max.
Vibration, High Frequency	MIL-Std-202, Method 204, Cond. D	ΔR =(0.2% +0.01Ω) max.

Derating



Derating (thermal resistance): 0.23W/°C (4.28°C/W). The case temperature is to be used for purposes of establishing the applied power limit. The case temperature measurement must be made with a thermocouple contacting the center of the component mounted on the designed heat sink. Thermal grease should be applied propperly.

(continued)

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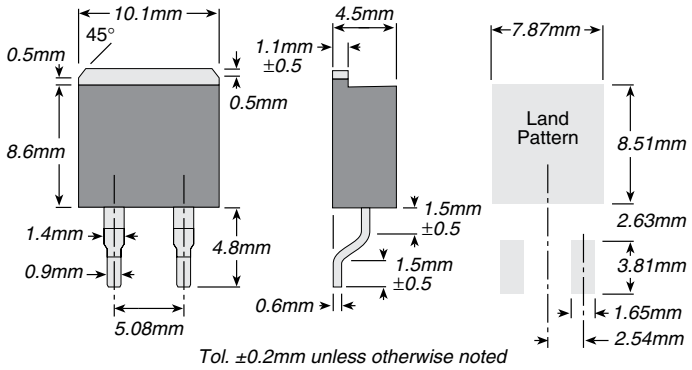
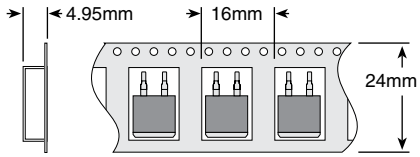
DIMENSIONS



Tol. ±0.2mm unless otherwise noted

Tape Dimensions

750 pc./reel



ORDERING INFORMATION

T D H 3 5 P R 1 0 0 J E -TR

Style

Package Modifier
P = low temp.
H = high temp.

Ohms
R = Decimal
Example:
R100 = 0.10
1R00= 1.0
10K0= 10,000

Tolerance
F = 1%
J = 5%
K = 10%

RoHS Compliant
Non-compliant version unavailable

Tape and reel
(optional)
750 per reel

Standard Part Numbers

Ohms	Part Number 5% Tolerance
0.10	TDH35PR100JE
0.15	TDH35PR150JE
0.20	TDH35PR200JE
0.25	TDH35PR250JE
0.30	TDH35PR300JE
0.36	TDH35PR360JE
0.47	TDH35PR470JE
0.50	TDH35PR500JE
0.75	TDH35PR750JE
1.0	TDH35P1R00JE
2.0	TDH35P2R00JE
3.0	TDH35P3R00JE
5.0	TDH35P5R00JE
7.5	TDH35P7R50JE
10	TDH35P10R0JE
15	TDH35P15R0JE
20	TDH35P20R0JE

Ohms	Part Number 5% Tolerance
25	TDH35P25R0JE
33	TDH35P33R0JE
39	TDH35P39R0JE
47	TDH35P47R0JE
68	TDH35P68R0JE
75	TDH35P75R0JE
100	TDH35P100RJE
150	TDH35P150RJE
200	TDH35P200RJE
250	TDH35P250RJE
300	TDH35P300RJE
500	TDH35P500RJE
750	TDH35P750RJE
1000	TDH35P1K00JE
1500	TDH35P1K50JE
2500	TDH35P2K50JE
3000	TDH35P3K00JE
5000	TDH35P5K00JE

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.

Mouser Electronics

Authorized Distributor

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Ohmite:

TDH35P1R0J-B TDH35PR750J TDH35P5K00J TDH35P3K00J TDH35P150RJ TDH35P1K00J TDH35P25R0J TDH35P68R0J TDH35P10R0J TDH35P75R0J TDH35P20R0J TDH35P39R0J TDH35P33R0J TDH35P15R0J TDH35P20R0J-B TDH35P10R0J-B TDH35PR200J TDH35PR100J TDH35PR500J TDH35PR300J TDH35P15R0J-B TDH35P10R0F TDH35P47R0J TDH35P100J-B TDH35P250RJ TDH35P200RJ TDH35P2R00J TDH35P3R00J TDH35P100RJ TDH35P1R00J TDH35PR150J TDH35PR250J TDH35P1K50J TDH35PR470J TDH35PR360J TDH35P200J-B TDH35P7R50J TDH35P300RJ TDH35P2K50J TDH35P5R0J-B TDH35P750RJ TDH35P5R00J TDH35P500RJ