TDH Series



35 Watt D2PAK Package Thick Film Power Surface Mount

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 D2PAK 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.

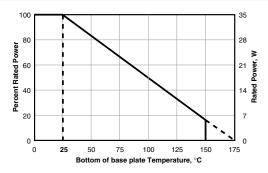
CHARACTERISTICS

Terminal	Copper		
Terminal Plating	Terminals- SnAg, Thermal Header- German Silver/Nickel Silver		
Resistance Range	0.05Ω to 10 K Ω 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. D2PAK 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 215°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	Referenced to 25°C, ΔR taken at +105°C 10 Ω and above: ± 50 ppm°C For under 10 Ω : 3R to 9R9: 100ppm 1R to 2R9: 300ppm 0R1 to 0R99: 700ppm 0R05 to 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	$\Delta R = (0.5\% + 0.01\Omega) \text{ max.}$
Short Time Overload	2 times rated power with applied voltage not to exceed 1.5 times maximum continu- ous operating voltage for 5 seconds	$\Delta R \pm (0.3\%$ +0.01 Ω) max.
Thermal Shock	MIL-Std-202, Method 107, Cond. F	$\Delta R = (0.3\% + 0.01\Omega) \text{ max.}$
Terminal Strength	MIL-Std-202, Method 211, Cond. A (Pull Test) 2.4N	$\Delta R = (0.2\% + 0.01\Omega) \text{ max.}$
Vibration, High Frequency	MIL-Std-202, Method 204, Cond. D	$\Delta R = (0.2\% + 0.01\Omega) \text{ max.}$

Derating



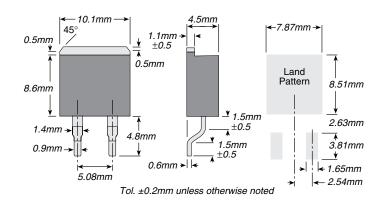
Derating (thermal resistance): 0.23W/°C (4.28°C/W). The case temperature is to be used for purposes of establishing the applied power limit. The case temperature measurement must be made with a thermocouple contacting the center of the component mounted on the designed heat sink. Thermal grease should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

(continued)

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DIMENSIONS

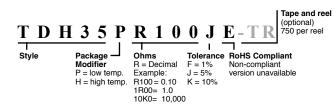


Tape Dimensions

750 pc./reel

ORDERING INFORMATION

Standard Part Numbers



Ohms	Part Number 5% Tolerance	Ohms	Part Number 5% Tolerance
0.10 TDH35PR100JE	25	TDH35P25R0JE	
0.15 TDH35PR150JE	33	TDH35P33R0JE	
0.20 TDH35PR200JE	39	TDH35P39R0JE	
0.25	TDH35PR250JE	47	TDH35P47R0JE
0.30	TDH35PR300JE	68	TDH35P68R0JE
0.36	TDH35PR360JE	75	TDH35P75R0JE
0.47	TDH35PR470JE	100	TDH35P100RJE
0.50	TDH35PR500JE	150	TDH35P150RJE
0.75	TDH35PR750JE	200	TDH35P200RJE
1.0	TDH35P1R00JE	250	TDH35P250RJE
2.0	TDH35P2R00JE	300	TDH35P300RJE
3.0	TDH35P3R00JE	500	TDH35P500RJE
5.0	TDH35P5R00JE	750	TDH35P750RJE
7.5	TDH35P7R50JE	1000	TDH35P1K00JE
10	TDH35P10R0JE	1500	TDH35P1K50JE
15 20	TDH35P15R0JE TDH35P20R0JE	2500 3000 5000	TDH35P2K50JE TDH35P3K00JE 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.



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RC1005F4751CS ERJ-1GMF1R00C ERJ-1GMF1R20C ERJ-1GMF2R55C ERJ-1GMF8R66C 25121WF1003T4E 25.501.3653.0 290-1.0M-RC 292-1.0M-RC 292-2.2K-RC 292-4.7K-RC 25121WF4700T4E 292-470K-RC 302-1.0M-RC CPG1206F10KC CRCW02011R00FXED CRCW060315K0FKEE CRCW060320K5FKEE CRG0201F10K RCWP12061K00FKS2 3520510RJT 352075KJT RMC16-102JT RMC1JPTE TR0603MR-075K1L 5-2176094-4 35202K7JT WF06Q1000FTL ERJ-S14J4R7U CHP2512L4R30GNT WR12X1621FTL LRC-LRF3W-01-R050-FTR1800 9-2176088-6 NRC06F1002TR20F CRCW02013M30FNED CRCW060343K0FKEE WR04X5360FTL LTR100JZPF33R0 5-2176091-5 67479-7R2 RCWP1206110RJKS2 RNC20C1132FT ERJ-S08J155V ERJ-1GMF2R00C