

TDH50 Series

50 watt D2-PAK TO-263 Thick Film Surface Mount



FEATURES

- 50W high power resistors in TO263 (D2-PAK) style package.
- Non-inductive design suits high frequency applications and high-speed pulse circuits.
- Low, 2.3 deg C/W heat resistance from resistor hot spot to flange and long life performance are presented with thick film metallization technology.
- Wide, 50mΩ to 100KΩ resistance range.

APPLICATIONS

- UPS
- Power unit of machines
- Motor control
- Drive circuits
- Automotive
- Measurements
- Industrial computers
- High frequency electronics

SERIES SPECIFICATIONS

Series	Resistance Range					Operating Voltage	350V Max.
TDH50	±0.5%	±0.5%	±0.5%	±0.5%	TCR (PPM/°C)	Dielectric Strength	1800VAC
	–	–	0.05Ω - 0.1Ω		–	Insulation Resistance	10GΩ min.
	–	≥0.1Ω - 1Ω			–	Operating Temp. Range	-65°C to + 150°C
	–	≥1Ω - 5Ω			±100, ±200, ±300	Lead Material	Tinned copper
	≥5Ω - 10Ω			Maximum Torque		0.9 Nm	
	≥10Ω - 100KΩ			±50, ±100, ±200	Free-air Power Rating	3W without heatsink at 25°C	
					Storage Temp.	25±5°C; Humidity <75%RH	

The Case Temperature is to be used for the Definition of 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 Properly.

CHARACTERISTICS

Test	Condition	Value
TCR	Referenced to 25°C, ΔR taken at +105°C	As Spec.
Short Time Overload	2x rated power with applied voltage not to exceed 1.5x maximum continuous operating voltage for 5 sec.	ΔR ±0.3%
Load Life	2,000 hours at rated power	ΔR ±1.0%
Damp Heat with Load	40° ±2°C, 90~95% RH, RCWV for 1000 hrs with 1.5 hrs "ON" and 0.5 hr "OFF"	ΔR ±0.5
Solderability	245° ±5°C for 3 seconds	90% min. coverage
Temperature Cycling	-65°C ~ 150°C, 1000 cycles	ΔR ±0.3%
Terminal Strength	(Pull Test) 2.4N	ΔR ±0.2%
Vibration High Frequency	20g peak	ΔR ±0.2%

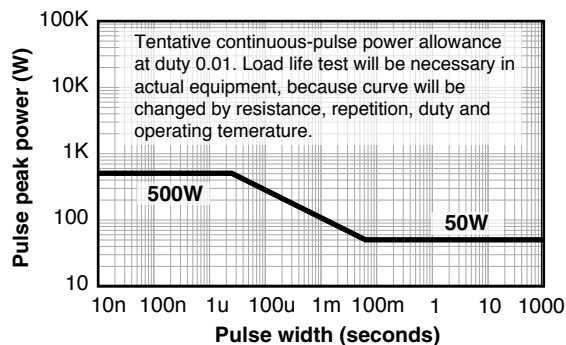
(continued)

TDH50 Series

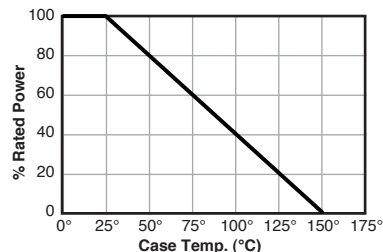
50 watt D2-PAK TO-263 Thick Film Surface Mount

CHARACTERISTICS

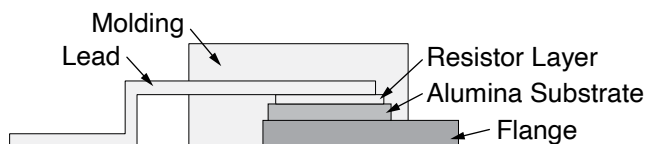
Pulse Energy Durability



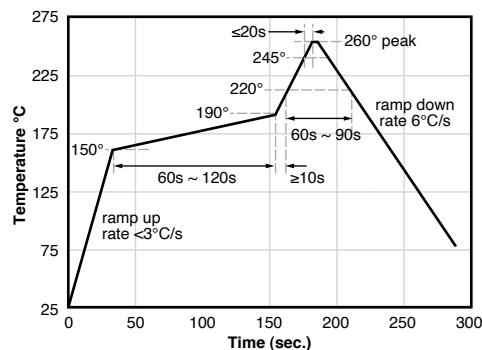
Derating



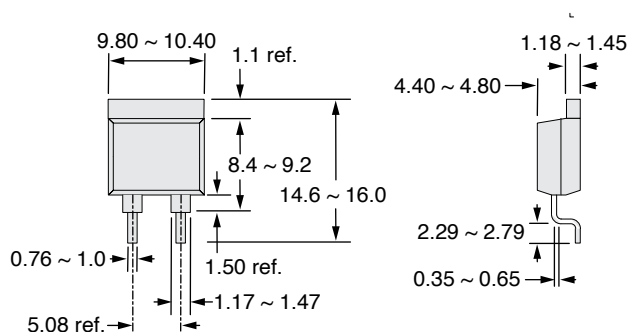
Construction



Soldering



DIMENSIONS



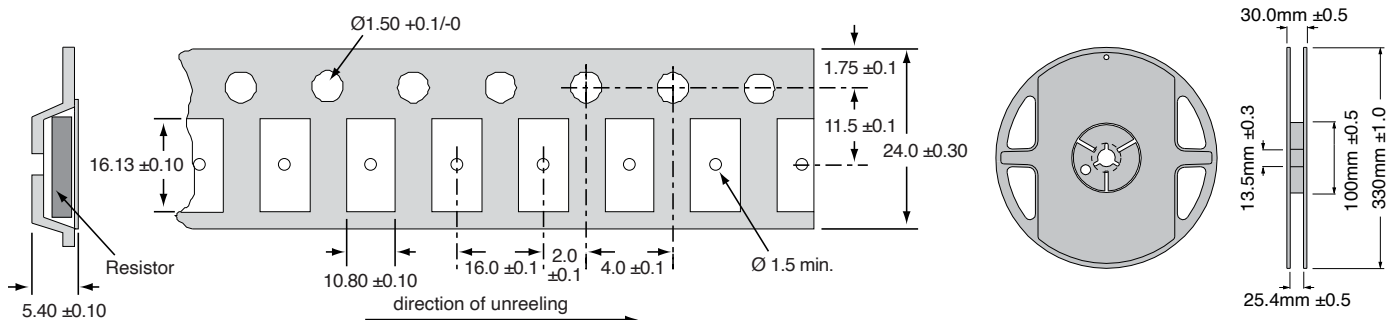
(continued)

TDH50 Series

50 watt D2-PAK TO-263 Thick Film Surface Mount

TAPE AND REEL

Embossed plastic tape and Reel packaging supplied in 500 pcs per reel.



ORDERING INFORMATION

T D H 5 0 H R 1 0 0 J E - T R				
Style	Modifier	Ohms	Tolerance	RoHS Compliant
		R = Decimal	F = 1%	Non-compliant
		Example: R100 = 0.10	J = 5%	version unavailable
		1R00 = 1.0		
		10K0 = 10,000		

Tape and reel
(optional)
500 per reel
50 pcs tubes
standard

Standard Ohm Values

Ohms	Part Number	Tolerance
0.05	TDH50HR050JE	5%
0.1	TDH50HR100FE	1%
0.2	TDH50HR200FE	1%
1	TDH50H1R00FE	1%
2	TDH50H2R00FE	1%
5	TDH50H5R00FE	1%
10	TDH50H10R0FE	1%
20	TDH50H20R0FE	1%
25	TDH50H25R0FE	1%
50	TDH50H50R0FE	1%
75	TDH50H75R0FE	1%
100	TDH50H100RFE	1%
200	TDH50H200RFE	1%
500	TDH50H500RFE	1%
1,000	TDH50H1K00FE	1%
10,000	TDH50H10K0FE	1%

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.