

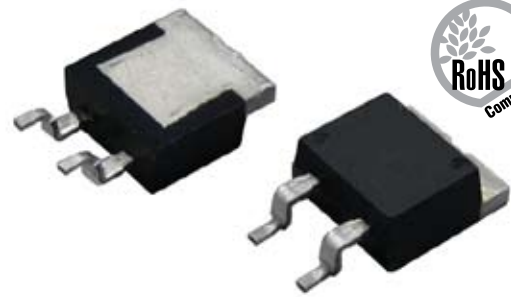


THE DATASHEET OF TDH50HR200FE



TDH50 Series

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



FEATURES

- 50W high power resistors in TO263 (D2-PAK) style package with matte Tin plated flange.
- 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, 20 mΩ to 51K Ω resistance range.

APPLICATIONS

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

CHARACTERISTICS

Test Condition	Value		
Rating Power -55°C to 25°C flange temperature (when used with proper heatsink cooling system)	50 Watt		
Attached on simple footprint	2 Watt		
Heat Resistance Resistor hot spot to flange	2.3°C/W		
Resistance Range Resistance at terminal foot portion	0.02-0.091Ω	0.1-9.1Ω	10-51KΩ
Nominal Res. Include 2.5, 4.0, 5.0, 8.0 and 16	E6	E24	E24
TCR TCR (ppm/°C) of low resistance will typically be increased as indicated. Testing point is at 5.27mm from bottom of molding of terminals	300ppm 200ppm 140ppm 80ppm	0.02Ω 0.05Ω 0.1Ω 0.2Ω	250 100 50
Tolerance 1% tolerance at 0.01-0.091Ω are available	5%(J)	1% (F) 5% (J)	±1% (F)
Capacitance Equivalent parallel capacitance	1.44pF		
Inductance Equivalent series inductance	8.38nH		
Operation Temp.	-55°C to +155°C		
Operating Volt. P is rating power and R resistance	Either 500V or $\sqrt{P \cdot R}$		
Withstand. Volt. Terminal and flange, 60 seconds. 1mA	2000 VAC		
Load Life 25°C, 90 min.ON, 30 min. OFF, 1000h.	±1.0%		
Humidity 40°C, 90-95%RH, DC 0.1W, 1000 hours.	±1.0%		
Temp. Cycle -55°C,30 min., +155°C,30 min., 5cyc	±0.25%		
Soldering Heat 350±5°C, 3 sec.,	±0.1%		
Lead Solderability 245±5°C, 3seconds.	Over 95% of surface		
Insulation Resistance Between terminals and tab.	Over 1,000MΩ		
Vibration IEC60068-2-6. Test method is IEC60068-2-6, and specification is sine sweep wave form, 100Hz-2000Hz, 10 cycles, amplitude 0.75mm or 100m/s ² , 90minutes. direction x-y z, Amplitude 0.75mm will be applied under break point Frequency (about 60Hz) and 100m/ s ² over break point	±0.25%		
Flammability	UL94-V0		
Weight	1.5 grams		

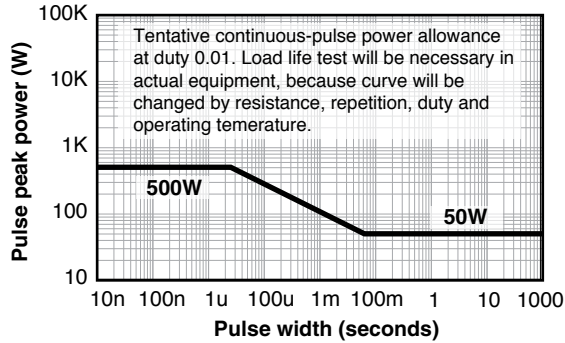
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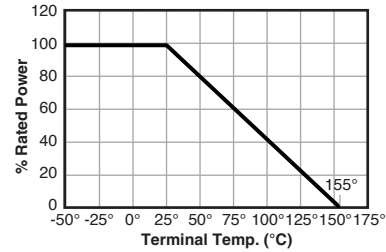
50 watt D2-PAK TO-263 Thick Film Surface Mount

CHARACTERISTICS

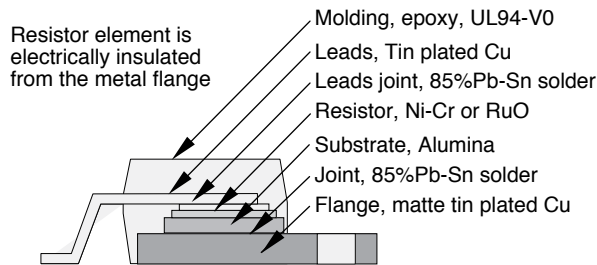
Pulse Energy Durability



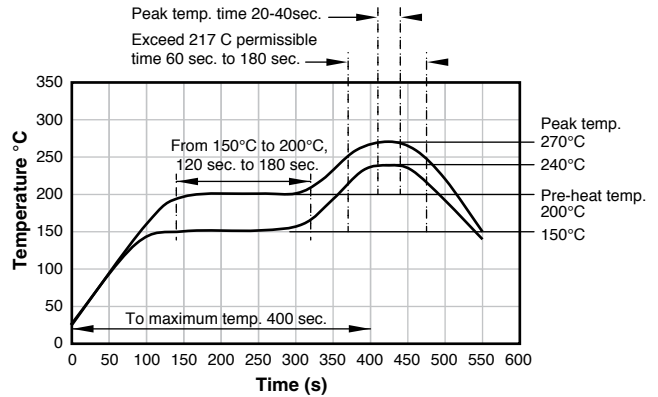
Derating



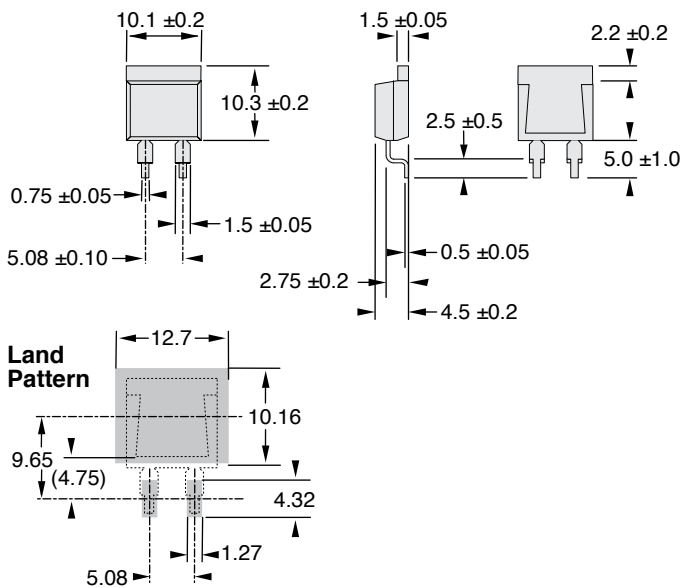
Construction



Soldering

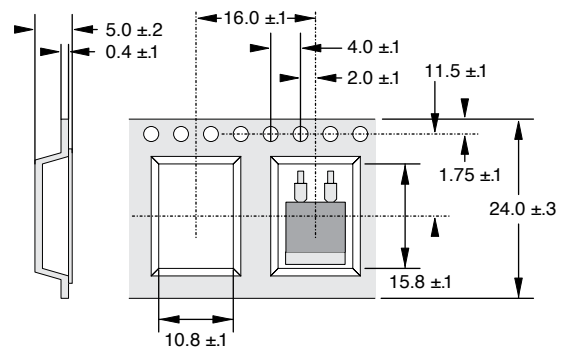


DIMENSIONS



Tape Dimensions

Tape and Reel packaging supplied in 500 pcs per reel.



Reel Dimensions

Outer diameter: 330mm Width: 23.9mm min. 27.4mm max
Inner diameter: 100mm Package quantity: 500pcs/13" reel

(continued)

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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:	J = 5%	version unavailable
		R100 = 0.10		
		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.

Looking for pricing, stock, or lifecycle information?

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 [Ohmite Information](#)

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