TEH140 Series



140 Watt TO-247 Power Resistors for High Frequency and Pulse Loading Applications

FEATURES

- 140W high power resistor in TO-247 molded package
- Only 0.9°C/W heat resistance between resistor and flange for excellent cooling
- Wide $10m\Omega$ to $510k\Omega$ resistance range, non-inductive design fit for high frequency circuit and wide band amplifiers
- Small size and thin shape provides for high density design of power electronics
- Complete thermal conduction and heat dissipation design will be available
- Applications include power electronics / inverter of automotive, rail traction, wind turbine, PV, UPS and industrial motor control as harmonic filter, dumping, snubber, gate control, bleeder resistor and rush current protection



SPECIFICATIONS

nesistalice fallye Nulli. nesistalice	Tulerance
0.01Ω - 0.099Ω +E12 >250ppm/°(C ±5%
0.1Ω - 510KΩ +E24 100ppm/°C	2 ±1%, ±5%

		-				
CHA	R	Δ	СТ	EA	151	lCS

Construction	Thick Film	Short Time Overload	±0.5%	1.5 times rated power for 5
Rating Power	140 Watts at 25°C flange tem-			36001103
	perature	Withstanding Voltage	2500VAC	60 seconds. 1mA
Rating Power	3.0 Watts, Free air.	Load Life	±1.0%	25°C, 90 min.ON, 30min.OFF,
Heat Resistance	0.9°C/W From resistor to flange			1000nours.
Capacitance	3.68 pF At point of terminal length 10mm	Humidity	±1.0%	70°C, 90 - 95%RH, DC0.1W, 1000hours.
Inductance	12.25 nH At point of terminal length 10mm	Temperature Cycle	±0.25%	-55°C, 30 min., +155°C 30min., 5 cycles.
Operation Temp. Range	-55+175°C	Soldering Heat	±0.25%	350±5°C, 3seconds,
Max. Applied Voltage	500W.or √P•R	Solderability	Over 3/4 of round	230±5°C, 3seconds.
Max. Operating Current	120A	Inculation Registeres	Over 1000MO	Potwoon terminals and tab
Weight	7.2 grams	Insulation Resistance	Over 1000ivisz	between terminals and tab.
		Vibration	±0.25 %	
		Flammability	UL94V-0	

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.

TEH140 Series

140 Watt TO-247 Power Resistors for High Frequency and Pulse Loading Applications

CHARACTERISTICS Derating **Frequency Characteristics Pulse Energy Durability Temperature Rise** 140 1000 100k 160 120 ŝ ≶ 100 (ohm) 10 tor film Re Power 100 10k re refei empe Rise power to fla with he ige t-sink 80 Rated F +25℃ 1k erature 80 e peak 60 1350W 140V 40 % 100 175°C Pulse 20 10 0 10m 100m 1u 100u 10u 1m -50 0 50 100 150 200 1M 10M 100M 1G 20 40 60 80 100 120 140 10K 100K 10n . 100n Flange Temperature (°C) Frequency (MHz) Applied Power (W) Pulse width (seconds) Tentative continuous-pulse power allowance at duty 0.01. Load life test will be necessary in actual equipment, Because curve will be changed by resistance, repeti-tion, duty and operating tempera-ture. Dotted is estimation. Construction Leads, Tin plated Cu Molding, epoxy Conductor, Cu Resistor, cermet or NiCr Substrate, Alumina Flange, Ni plated Cu Between flange and resistor are insulated DIMENSIONS ORDERING INFORMATION (in./mm) **RoHS Compliant** 0.630" ±.008 0.189" ±.008 (16mm ±.2) (4.8mm ±.2) T E H 1 4 0 M 1 0 R 0 FΕ I Series Ohms Modifier Tolerance 0.200" ±.020 R = Decimal F = 1%J = 5% (5.1mm +.5) Example: $2R50 = 2.50\Omega$ $25R0 = 25\Omega$ 0.787" ±.020 (20mm ±.5) ø0.140" ±.004 $100R = 100\Omega$ $1K00 = 1000\Omega$ (3.55mm ± 1) 0.110" ±.008 Standard part numbers (2.8mm ±.2) 0.571" ±.020 TEH140MR010JE TEH140M33R0FE TEH140MR050FE TEH140M50R0FE TEH140MR030FE TEH140M75R0FE TEH140MR040FE TEH140M100RFE TEH140M1R00FE TEH140M270RFE (14.5mm ±.5) 0.143" ±.007 0.031" ±.004 (3.63mm ±.18) (0.80mm ±.1) 0.060" ±.004" $(1.52mm \pm .1)$ > < 0.143" ±.008 TEH140M2R00FE TEH140M330RFE TEH140M3R00FE TEH140M470RFE (3.63mm ±.2) TEH140M5R00FE TEH140M750RFE 0.400"±.010 TEH140M10R0FE TEH140M1K00FE TEH140M12R0FE TEH140M4K70FE (10.16mm ±.26)



rev 2/20-1

TEH140M15R0FE TEH140M4R/0FE TEH140M20R0FE TEH140M10K0FE