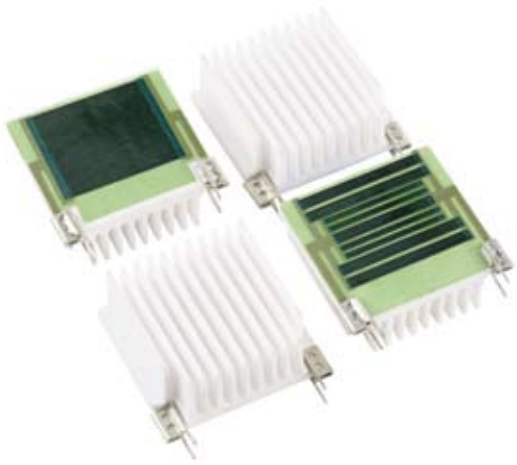
TRH Series

Thick Film



The Ohmite TRH combines two products in one. Ohmite uses advanced thick film printing processes to place a resistor onto an ceramic heatsink. The TRH series replaces common thick film heatsinkable products and the heatsink and hardware associated with them. The resistor and heatsink are one unit and work together with great thermal efficiency. The TRH series is designed to be board mounted and comes in three different application designs. Special resistance patterns have been designed for Continuous Power, High Voltage and Surge applications.

SPECIFICATIONS

Series	Type	Resistance Range
TRHP	Continuous Power	100Ω to 10KΩ
TRHE	Impulse Energy	5Ω to 1KΩ
TRHV	High Voltage	100KΩ to 100MΩ

FEATURES

- High-Temp Terminal Construction
- Wide Resistance Range
- Low Inductance (50nH-100nH)
- Easy to install. PC-mountable
- Meets Mil-Std-202
- Meets IEC 61000-4-5

CHARACTERISTICS

Resistance Range	5Ω to 10 MegΩ, based on type
Tolerance	1%, 5%, 10%
Power Rating*	30W based on 25°C free air
Maximum Operating Volts	15 KV, not to exceed power rating
Temp Coeff. Resistance*	≤10Ω: ±400ppm >10Ω-100MΩ: ±100ppm
TCR Temperature Range	-55°C to +125°C
Derating	100% @25°C to 0% @180°C ambient
Substrate	95% Alumina
Resistor	Thick Film Composition
Terminals	Solder Plated Phosphor Bronze
Operating Temp. Range	-55°C to +180°C
Coating	Glass or Silicone
Solder	Sn95.5Ag3.0Cu0.5 (SAC305)

*Consult factory for optional power ratings and TCR ranges

PERFORMANCE

Humidity	Mil-Std-202, Method 103B, Condition B	ΔR ±0.25%+0.05Ω
Insulation Resistance	Mil-Std-202, Method 302, Condition B	>10,000M or greater Dry
Thermal Shock	Mil-Std-202, Method 107G, Condition B	ΔR ±0.20%+0.05Ω
Load Life	Mil-Std-202, Method 108A, Condition D, 70°C; rated power 90min ON, 30 min Off, 1000 hrs	ΔR ±1%+0.05Ω
Terminal Strength	Mil-Std-202, Method 211A, Condition A	ΔR ±0.25%+0.05Ω
Shock (Specified Pulse)	Mil-Std-202, Method 213B, Condition I	100Ω: ΔR ±0.5%+ 0.05Ω <100Ω: ΔR ±1%+ 0.05Ω
Vibration, High Frequency	Mil-Std-202, Method 204D, Condition D	100Ω ΔR ±0.5%+ 0.05Ω <100Ω ΔR ±1%+ 0.05Ω
Solderability	Mil-Std-202, Method 208F	>95% Coverage
Short Term Overload	2.5x rated power, 5 sec, not exceeding max voltage	ΔR ±0.25%+0.05Ω
Soldering to Heat	350°C solderpot, 3 sec	ΔR ±0.25%+0.05Ω
Dielectric Withstanding Voltage	Mil-Std-202, Method 301, 5KVDC thru back side	ΔR ± 0.25%+ 0.05Ω
Insulation Resistance	Mil-Std-202, Method302, Condition B	>10,000M or greater Dry
Resistance to Solvents	Mil-Std-202, Method 215G	No Degradation of Coating or Marking
Surge Immunity (energy type only)	IEC61000-4-5 waveform 1.2µsec/50µsec, 10 pulses applied. up to 4.5KVD, 100 ohm and up	ΔR less than 1% from initial value

(continued)

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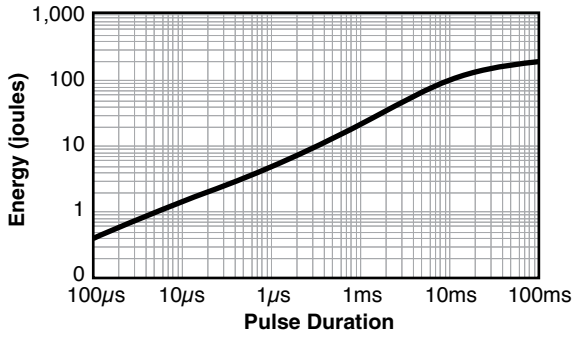
PERFORMANCE

Capacitor Discharged Impulse Test

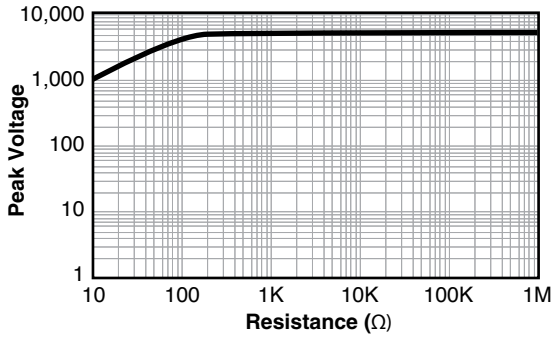
(energy type only)



Limit of acceptance is a shift in resistance of less then 1% from the initial value. 100 joule Energy rating is for 10 mSec pulse width; for shorter pulses energy rating has to be derated according to above rating chart

Surge Immunity Test

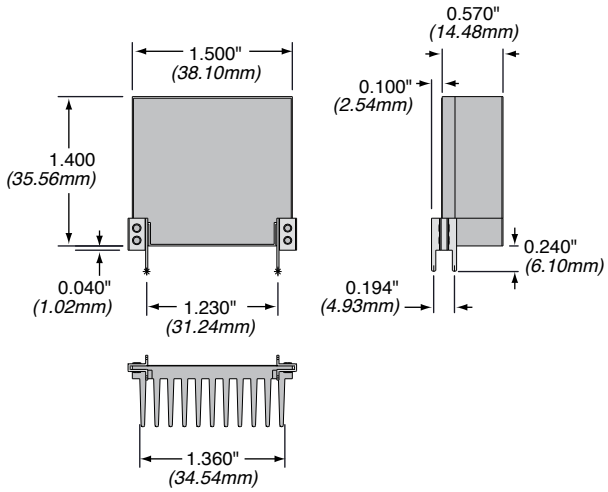
(energy type only)



TRHE are tested in accordance with IEC61000-4-5, waveform 1.2/50μs, 10 pulses applied. Limit of acceptance is a shift in resistance of less then 1% from the initial value.

DIMENSIONS

(in./mm)



ORDERING INFORMATION

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

Coating
2 = Blue Silicone
3 = Overglaze

Size
01 = 1.5 x 1.4"

T R H P 0 1 A 1 5 0 1 J 2 E

Thick Film Resistor Heatsink Series	**Type** P = Power E = Energy V = Voltage	**Identifier**	**Resistance** <1000Ω: R = decimal ≥1000Ω: first 3 digits are significant, 4th digit is multiplier examples: 50 = 50R0 1,000 = 1001 1,500,000 = 1504	**RoHS compliant**

Standard Part Numbers

Power	Energy	Voltage
TRHP01A100RF2E	TRHE01A10R0J2E	TRHV01A1003J2E
TRHP01A100RJ2E	TRHE01A47R0J2E	TRHV01A1004F2E
TRHP01A200RF2E	TRHE01A100RJ2E	TRHV01A5004F2E
TRHP01A1001F2E	TRHE01A270RJ2E	TRHV01A1005J2E
TRHP01A5001F2E	TRHE01A560RJ2E	TRHV01A5005J2E
	TRHE01A1001J2E	TRHV01A1006J2E