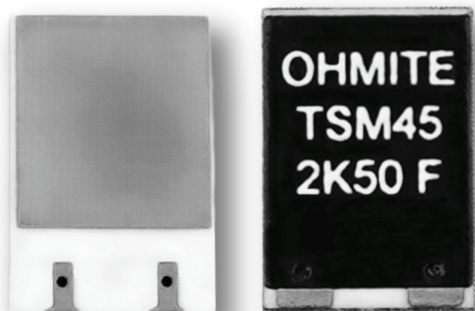


TSM Series

45W TO-252 Thick Film Resistor



FEATURES

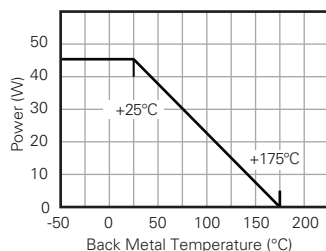
- Small size, low profile, surge capable film resistor
- -55°C to +175°C temperature range provides for automotive applications.
- Low thermal resistance under 3.0° C/W shows excellent cooling performance.
- Easy to replace D-PAK power resistor.
- Excellent rf characteristics for high speed pulse operation.
- Applications include snubber, gate control, bleeder, filter, rush current protection, PV, UPS and motor control inverters.

CHARACTERISTICS

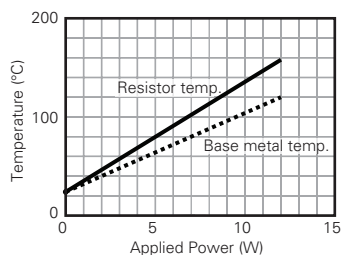
Rated Power	45W at -55°C to 25°C backing metal temperature; 1.0W attached on simple foot print.
Heat Resistance	3.0°C/W resistor to back metal
Resistance Range	0.10Ω-510kΩ; 0.10Ω-1.0Ω are available at 5% tol. only. E24 plus 2.5, 4.0, 5.0, 8.0, and 16
Tolerance	±1% (F) ±5% (J)
Resistor Material	Thick Film
Capacitance	16 pF Equivalent parallel capacitance, typical
Inductance	41 nH Equivalent series inductance, typical
Operating Temp.	-55°C to +175°C
Max. Operating Current	10A
Max. Operating Volt.	less than 500V or $\sqrt{P \cdot R}$ P is rated power and R resistance

Test	Requirement	Method
Short Time Overload	45W	Rated power X 2.0 and 5 second at 25°C with heat-sink
TCR	100ppm/°C	10Ω to 51kΩ, around 100 ppm/°C under 9.1Ω
Withstanding Volt.	1500 VAC	Terminal and back metal, 60 seconds. 1mA
Load Life	±1.0%	25°C, 90 min. ON, 30 min. OFF, 1000h.
Humidity	±1.0%	40°C, 90-95%RH, DC 0.1W, 1000 hours.
Temp. Cycle	±0.25%	-55°C, 30 min., +155°C, 30 min., 5cycle
Soldering Heat	±0.1	%350 ±5°C, 3 seconds
Lead Solderability	Over 95% of surface	250° ±5°C, 5 seconds RMA flux
Insulation Resistance	Over 1,000MΩ	Between terminals and back metal
Vibration	±0.25%	IEC60068-2-6
Weight	0.36 gram	

Derating

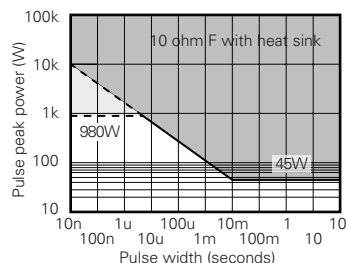


Temperature Rise



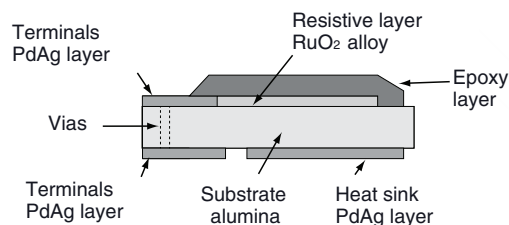
Actual temperature rise for TSM that is jointed on a metal insulated circuit board of 47mm x 73mm x 1mm thick

Pulse Energy Durability



Tentative continuous-pulse power allowance at duty 0.01. Load life test will be necessary in actual equipments, because curve may be changed by resistance, repetition, duty and operating temperature.

Construction

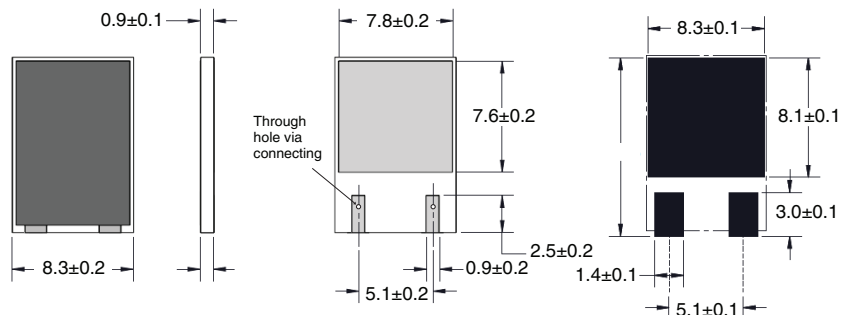


TSM Series

45W TO-252 Thick Film Resistor

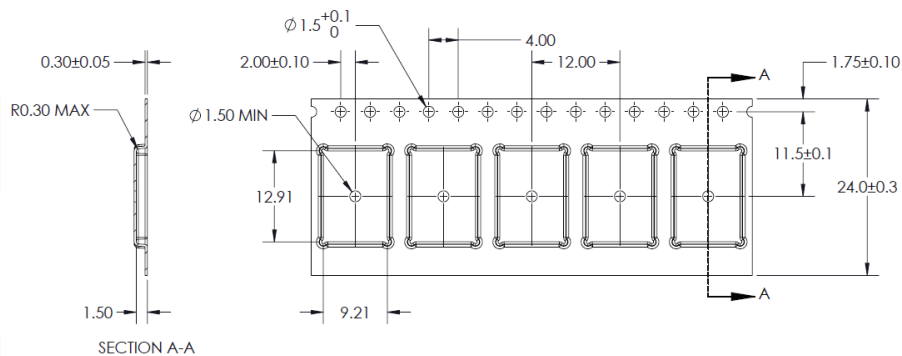
DIMENSIONS

(mm)



Tape and reel

500pcs per reel
330mm reel size



ORDERING INFORMATION

RoHS Compliant

T S M 4 5 R 0 5 0 J E - T R

Series Ohms Tolerance Tape & reel

Standard Part Numbers

TSM45R500JE-TR	TSM4547R0FE-TR
TSM451R00FE-TR	TSM4550R0FE-TR
TSM451R50FE-TR	TSM45100RFE-TR
TSM452R00FE-TR	TSM45150RFE-TR
TSM455R00FE-TR	TSM45200RFE-TR
TSM457R50FE-TR	TSM45300RFE-TR
TSM4510R0FE-TR	TSM45500RFE-TR
TSM4520R0FE-TR	TSM451K00FE-TR
TSM4525R0FE-TR	TSM452K50FE-TR
	TSM455K00FE-TR