

TFSO Series

Thick Film, SOT-227 Power Resistors



FEATURES

- 100W, high power density in SOT-227 footprint
- Inductance <40nH
- 1 ohm to 1M ohms at 5% or 10% tolerance
- Multiple terminal configurations available
- High reliability, lead-free

APPLICATIONS

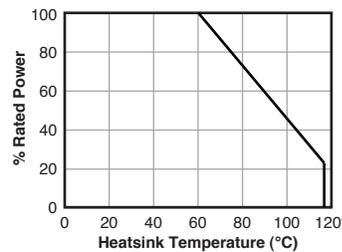
- High Voltage
- High Frequency
- Snubber resistors
- Power supplies

The TFSO is a non-inductive, thick film resistor offering high power density in a SOT-227 package. Available in a wide range of resistance values, the TFSO has two possible configurations with two or four easy to connect terminals. The resistors are made from quality materials for optimum reliability and stability with very low partial discharge. Resistors with alternative terminations are available and custom/made-to-order designs are available.

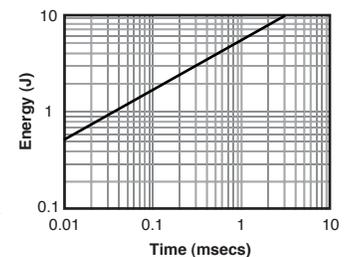
CHARACTERISTICS

Resistance Range	R47 - 1M0
Resistance Tolerance	±10%, 5% (Tighter by discussion)
TCR	R<1Ω ±250ppm/°C; R>1Ω ±150ppm/°C
Power Rating	100W @60°C
Capacitance	Parallel 15pF; to Earth 40pF
Series Inductance	40nH (Maximum)
Limiting Element Voltage	500Vdc/ac rms (100W or Less)
Isolating Voltage	2.5kVac rms (Terminal to Heatsink)
Single Shot Voltage	4kV 1.5/50ms
Insulation Resistance	>100GΩ (at 500V dc)
Partial Discharge	<10pC at 2kV
Terminal Size	M4
Terminal Torque	(max.) 1.3Nm
Creepage Distance	10mm
Clearance	Terminal to Heatsink 10mm; Terminal to Terminal 3mm
Heatsink Surface Finish	R _a < 6μm
Heatsink Flatness	0.05mm
Weight	35g

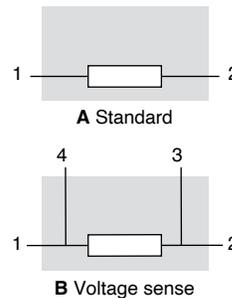
Derating



Pulse Energy



Configurations



Consider the TGH-TP1 Thermal Pad to use with the TFSO

The TGH-TP1 thermal interface materials reduce thermal impedance and are an excellent option for power electronics applications with extreme heat cycles. They are designed to work with SOT-227 devices, such as all Ohmite TGH and TFSO products.

(continued)

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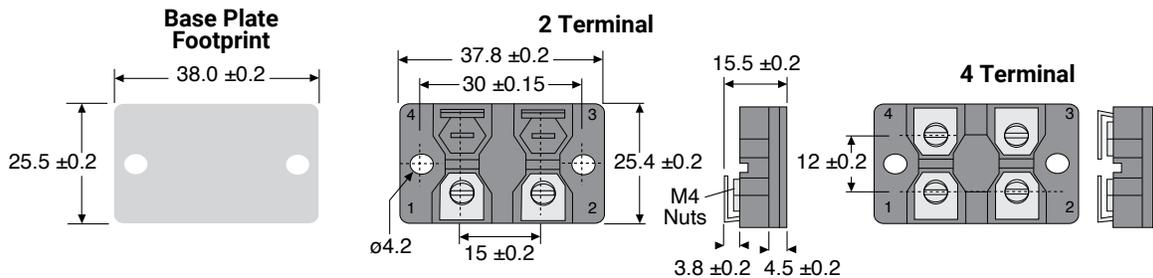
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PERFORMANCE DATA

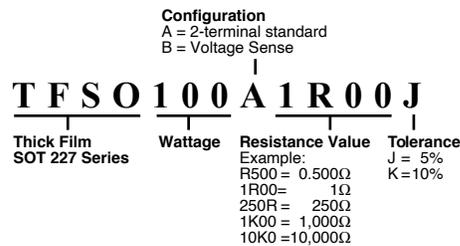
Test Method	ΔR
Endurance (Rated Power) 2000 cycles at P _{Rated}	ΔR 0.25% Typ
Humidity Load Life 56 days, 40°C, 95% RH	ΔR 0.25% Typ (I.R.>10G Ω)
Temperature Cycling -55°C to +125°C, 5 cycles	ΔR 0.25% Typ
Operating Storage Temp	-55°C to +125°C
Short Term Overload 3 x P _{Rated} (10s)	ΔR 0.25% Typ
Vibration 10/500Hz	ΔR 0.25% Typ

DIMENSIONS

(mm)



ORDERING INFORMATION



Standard Part Numbers

Ohms	Part
1 Ω	TFSO100A1R00J
5 Ω	TFSO100A5R00J
10 Ω	TFSO100A10R0J
25 Ω	TFSO100A25R0J
33 Ω	TFSO100A33R0J
50 Ω	TFSO100A50R0J
100 Ω	TFSO100A100RJ
250 Ω	TFSO100A250RJ
500 Ω	TFSO100A500RJ
1K Ω	TFSO100A1K00J
5K Ω	TFSO100A5K00J
10K Ω	TFSO100A10K0J

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.