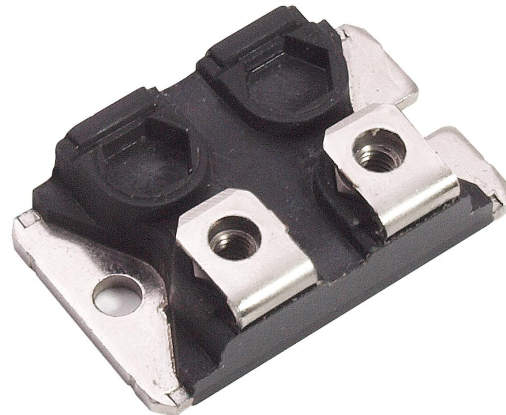


# TGH600 Series

## 600 Watt Thick Film SOT227 Package



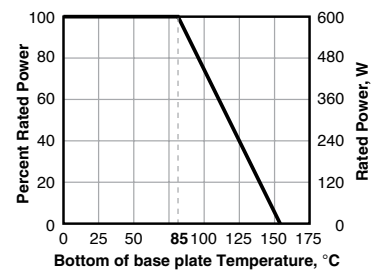
Due to the TGH600's non-inductive design, they are ideally suited for high-frequency and pulse-load applications. The TGH600 series resistors are designed for direct mounting onto a heatsink and provides up to 600 watts of power dissipation. Popular applications include variable speed drives, power supplies, control devices, telecom, robotics, motor controls, and other switching designs.



### CHARACTERISTICS

<b>Ohmic range</b>	0.25 to 1K
<b>Resistance tolerance</b>	±10%; ±5% on request
<b>Temperature coefficient</b>	±250ppm/°C (others on request)
<b>Maximum working voltage</b>	1000V DC (higher voltage on request)
<b>Power rating</b>	600W at 85°C bottom case temperature. Note: Liquid cooling required to achieve full power rating.
<b>Electric strength voltage</b>	Dielectric strength up to 4,000VDC against ground
<b>Isolation voltage</b>	between R1 and R2: 500V; 1,000V on request
<b>Partial discharge</b>	2kVrms, <80pC
<b>Insulation resistance</b>	10GΩ min. at 1kV
<b>Short time overload</b>	1.25 x rated power at 85°C bottom case temp. for 10 sec, ΔR = 0.4% max.
<b>Operating temperature</b>	-55°C to +155°C

### Derating



Derating (thermal resistance): 8.33 W/K (0.12 K/W) (for conf. 1, 2, 3) Best results can be obtained by using a thermal transfer compound with a heat conductivity of at least 2.9 W/mK. The flatness of the cooling plate must be better than 0.05 mm overall. Surface roughness should not exceed 6.4 μm.

### PERFORMANCE DATA

Test	Method	ΔR
<b>Moisture Resistance</b>	MIL-Std-202, Method 106	(0.5% + 0.001W) max
<b>Thermal shock</b>	Mil-Std-202, Method 107, Cond F	(0.3% + 0.01W) max
<b>Terminal Strength</b>	MIL-Std-202, Method 211, Cond A (pull test) 2.4N	(0.2% = 0.01W) max
<b>Vibration, High Frequency</b>	MIL-Std-202, Method 204, Cond D	(0.2% + 0.01W) max
<b>Life</b>	20 years (120,000 hours) Operating failure rate of 8.3 x 10 <sup>-7</sup> fail/hour.	

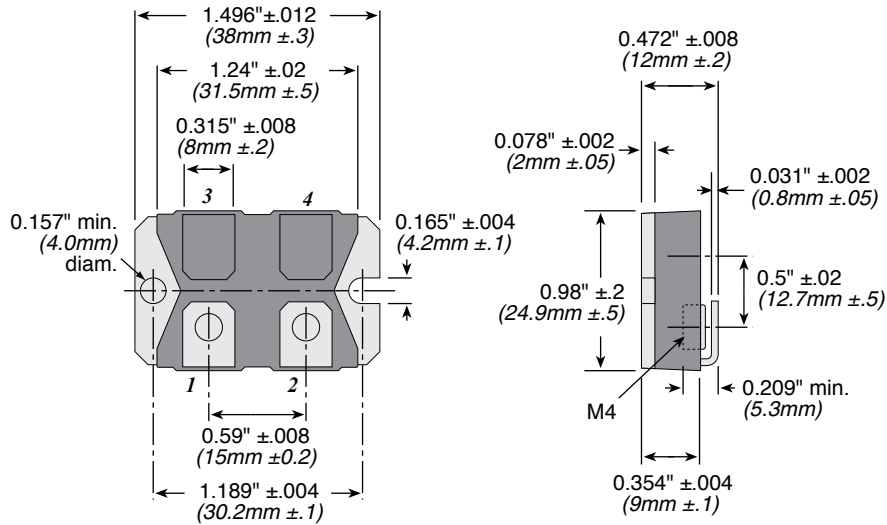
Requirements to be achieved under the following conditions: T<sub>amb</sub>=25°C, T<sub>HS</sub>=70°C, P<sub>applied</sub>=P<sub>n</sub>

(continued)

# TGH600 Series

## 600 Watt Thick Film SOT227 Package

### DIMENSIONS



### ORDERING INFORMATION

Configuration	E = RoHS compliant
<b>T G H P V 5 0 R 0 K E</b>	
SOT227 Series	Wattage
	P = 600W
Resistance Value	Tolerance
Example:	J = 5%
R500 = 0.500Ω	K = 10%
1R00 = 1Ω	
250R = 250Ω	
1K00 = 1,000Ω	
10K0 = 10,000Ω	

#### Standard part numbers

TGHPVR500KE	TGHPV68R0KE
TGHPV1R00KE	TGHPV100RKE
TGHPV5R00KE	TGHPV150RKE
TGHPV7R50KE	TGHPV250RKE
TGHPV10R0KE	TGHPV470RKE
TGHPV15R0KE	TGHPV750RKE
TGHPV27R0KE	TGHPV1K00KE
TGHPV50R0KE	

### 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.