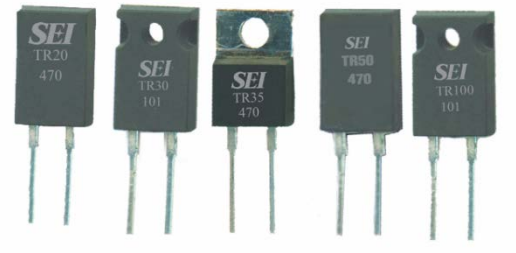
Features:

- TR20/30/35/50/50H comes in TO-220 style power package
- TR100 available in TO-247 style power package
- TR30/35/50H/100 has single screw mounting to heat sink
- Molded case for environmental protection
- Electrically isolated case
- Non-inductive package
- RoHS compliant



Electrical Specifications

Type / Code	Package Style	Power Rating (Watts)@ 25ºC with Heat Sink (3)	Power Rating (Watts) @ 25ºC	Maximum Working Voltage (1)	Resistance Temperature Coefficient	Ohmic Range (Ω) and Tolerance			
						0.5%	1%	5%	10%
TR20	TO-220	20W	3W	350V	±50 ppm/ºC	10 - 1M			
					±100 ppm/ºC	5.05 - 1M	3.01 - 1M	3.3 - 1M	
					±200 ppm/ºC	10 - 1M	3.01 - 1M	3.3 - 1M	
					±300 ppm/ºC	-	1.02 - 3.01	1.1 - 3	
					Unspecified(2)	-		0.05 - 1	
TR30	TO-220	30W	2.25W	350V	±50 ppm/ºC	10 - 100K			
					±100 ppm/ºC	5.05 - 100K	3.01 - 100K	3.3 - 100K	
					±200 ppm/ºC	10 - 100K	3.01 - 100K	3.3 - 100K	
					±300 ppm/ºC	-	1.02 - 3.01	1.1 - 3	
					Unspecified(2)	-		0.05 - 1	
TR35	TO-220	35W	2.5W	350V	±50 ppm/ºC	10 - 10K			
					±100 ppm/ºC	5.05 - 10K	3.01 - 10K	3.3 - 10K	
					±200 ppm/ºC	10 - 10K	3.01 - 10K	3.3 - 10K	
					±300 ppm/ºC	-	1.02 - 3.01	1.1 - 3	
					Unspecified(2)	-		0.05 - 1	
TR50	TO-220	50W	3W	350V	±50 ppm/ºC	10 - 10K			
					±100 ppm/ºC	5.05 - 10K	3.01 - 10K	3.3 - 10K	
					±200 ppm/ºC	10 - 10K	3.01 - 10K	3.3 - 10K	
					±300 ppm/ºC	-	1.02 - 3.01	1.1 - 3	
					Unspecified(2)	-		0.1 - 1	
TR50H	TO-220	50W	2.25W	420V	±50 ppm/ºC	10 - 10K			
					±100 ppm/ºC	5.05 - 10K	3.01 - 10K	3.3 - 10K	
					±200 ppm/ºC	10 - 10K	3.01 - 10K	3.3 - 10K	
					±300 ppm/ºC	-	1.02 - 3.01	1.1 - 3	
					Unspecified(2)	-		0.1 - 1	
TR100	TO-247	100W	3.5W	750V	±50 ppm/ºC	10 - 100K			
					±100 ppm/ºC	5.05 - 100K	3.01 - 100K	3.3 - 100K	
					±200 ppm/ºC	10 - 100K	3.01 - 100K	3.3 - 100K	
					±300 ppm/ºC	-	1.02 - 3.01	1.1 - 3	
					Unspecified(2)	-		0.05 - 1	

(1) Lesser of √PR or maximum working voltage

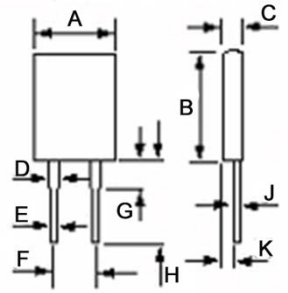
(2) Unspecified TCR. Contact Factory.

(3) The case temperature is to be used for the definition of the applied power limit. Refer to Power Derating Curve.

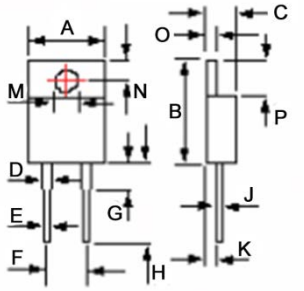
Thermal resistance: ((T@P0%) - (T_{max}@P100%))

Mechanical Specifications

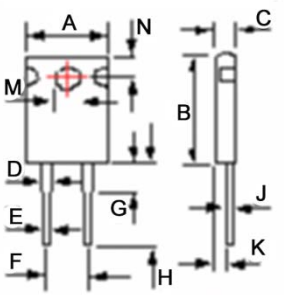
TR20 / TR50



TR35



TR30/TR100/TR50H



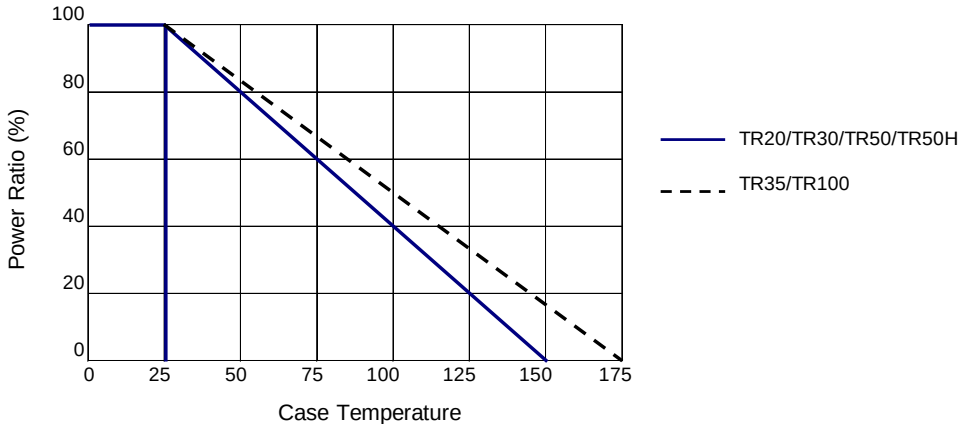
Type Code	TR20	TR30	TR35	TR50	TR50H	TR100	Unit
A	0.410 ± 0.010 10.41 ± 0.26	0.410 ± 0.010 10.41 ± 0.26	0.400 ± 0.010 10.16 ± 0.25	0.410 ± 0.010 10.41 ± 0.26	0.410 ± 0.010 10.41 ± 0.26	0.620 ± 0.010 15.75 ± 0.26	inches mm
B	0.640 ± 0.010 16.26 ± 0.26	0.640 ± 0.010 16.26 ± 0.26	0.581 ± 0.010 14.75 ± 0.25	0.640 ± 0.010 16.26 ± 0.26	0.640 ± 0.010 16.26 ± 0.26	0.815 ± 0.010 20.70 ± 0.26	inches mm
C	0.125 ± 0.010 3.18 ± 0.26	0.125 ± 0.010 3.18 ± 0.26	0.175 ± 0.015 4.44 ± 0.38	0.125 ± 0.010 3.18 ± 0.26	0.125 ± 0.010 3.18 ± 0.26	0.195 ± 0.010 4.95 ± 0.26	inches mm
D	0.050 ± 0.005 1.27 ± 0.13	0.050 ± 0.005 1.27 ± 0.13	0.050 ± 0.005 1.27 ± 0.13	0.050 ± 0.005 1.27 ± 0.13	0.050 ± 0.005 1.27 ± 0.13	0.143 ± 0.007 3.63 ± 0.18	inches mm
E	0.030 ± 0.004 0.76 ± 0.10	0.030 ± 0.004 0.76 ± 0.10	0.031 ± 0.003 0.78 ± 0.08	0.030 ± 0.004 0.76 ± 0.10	0.030 ± 0.004 0.76 ± 0.10	0.060 ± 0.004 1.52 ± 0.10	inches mm
F	0.200 ± 0.010 5.08 ± 0.26	0.200 ± 0.010 5.08 ± 0.26	0.200 ± 0.010 5.08 ± 0.26	0.200 ± 0.010 5.08 ± 0.26	0.200 ± 0.010 5.08 ± 0.26	0.400 ± 0.010 10.16 ± 0.26	inches mm
G	0.130 ± 0.030 3.30 ± 0.76	0.130 ± 0.030 3.30 ± 0.76	0.130 ± 0.030 3.30 ± 0.76	0.130 ± 0.030 3.30 ± 0.76	0.130 ± 0.030 3.30 ± 0.76	0.110 ± 0.030 2.79 ± 0.76	inches mm
H	0.500 ± 0.050 12.70 ± 1.27	0.500 ± 0.050 12.70 ± 1.27	0.539 ± 0.039 13.70 ± 1.00	0.500 ± 0.050 12.70 ± 1.27	0.500 ± 0.050 12.70 ± 1.27	0.570 ± 0.050 14.48 ± 1.27	inches mm
J	0.020 ± 0.004 0.50 ± 0.10	0.020 ± 0.004 0.50 ± 0.10	0.024 ± 0.003 0.62 ± 0.08	0.020 ± 0.004 0.50 ± 0.10	0.020 ± 0.004 0.50 ± 0.10	0.032 ± 0.010 0.81 ± 0.26	inches mm
K	0.070 ± 0.010 1.78 ± 0.26	0.070 ± 0.010 1.78 ± 0.26	0.090 ± 0.010 2.28 ± 0.25	0.070 ± 0.010 1.78 ± 0.26	0.070 ± 0.010 1.78 ± 0.26	0.095 ± 0.010 2.41 ± 0.26	inches mm
M	-	0.125 ± 0.004 3.18 ± 0.10	0.144 ± 0.004 3.65 ± 0.10	-	0.125 ± 0.004 3.18 ± 0.10	0.143 ± 0.007 3.63 ± 0.18	inches mm
N	-	0.125 ± 0.010 3.18 ± 0.26	0.116 ± 0.004 2.95 ± 0.10	-	0.125 ± 0.010 3.18 ± 0.26	0.210 ± 0.010 5.33 ± 0.26	inches mm
O	-	-	0.051 ± 0.004 1.30 ± 0.10	-	-	-	inches mm
P	-	-	0.240 ± 0.004 6.10 ± 0.10	-	-	-	inches mm

Mounting Note:

(1) When mounting ensure entire ceramic portion of case is mounted on a clean, flat heat sink with an appropriate thermal interface, such as thermal grease. For screw mounting use of a compression washer at a force of 150 to 300lbs (665 to 1330N) is recommended without exceeding mounting torque of 8 in-lbs (0.9 N-m) to avoid package damage. For clip mounting use of a round or smooth clip in contact area is recommended to avoid a concentrated hot spot on package.

(2) TR50/100 must be mounted to heat sink using proper mounting clip for efficient heat dissipation.

Power Derating Curve:



Performance Characteristics			
Test	Test Method	Test Specification	
		TR20/30/35/50/50H	TR100
Short Time Overload	2 times rated power with applied voltage not to exceed 1.5 times maximum continuous operating voltage for 5 seconds	ΔR ± (0.3% + 0.001Ω)	ΔR ± (0.5% + 0.001Ω)
Load Life	MIL-R-39009, 2000 hours at rated power	ΔR ± (1% + 0.001Ω)	ΔR ± (1% + 0.001Ω)
Moisture Resistance	MIL-STD-202, Method 103B	ΔR ± (0.5% + 0.001Ω)	ΔR ± (0.5% + 0.001Ω)
Thermal Shock	MIL-STD-202, Method 107G	ΔR ± (0.3% + 0.001Ω)	ΔR ± (0.5% + 0.001Ω)
Terminal Strength	MIL-STD-202, Method 211, Condition A (Pull Test) 2.4N	ΔR ± (0.2% + 0.001Ω)	ΔR ± (0.2% + 0.001Ω)
Vibration, High Frequency	MIL-STD-202, Method 204, Condition D	ΔR ± (0.2% + 0.001Ω)	ΔR ± (0.4% + 0.001Ω)
Dielectric Strength		1800VAC	
Insulation Resistance		10GΩ min.	

Operating Temperature Range: -65ºC to + 150ºC (TR20/TR30/TR50/TR50H)
-65ºC to + 175ºC (TR35/TR100)

RoHS Compliance

Stackpole Electronics has joined the worldwide effort to reduce the amount of lead in electronic components and to meet the various regulatory requirements now prevalent, such as the European Union's directive regarding "Restrictions on Hazardous Substances" (RoHS 2). As part of this ongoing program, we periodically update this document with the status regarding the availability of our compliant components. All our standard part numbers are compliant to EU Directive 2011/65/EU of the European Parliament.

RoHS Compliance Status						
Standard Product Series	Description	Package / Termination Type	Standard Series RoHS Compliant	Lead-Free Termination Composition	Lead-Free Mfg. Effective Date (Std Product Series)	Lead-Free Effective Date Code (YY/WW)
TR	TO-220 and TO-247 Style Power Leaded Resistor	Radial Special	YES(1)	100% Matte Sn	Always	Always

Note (1): RoHS Compliant by means of exemption 7c-I.

"Conflict Metals" Commitment

We at Stackpole Electronics, Inc. are joined with our industry in opposing the use of metals mined in the "conflict region" of the Eastern Democratic Republic of the Congo (DRC) in our products. Recognizing that the supply chain for metals used in the electronics industry is very complex, we work closely with our own suppliers to verify to the extent possible that the materials and products we supply do not contain metals sourced from this conflict region. As such, we are in compliance with the requirements of Dodd-Frank Act regarding Conflict Minerals.

Compliance to "REACH"

We certify that all passive components supplied by Stackpole Electronics, Inc. are SVHC (Substances of Very High Concern) free and compliant with the requirements of EU Directive 1907/2006/EC, "The Registration, Evaluation, Authorization and Restriction of Chemicals", otherwise referred to as REACH. Contact us for complete list of REACH Substance Candidate List.

Environmental Policy

It is the policy of Stackpole Electronics, Inc. (SEI) to protect the environment in all localities in which we operate. We continually strive to improve our effect on the environment. We observe all applicable laws and regulations regarding the protection of our environment and all requests related to the environment to which we have agreed. We are committed to the prevention of all forms of pollution.

How to Order

1	2	3	4	5	6	7	8	9	10	11
T	R	2	0	F	B	D	1	K	0	0

Product Series	
TR	Standard

Size	Power
20	20W
30	30W
35	35W
50	50W
50H	50W
100	100W

Tolerance	
Code	Tol
D	0.5%
F	1%
J	5%
K	10%

Packaging			
Code	Description	Size	Quantity
B	Bulk	20, 30, 50, 50H	1,000
		35	500
		100	105

TCR	
Code	ppm
X	unspecified
C	50
D	100
L	200
M	300

Resistance Value
Four characters with the multiplier used as the decimal holder. "L" used as multiplier of 10^{-3} for any value under 0.1 ohm.
0.05 ohm = 50L0 1.02 ohm = 1R02 100 Kohm = 100K