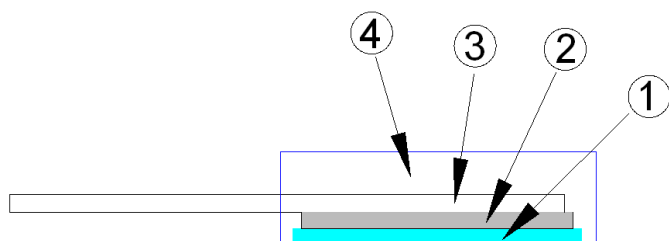**Viking**

TO-220 Power Resistor

■**Features**

－50 watts at 25°C case temperature heat sink mounted
－TO-220 style power package
－Molded case for protection and easy to mount
－Electrically isolated case
－Non-Inductive design

■**Applications**

－Switching Power Supplies
－Non-inductive Design for High Frequency
－Pulsing Applications
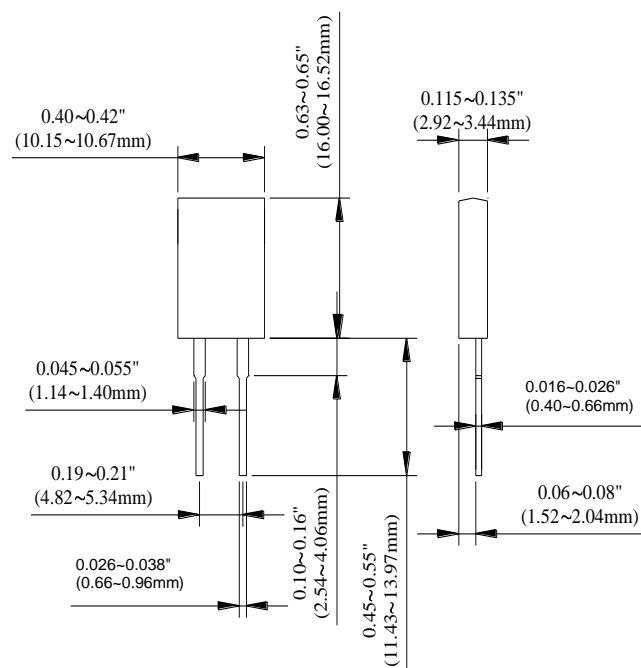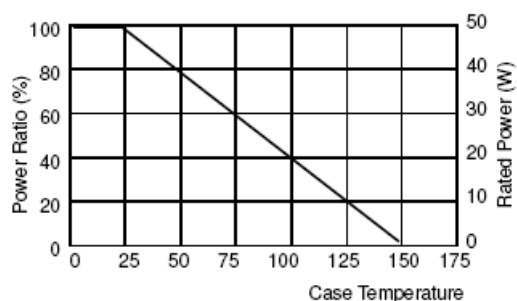－UPS
－Voltage Regulation

■**Construction**

① Alumina Substrate	③ Lead
② Resistor Layer	④ Molding

■**Dimensions**　　Unit : mm

Type	Weight (g) (1000pcs)	Packaging
		Tube
TR50	1290	50pcs

■**Derating Curve**

0.40~0.42" (10.15~10.67mm)
0.63~0.65" (16.00~16.52mm)
0.115~0.135" (2.92~3.44mm)
0.045~0.055" (1.14~1.40mm)
0.016~0.026" (0.40~0.66mm)
0.19~0.21" (4.82~5.34mm)
0.10~0.16" (2.54~4.06mm)
0.06~0.08" (1.52~2.04mm)
0.026~0.038" (0.66~0.96mm)
0.45~0.55" (11.43~13.97mm)

TO-220 Power Resistor

■Part Numbering

TR	50	J	D	D	1001
Product Type	Power	Resistance Tolerance	Packaging Code	TCR (PPM/℃)	Resistance
	50: 50 Watts	D: ±0.5% F: ±1% J: ±5% K: ±10%	D: Tube	D: ±50 E: ±100 F: ±200 G: ±300 - : No Specified	R100: 0.1Ω 0100: 10Ω 4700: 470Ω 1001: 1000Ω 1002: 10000Ω

■Electrical Characteristics Specifications

Type / Item	Resistance Range				TCR (PPM/°C)
	±0.5%	**±1%**	**±5%**	**±10%**	
TR50	-	1Ω	0.05Ω -1Ω		No Specified
	-	>1Ω -3Ω			±300
	-	>3Ω -10Ω			±100 ±200
	>10Ω –100KΩ				±50 ±100 ±200

■ Operating Voltage: 350V Max.
■ Dielectric Strength: 1800VAC
■ Insulation Resistance: 10GΩ   min.
■ Working Temperature Range: -65°C to +150°C
■ Resistance Value < 1Ω is available

■Environmental Characteristics

Item	Requirement	Test Method
Temperature Coefficient of Resistance (T.C.R.)	As Spec.	Referenced to 25°C, ∆R taken at +105°C
Short Time Overload	∆R±0.3%	2 times rated power with applied voltage not to exceed 1.5 times maximum continuous operating voltage for 5 seconds
Load Life	∆R±1.0%	2,000 hours at rated power
Damp Heat with Load	∆R±0.5%	40±2°C, 90~95% R.H., RCWV for 1000 hrs with 1.5 hrs "ON" and 0.5 hrs "OFF"
Solderability	90% min. coverage	245±5°C for 3 seconds
Thermal Shock	∆R±0.3%	-65°C ~150°C, 100 cycles
Terminal Strength	∆R±0.2%	(Pull Test) 2.4N
Vibration, High Frequency	∆R±0.2%	20g peak

■ Lead Material: Tinned Copper
■ Without a Heat Sink, When in Free Air at 25°C, the TR50 is Rated for 3W.
■ The Case Temperature is to be used for the Definition of the Applied Power Limit.
■ The Case Temperature Measurement Must be Made with a Thermocouple Contacting the Center of the Component Mounted on the Designed Heat Sink.
■ Thermal Grease Should be Applied Properly.

RCWV(Rated continuous working voltage)= $\sqrt{(P*R)}$ or Max. Operating voltage whichever is lower