

**RoHS
Compliant**



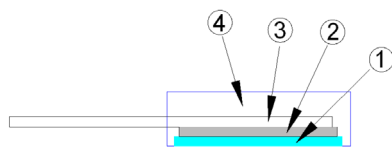
Features

- 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

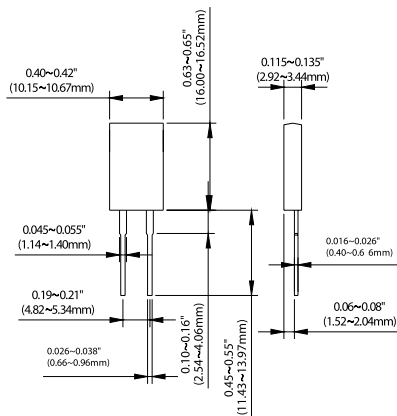
- Switching Power Supplies
- Non-inductive Design for High Frequency
- Pulsing Applications
- UPS
- Voltage Regulation

Construction



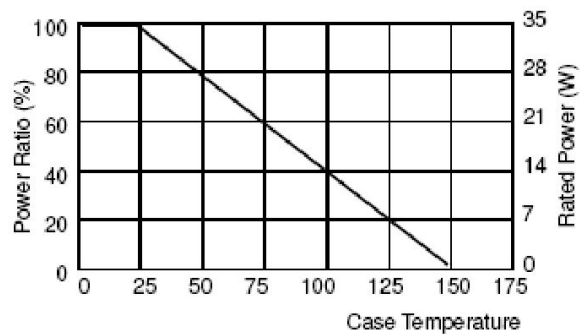
1	Alumina Substrate
2	Resistor Layer
3	Lead
4	Molding

Dimensions



Dimensions : Millimetres

Derating Curve



Electrical Characteristics Specifications

Type	Item	Resistance Range				TCR (PPM/°C)
		±0.5%	±1%	±5%	±10%	
MCTR50	-	1Ω	0.1Ω – 1Ω		No Specified	
	-	>1Ω – 3Ω			±300	
	-	>3Ω – 10Ω			±100 ±200	

Power Resistor



Type \ Item	Resistance Range				TCR (PPM/°C)
	±0.5%	±1%	±5%	±10%	
MCTR50	>10Ω –10kΩ				±50 ±100 ±200

Operating Voltage : 350V Max.
 Dielectric Strength : 1,800V AC
 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, ΔR taken at +105°C
Short Time Overload	ΔR ±0.3%	2 times rated power with applied voltage not to exceed 1.5 times maximum continuous operating voltage for 5 seconds
Load Life	ΔR ±1.0%	2,000 hours at rated power
Damp Heat with Load	ΔR ±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	ΔR ±0.3%	-65°C ~150°C, 100 cycles
Terminal Strength	ΔR ±0.2%	(Pull Test) 2.4N
Vibration, High Frequency	ΔR ±0.2%	20g peak

Lead Material: Tinned Copper

Without a Heat Sink, When in Free Air at 25°C, the MCTR50 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 centre of the component mounted on the designed heat sink.

Thermal grease should be applied properly.

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

Part Number Explanation

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

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