Power Resistor

multicomp PRO

RoHS Compliant

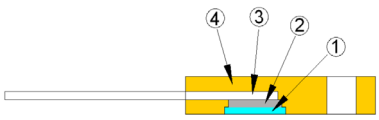
Features

- 50 watts at ≦25°C case temperature heat sink mounted
- TO-220 style power package
- Fixed with a M3 screw on system heat sink.
- Improve the heat dissipation by ceramic exposure design with external fix jig to mount the chip on heat sink

Applications

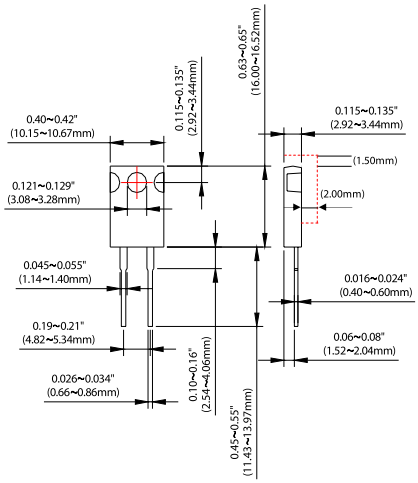
- Power Supplies
- Non-inductive Design for High Frequency
- Pulsing Applications

Construction



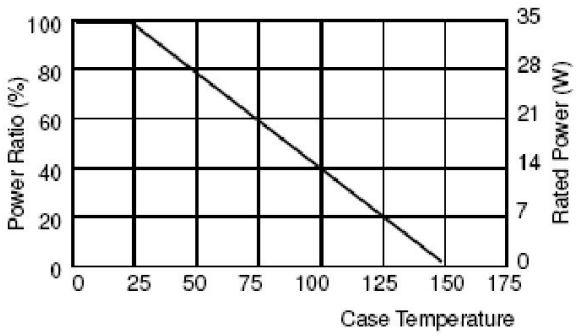
1	Alumina Substrate
2	Resistor Layer
3	Lead
4	Molding

Dimensions



Dimensions : Millimetres

Derating Curve



Electrical Characteristics Specifications

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

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

Operating Voltage : 420V DC Max.
Dielectric Strength : 1,800V AC
Insulation Resistance : 10GΩ min.

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; Maximum Torque: 0.9 N-m
Without a Heat Sink, When in Free Air at 25°C, the MCTR50-H is Rated for 2.25W.
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)= √(P×R) or Max. Operating voltage whichever is lower

Part Number Explanation

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