RT Series

FEATURES

- High Surge Energy
- Non-Inductive
- Replaces Carbon Composition

INTRODUCTION

The RT Series of non-inductive, ceramic composite resistors are ideal for circuitry associated with surges, high peak power or high energy. They offer enhanced performance in high voltage power supplies, R-C snubber circuits, and inrush limiters. In pulsed applications, these compact resistors distribute the energy uniformly throughout their structure, resulting in lower thermal stress. The result is increased reliability, and in many cases reduced size, compared to wirewound or film types. The RT resistors can often replace carbon composition resistors that can be difficult to source. The solvent-resistant epoxy coating allows operation in almost any environment, and the familiar axial lead construction offers convenient use.

Part Number	Resistance[1] (Ohms)	L max (mm)	D max (mm)	Impulse Voltage[2] (Volts)	Pavg[3] (Watts)	Energy[4] (Joules)
RT1-515xxxM	22 to 100K	15.0	5.0	3500	1	30
RT2-818xxxM	10 to 100K	18.0	8.0	7500	2	70

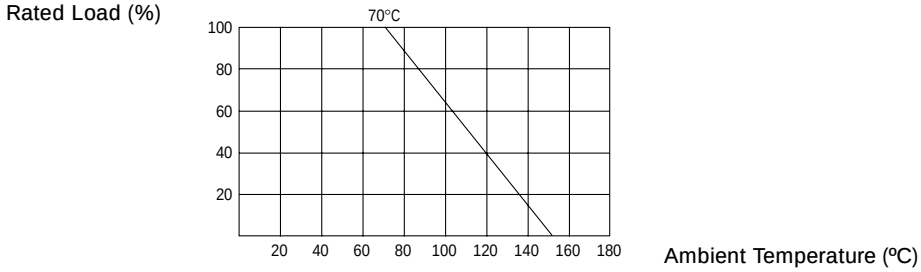
[1]E6 standard values, [2]In air, [3]Free air 40°C, ambient, [4]Single impulse

ORDERING INFORMATION

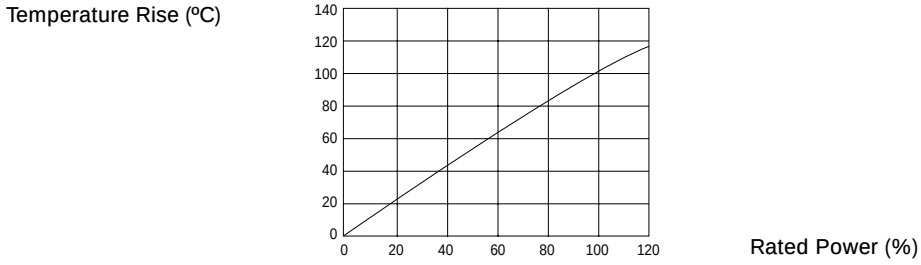
Unit : mm

Series	Wattage	Diameter	Length	Resistance	Tolerance
RT	2	8	18	102	J = ±5%
				2 digits + multiplier	K = ±10%
				i.e. 102 = 1000 ohms	M = ±20%

DERATING VS. AMBIENT TEMPERATURE



SURFACE TEMP. RISE VS. APPLIED POWER



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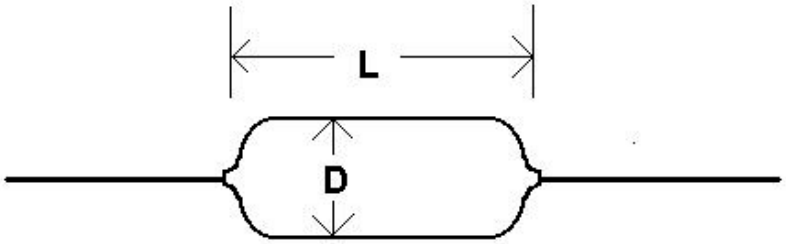
JARO ISO 9000 CERT. COMPANY
Components, Inc.

6600 Park of Commerce Blvd.
Boca Raton, FL 33487
561-241-6700 Phone
561-241-3328 Fax
http://www.jaro1.com

RT Series

CONFIGURATION



Wire leads are 20 AWG solderplated Copperweld steel.
Lead length is 40mm min.

ENVIRONMENTAL CHARACTERISTICS

Parameter	Maximum ΔR	Test Method
Life Test	+5%	MIL-STD-202F, method 108A. except 50°C. 1000 hrs. @ rated power; 1.5 hrs. ON, .5 hrs. OFF
Single Pulse Energy	±1.5%	Single pulse capacitor discharge of 100% Rated Energy @ 1000 vDC
Repetitive HV Pulsing	±2.0%	5.0 joules @ max. impulse voltage, 10,000 cycles
Short-time Overload	±2.5%	5x rated power. 2 seconds ON, 5 seconds OFF, 5 cycles
Short-term High Temperature	±1.5%	250°C for 30 seconds
Long-term High Temperature	±2.0%	1000 hours @ 150°C
Thermal Shock Cycle	±2.0%	MIL-STD-202F, method 107D. -55°C to +125,C, 5 cycles
Moisture resistance	±1.0%	90%-95% rh @ 40°C, 1000 hrs.
Temperature Coefficient of R	±1500ppm	Two point measurement, 20°C and 100°C

* Rated Continuous Working Voltage (RCWV)=√Power Rating x Resistance Value

How it works…

Ceramic composition resistors comprise a solid body of high temperature resistive material with bonded metal electrodes. This simple, "bulk" construction concentrates nearly all of the component mass into the resistive element, resulting in a rugged device capable of withstanding large energy surges and peaks, up to several hundred times the average power rating. By dissipating energy uniformly throughout the component, these resistors achieve high reliability and small size. Ceramic composition resistors are inherently non-inductive, making them ideal for fast pulse or high frequency applications.

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