

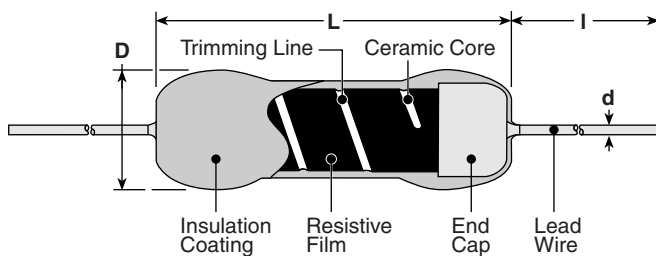


features

- High precision resistors with resistance tolerance $\pm 0.1\%$ and T.C.R. $\pm 5 \times 10^{-6}/K$
- Suitable for automatic machine insertion
- Products meet EU RoHS requirements
- Excellent long term stability in resistance values

leaded resistors

dimensions and construction



Type	Dimensions inches (mm)			
	L (ref.)	D	d	I*
RNS1/8	.250±.04 (6.4±1)	.091±.02 (2.3±0.5)	.024 (0.6)	1.496 (38)
RNS1/4	.374±.04 (9.5±1)	.138±.02 (3.5±0.5)		
RNS1/2	.531±.04 (13.5±1)	.138±.02 (3.5±0.5)		
RNS1	.610±.04 (15.5±1)	.216±.02 (5.5±0.5)		

* Lead length changes depending on taping and forming type.

ordering information

RNS	1/8	E	C	T52	R	1001	F
Type	Power Rating	T.C.R.	Termination Material	Taping and Forming	Packaging	Nominal Resistance	Tolerance
	1/8: 0.125W 1/4: 0.25W 1/2: 0.5W 1: 1W	Y: ±5 T: ±10 E: ±25 C: ±50	C: SnCu	1/8: T26, T52, VT*, VTP*, VTE* 1/4, 1/2: T52 1: T521	A: Ammo R: Reel Nil: Box	3 significant figures + 1 multiplier "R" indicates decimal on value <100Ω	B: ±0.1% C: ±0.25% D: ±0.5% F: ±1.0%

* ±5 ppm/°C and ±10ppm/°C options are not available in radial taping.

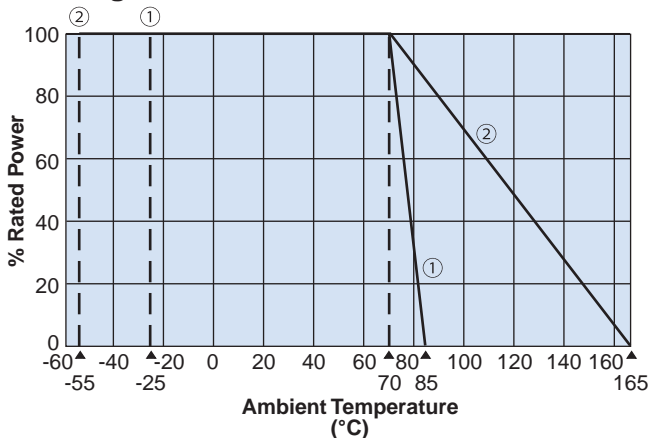
For further information on packaging, please refer to Appendix C.

applications and ratings

Part Designation	Power Rating	T.C.R. (ppm/°C) Max.	Resistance Range E-24, E-192 (B±0.1%)	Resistance Range E-24, E-192 (C±0.25%)	Resistance Range E-24, E-192 (D±0.5%)	Resistance Range E-24, E-96 (F±1.0%)	Absolute Maximum Working Voltage	Absolute Maximum Overload Voltage	Minimum Dielectric Withstanding Voltage	Rated Ambient Temp.	Operating Temp. Range		
RNS1/8	0.125W	Y: ±5	100Ω - 100kΩ	100Ω - 100kΩ	100Ω - 100kΩ	100Ω - 100kΩ	200V	400V	500V	+70°C	-25°C to +85°C		
		T: ±10	100Ω - 200kΩ	100Ω - 200kΩ	100Ω - 200kΩ	100Ω - 200kΩ							
		E: ±25	5.1Ω - 750kΩ	5.1Ω - 1.62MΩ	0.2Ω - 2MΩ	0.2Ω - 2MΩ							
		C: ±50	5.1Ω - 750kΩ	5.1Ω - 1.62MΩ	0.2Ω - 2MΩ	0.2Ω - 2MΩ							
RNS1/4	0.25W	E: ±25	5.1Ω - 1MΩ	5.1Ω - 2MΩ	0.2Ω - 2MΩ	0.2Ω - 2MΩ	250V	500V	700V	+70°C	-55°C to +165°C		
		C: ±50	5.1Ω - 1.5MΩ	5.1Ω - 2MΩ	0.2Ω - 5.1MΩ	0.2Ω - 5.1MΩ							
RNS1/2	0.50W	E: ±25	5.1Ω - 1.5MΩ	5.1Ω - 2MΩ	0.2Ω - 2.4MΩ	0.2Ω - 4.7MΩ	300V	600V	700V			+70°C	-55°C to +165°C
		C: ±50	5.1Ω - 2MΩ	5.1Ω - 2.4MΩ	0.2Ω - 5.1MΩ	0.2Ω - 5.1MΩ							
RNS1	1W	E: ±25	5.1Ω - 2MΩ	5.1Ω - 2.4MΩ	0.2Ω - 5.1MΩ	0.2Ω - 5.1MΩ	350V	700V	1000V	+70°C	-55°C to +165°C		
		C: ±50	5.1Ω - 2.4MΩ	5.1Ω - 2.4MΩ	0.2Ω - 5.1MΩ	0.2Ω - 6.8MΩ							

environmental applications

Derating Curve



① T.C.R.: Y (±5×10⁻⁶/K), T (±10×10⁻⁶/K)
 ② T.C.R.: E (±25×10⁻⁶/K), C (±50×10⁻⁶/K)

For resistors operated at an ambient temperature of 70°C or above, a power rating shall be derated in accordance with the above derating curve.

Performance Characteristics

Parameter	Requirement ΔR ±(% + 0.05Ω)		Test Method
	Limit	Typical	
Resistance	Within specified tolerance	—	25°C
T.C.R.	Within specified T.C.R.	—	Y, T: +25°C/+65°C; E, C: +25°C/+125°C
Overload (Short time)	±0.25%	±0.15%	Rated voltage x 2.5 or max. overload voltage for 5 seconds, whichever is lower
Resistance to Solder Heat	±0.2%	±0.075%	350°C ± 10°C, 3.5 seconds ± 0.5 second
Rapid Change of Temperature	±0.2%	±0.075%	-55°C (30 minutes), +85°C (30 minutes), 5 cycles
Moisture Resistance	±0.75%	±0.5%	40°C ± 2°C, 90 - 95% RH, 1000 hours, 1.5 hr ON, 0.5 hr OFF cycle
Endurance at 70°C	±0.5%	±0.35%	70°C ± 2°C, 1000 hours, 1.5 hr ON, 0.5 hr OFF cycle