

RNCS Series — Anti-Corrosive Precision Thin Film Chip Resistors

Features

- Special passivation for moisture sensitive applications
- Absolute TCR's to ± 25 ppm/ $^{\circ}$ C
- Available in industry standard sizes from 0201 to 2512
- Resistance range from 25 Ω to 600K Ω
- Test proven immunity to humidity and moisture corrosion
- Absolute tolerances to 0.1%
- Ideal replacement for costly Tantalum Nitride resistors
- RoHS compliant / lead-free



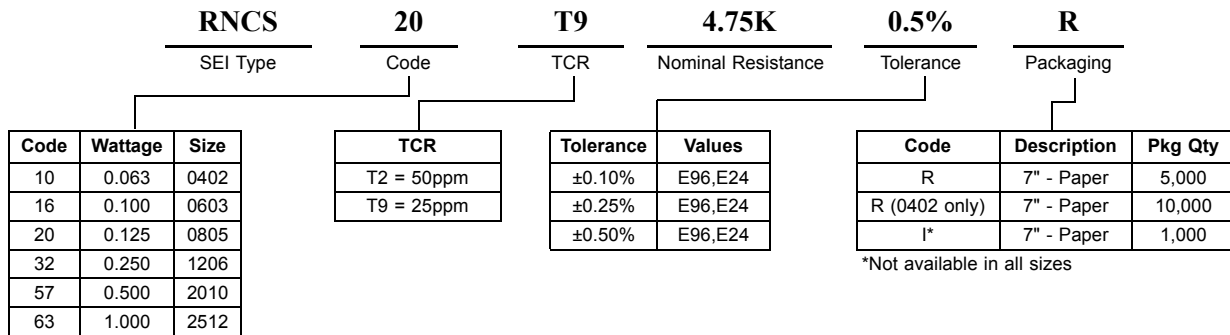
The RNCS series employs a special manufacturing process to ensure high precision, ultra stable performance, and long life in the harshest environments. In moisture comparison testing the RNCS series outperformed Nichrome Chip Resistors and demonstrated the anti-corrosive claims characterized by Tantalum Nitride resistor products.

Electrical Specifications

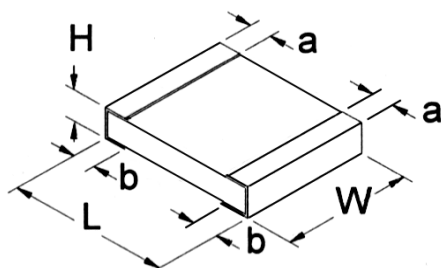
Type / Code	Package Size	Power Rating (Watts) @ 70 $^{\circ}$ C	Maximum Working Voltage*	Maximum Overload Voltage	Resistance Temperature Coefficient	Resistance Range	Resistance Tolerance
RNCS 10	0402	0.063W	25	50	± 50 ppm/ $^{\circ}$ C ± 25 ppm/ $^{\circ}$ C	25 Ω – 25K	$\pm 0.10\%$ $\pm 0.25\%$ $\pm 0.50\%$
RNCS 16	0603	0.100W	50	100	± 50 ppm/ $^{\circ}$ C ± 25 ppm/ $^{\circ}$ C	25 Ω – 200K	$\pm 0.10\%$ $\pm 0.25\%$ $\pm 0.50\%$
RNCS 20	0805	0.125W	100	200	± 50 ppm/ $^{\circ}$ C ± 25 ppm/ $^{\circ}$ C	25 Ω – 400K	$\pm 0.10\%$ $\pm 0.25\%$ $\pm 0.50\%$
RNCS 32	1206	0.250W	150	300	± 50 ppm/ $^{\circ}$ C ± 25 ppm/ $^{\circ}$ C	25 Ω – 500K	$\pm 0.10\%$ $\pm 0.25\%$ $\pm 0.50\%$
RNCS 57	2010	0.500W	150	300	± 50 ppm/ $^{\circ}$ C ± 25 ppm/ $^{\circ}$ C	25 Ω – 600K	$\pm 0.10\%$ $\pm 0.25\%$ $\pm 0.50\%$
RNCS 63	2512	1.000W	150	300	± 50 ppm/ $^{\circ}$ C ± 25 ppm/ $^{\circ}$ C	25 Ω – 600K	$\pm 0.10\%$ $\pm 0.25\%$ $\pm 0.50\%$

* Lesser of \sqrt{PR} or maximum working voltage.

How to Order



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Mechanical Specifications

Type / Code	L Body Length	W Body Width	H Body Height	a Top Termination	b Bottom Termination	Units
RNCS 10	0.039 ± 0.002 1.00 ± 0.05	0.020 ± 0.002 0.50 ± 0.05	0.014 ± 0.002 0.35 ± 0.05	0.008 ± 0.004 0.20 ± 0.10	0.010 ± 0.002 0.25 ± 0.10	inches mm
RNCS 16	0.063 ± 0.008 1.60 ± 0.20	0.032 ± 0.008 0.80 ± 0.20	0.016 ± 0.004 0.40 ± 0.10	0.012 ± 0.008 0.30 ± 0.20	0.012 ± 0.008 0.30 ± 0.20	inches mm
RNCS 20	0.079 ± 0.008 2.00 ± 0.20	0.049 ± 0.008 1.25 ± 0.20	0.016 ± 0.004 0.40 ± 0.10	0.016 ± 0.008 0.40 ± 0.20	0.016 ± 0.008 0.40 ± 0.20	inches mm
RNCS 32	0.126 ± 0.008 3.20 ± 0.20	0.063 ± 0.008 1.60 ± 0.20	0.020 ± 0.004 0.50 ± 0.10	0.020 ± 0.012 0.50 ± 0.30	0.016 ± 0.008 0.40 ± 0.20	inches mm
RNCS 57	0.193 ± 0.006 4.90 ± 0.15	0.09 ± 0.006 2.40 ± 0.15	0.024 ± 0.004 0.60 ± 0.10	0.024 ± 0.012 0.60 ± 0.30	0.020 ± 0.010 0.50 ± 0.25	inches mm
RNCS 63	0.246 ± 0.006 6.30 ± 0.15	0.122 ± 0.006 3.10 ± 0.15	0.024 ± 0.004 0.60 ± 0.10	0.024 ± 0.012 0.60 ± 0.30	0.020 ± 0.010 0.50 ± 0.25	inches mm

Performance Characteristics

Test	Test Conditions	Test Results	
		Size 0603 / 0805 / 1206 / 2012 / 2512	Size 0402
Short Time Overload	RCWV * 2.5 or Max Overloading Voltage, 2 seconds	≤±0.02%	≤±0.1%
Thermal Shock	MIL - STD - 202F Method 107G -55°C - 125°C, 100 Cycles	≤±0.02%	≤±0.1%
Load Life	MIL - STD - 202F Method 108A RCWV, 70°C, 1.5 hours ON, 0.5 hours OFF, total 1000 - 1048 hours	≤±0.05%	≤±0.25%
Humidity (Steady State)	MIL - STD - 202F Method 103B 40°C, 90-95% RH, RCWV 1.5 hours ON, 0.5 hours OFF, total 1000 -1048 hours	≤±0.05%	≤±0.5%
Resistance to Dry Heat	JIS - C 5202 - 7.2 1000 hours @ +125°C without load	≤±0.05%	≤±0.5%
Resistance to Soldering Heat	MIL - STD - 202F Method 210E 260 ± 5°C, 10 ± 1 second	≤±0.02%	≤±0.1%

*Storage Temperature: 25 ± 3°C; Humidity <80%RH