

Features:

- Special Passivation for moisture sensitive applications
- Absolute TCR's to ± 25 ppm/ $^{\circ}$ C
- Available in industry standard sizes from 0402 to 2512
- Resistance range from 10 Ω to 1M 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



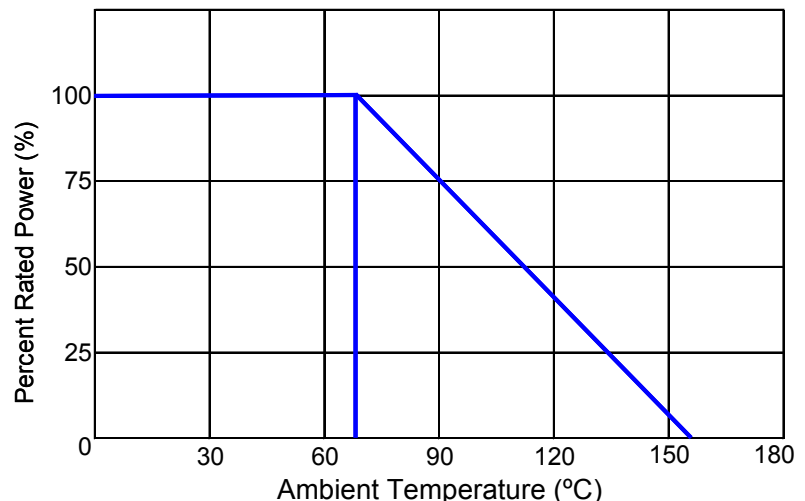
The RNCS series employs a special manufacturing process to ensure high precision, ultra stable performance, and long life in the harshest environments. In moisture comparison testing, the RNCS series outperformed Nichrome Chip Resistors and demonstrated the anti-corrosive claims characterized by Tantalum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

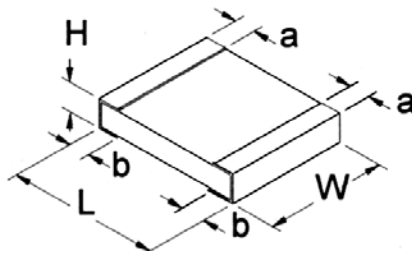
Electrical Specifications								
Type / Code	Old Pkg Code	Power Rating (Watts) @ 70 $^{\circ}$ C	Maximum Working Voltage(1)	Maximum Overload Voltage	Resistance Temperature Coefficient	Ohmic Range (Ω) and Tolerance		
						0.1%	0.25%	0.5%
RNCS0402	10	0.063W	25V	50V	± 15 ppm/ $^{\circ}$ C ± 25 ppm/ $^{\circ}$ C ± 50 ppm/ $^{\circ}$ C	49.9 - 12K 25 - 25K 25 - 25K	49.9 - 12K 25 - 25K 25 - 25K	49.9 - 12K 25 - 25K 25 - 25K
RNCS0603	16	0.063W (0.1W(2))	50V	100V	± 15 ppm/ $^{\circ}$ C ± 25 ppm/ $^{\circ}$ C ± 50 ppm/ $^{\circ}$ C	25 - 332K	25 - 332K	25 - 332K
RNCS0805	20	0.1W (0.125W(2))	100V	200V	± 15 ppm/ $^{\circ}$ C ± 25 ppm/ $^{\circ}$ C ± 50 ppm/ $^{\circ}$ C	10 - 1M	10 - 1M	10 - 1M
RNCS1206	32	0.125W (0.25W(2))	150V	300V	± 15 ppm/ $^{\circ}$ C ± 25 ppm/ $^{\circ}$ C ± 50 ppm/ $^{\circ}$ C	10 - 1M	10 - 1M	10 - 1M
RNCS2010	57	0.25W (0.5W(2))	150V	300V	± 15 ppm/ $^{\circ}$ C ± 25 ppm/ $^{\circ}$ C ± 50 ppm/ $^{\circ}$ C	25 - 1M 10 - 1M 10 - 1M	25 - 1M 10 - 1M 10 - 1M	25 - 1M 10 - 1M 10 - 1M
RNCS2512	63	0.5W (1W(2))	150V	300V	± 15 ppm/ $^{\circ}$ C ± 25 ppm/ $^{\circ}$ C ± 50 ppm/ $^{\circ}$ C	25 - 1M 10 - 1M 10 - 1M	25 - 1M 10 - 1M 10 - 1M	25 - 1M 10 - 1M 10 - 1M

(1) Lesser of \sqrt{PR} or maximum working voltage.

(2) Higher power rating for each package size is valid if ambient temp $\leq 80^{\circ}$ C and terminal temp $\leq 105^{\circ}$ C

Power Derating Curve:





Mechanical Specifications						
Type / Code	L Body Length	W Body Width	H Body Height	a Top Termination	b Bottom Termination	Unit
RNCS0402	0.039 ± 0.002	0.020 ± 0.002	0.012 ± 0.002	0.008 ± 0.004	0.008 ± 0.002	inches
	1.00 ± 0.05	0.50 ± 0.05	0.30 ± 0.05	0.20 ± 0.10	0.20 ± 0.10	mm
RNCS0603	0.061 ± 0.008	0.032 ± 0.008	0.018 ± 0.004	0.012 ± 0.008	0.012 ± 0.008	inches
	1.55 ± 0.20	0.80 ± 0.20	0.45 ± 0.10	0.30 ± 0.20	0.30 ± 0.20	mm
RNCS0805	0.079 ± 0.008	0.049 ± 0.008	0.022 ± 0.004	0.012 ± 0.008	0.016 ± 0.008	inches
	2.00 ± 0.20	1.25 ± 0.20	0.55 ± 0.10	0.30 ± 0.20	0.40 ± 0.20	mm
RNCS1206	0.120 ± 0.008	0.061 ± 0.008	0.022 ± 0.004	0.017 ± 0.012	0.014 ± 0.008	inches
	3.05 ± 0.20	1.55 ± 0.20	0.55 ± 0.10	0.42 ± 0.30	0.35 ± 0.20	mm
RNCS2010	0.193 ± 0.006	0.090 ± 0.006	0.022 ± 0.004	0.024 ± 0.012	0.020 ± 0.010	inches
	4.90 ± 0.15	2.40 ± 0.15	0.55 ± 0.10	0.60 ± 0.30	0.50 ± 0.25	mm
RNCS2512	0.246 ± 0.006	0.122 ± 0.006	0.022 ± 0.004	0.024 ± 0.012	0.020 ± 0.010	inches
	6.30 ± 0.15	3.10 ± 0.15	0.55 ± 0.10	0.60 ± 0.30	0.50 ± 0.25	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 (1)	≤±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	≤±0.1%	≤±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%

(1) Storage Temperature: 25 ± 3°C; Humidity <80% RH

How to Order

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
R	N	C	S	0	8	0	5	D	T	E	4	K	7	5

Product Series		Size	Power	Tolerance			Packaging			TCR		Resistance Value		
Code	Description			Code	Tol	Value	Code	Description	Size	Quantity	Code	ppm		
RNCS	Anti-corrosive Titanium-nitride Replacement	0402	0.063W	B	0.1%	E192(1), E96, E24	T	7" Reel Paper Tape	0402	10,000	S	15	Four characters with the multiplier used as the decimal holder. 10 ohm = 10R0 800 Kohm = 800K 1 Mohm = 1M00	
		0603	0.1W	C	0.25%					0603, 0805, 1206	5,000	E		25
		0805	0.125W	D	0.5%					2010, 2512	4,000	C		50
		1206	0.25W							0603, 0805, 1206	1,000			
		2010	0.5W					2010, 2512						
		2512	1W											

(1) E192 values are unmarked

Legacy Part Number (before January 3, 2011):

SEI Type		Code			TCR	Nominal Resistance	Tolerance		Packaging			
RNCS		20			T9	4.75K	0.5%		R			
Type	Description	Code	Wattage	Size	TCR		Tol	Values	SEI Types	Pkg Qty	Code	Description
RNCS	Anti-corrosive Titanium-Nitride Replacement	10	0.063W	0402	T2 50ppm		±0.1%	E192(1), E96, E24	0402	10,000	R	7" reel paper tape
		16	0.1W	0603	T9 25ppm		±0.25%		0603, 0805, 1206	5,000	R	
		20	0.125W	0805	TD 15ppm		±0.5%		2010, 2512	1,000	I	
		32	0.25W	1206					4,000	R		
		57	0.5W	2010					1,000	I		
		63	1W	2512								

(1) E192 values are unmarked

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