

### Features:

- Special Passivation for moisture sensitive applications
- Absolute TCR's to  $\pm 25$  ppm/ $^{\circ}$ C
- Available in industry standard sizes from 0402 to 2512
- E192 value is built to order with no part marking
- Resistance range from 10 $\Omega$  to 1M $\Omega$
- Test proven immunity to humidity and moisture corrosion
- Absolute tolerances to 0.1%
- Ideal replacement for costly Tantalum Nitride resistors
- RoHS compliant / lead-free



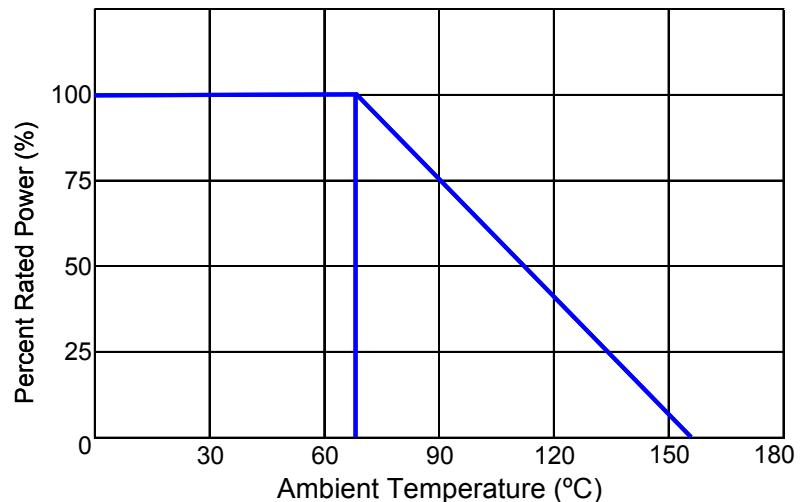
The RNCS series employs a special manufacturing process to ensure high precision, ultra stable performance, and long life in the harshest environments. In moisture comparison testing, the RNCS series outperformed Nichrome Chip Resistors and demonstrated the anti-corrosive claims characterized by Tantalum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

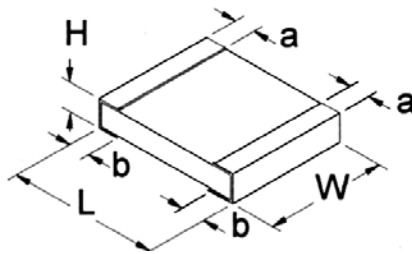
Electrical Specifications								
Type / Code	Old Pkg Code	Power Rating (Watts) @ 70 $^{\circ}$ C	Maximum Working Voltage(1)	Maximum Overload Voltage	Resistance Temperature Coefficient	Ohmic Range ( $\Omega$ ) and Tolerance		
						0.1%	0.25%	0.5%
RNCS0402	10	0.063W	25V	50V	$\pm 15$ ppm/ $^{\circ}$ C $\pm 25$ ppm/ $^{\circ}$ C $\pm 50$ ppm/ $^{\circ}$ C	10 - 25K	10 - 25K	10 - 25K
RNCS0603	16	0.063W (0.1W(2))	50V	100V	$\pm 15$ ppm/ $^{\circ}$ C $\pm 25$ ppm/ $^{\circ}$ C $\pm 50$ ppm/ $^{\circ}$ C	25 - 332K	25 - 332K	25 - 332K
RNCS0805	20	0.1W (0.125W(2))	100V	200V	$\pm 15$ ppm/ $^{\circ}$ C $\pm 25$ ppm/ $^{\circ}$ C $\pm 50$ ppm/ $^{\circ}$ C	10 - 800K 10 - 1M 10 - 800K	10 - 800K	10 - 800K 10 - 1M 10 - 800K
RNCS1206	32	0.125W (0.25W(2))	150V	300V	$\pm 15$ ppm/ $^{\circ}$ C $\pm 25$ ppm/ $^{\circ}$ C $\pm 50$ ppm/ $^{\circ}$ C	10 - 1M	10 - 1M	10 - 1M
RNCS2010	57	0.25W (0.5W(2))	150V	300V	$\pm 15$ ppm/ $^{\circ}$ C $\pm 25$ ppm/ $^{\circ}$ C $\pm 50$ ppm/ $^{\circ}$ C	10 - 1M	10 - 1M	10 - 1M
RNCS2512	63	0.5W (1W(2))	150V	300V	$\pm 15$ ppm/ $^{\circ}$ C $\pm 25$ ppm/ $^{\circ}$ C $\pm 50$ ppm/ $^{\circ}$ C	10 - 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 1.00 ± 0.05	0.020 ± 0.002 0.50 ± 0.05	0.012 ± 0.002 0.30 ± 0.05	0.008 ± 0.004 0.20 ± 0.10	0.008 ± 0.002 0.20 ± 0.10	inches mm
RNCS0603	0.061 ± 0.008 1.55 ± 0.20	0.032 ± 0.008 0.80 ± 0.20	0.018 ± 0.004 0.45 ± 0.10	0.012 ± 0.008 0.30 ± 0.20	0.012 ± 0.008 0.30 ± 0.20	inches mm
RNCS0805	0.079 ± 0.008 2.00 ± 0.20	0.049 ± 0.008 1.25 ± 0.20	0.022 ± 0.004 0.55 ± 0.10	0.012 ± 0.008 0.30 ± 0.20	0.016 ± 0.008 0.40 ± 0.20	inches mm
RNCS1206	0.120 ± 0.008 3.05 ± 0.20	0.061 ± 0.008 1.55 ± 0.20	0.022 ± 0.004 0.55 ± 0.10	0.017 ± 0.012 0.42 ± 0.30	0.014 ± 0.008 0.35 ± 0.20	inches mm
RNCS2010	0.193 ± 0.006 4.90 ± 0.15	0.090 ± 0.006 2.40 ± 0.15	0.022 ± 0.004 0.55 ± 0.10	0.024 ± 0.012 0.60 ± 0.30	0.020 ± 0.010 0.50 ± 0.25	inches mm
RNCS2512	0.246 ± 0.006 6.30 ± 0.15	0.122 ± 0.006 3.10 ± 0.15	0.022 ± 0.004 0.55 ± 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 (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
<b>Product Series</b>		<b>Size</b>	<b>Power</b>	<b>Tolerance</b>		<b>Packaging</b>				<b>TCR</b>		<b>Resistance Value</b>		
RNCS	Anti-corrosive Titanium-nitride Replacement	0402	0.063W	Code	Tol	Code	Description	Size	Quantity	Code	ppm	Four characters with the multiplier used as the decimal holder.		
		0603	0.1W	B	0.1%	T	7" reel paper tape	0402	10,000	S	15	10 ohm = 10R0		
		0805	0.125W	C	0.25%	K		0603, 0805, 1206	5,000	E	25	800 Kohm = 800K		
		1206	0.25W	D	0.5%			2010, 2512	4,000	C	50	1 Mohm = 1M00		
		2010	0.5W					0603, 0805, 1206						
		2512	1W				2010, 2512	1,000						

Legacy Part Number (before January 3, 2011):

<b>SEI Type</b>		<b>Code</b>			<b>TCR</b>	<b>Nominal Resistance</b>	<b>Tolerance</b>		<b>Packaging</b>				
<b>RNCS</b>		<b>20</b>			<b>T9</b>	<b>4.75K</b>	<b>0.5%</b>		<b>R</b>				
<b>Type</b>	<b>Description</b>	<b>Code</b>	<b>Wattage</b>	<b>Size</b>	<b>TCR</b>		<b>Tol</b>	<b>Values</b>		<b>SEI Types</b>	<b>Pkg Qty</b>	<b>Code</b>	<b>Description</b>
RNCS	Anti-corrosive Titanium-Nitride Replacement	10	0.063W	0402	T2	50ppm	±0.1%	E96, E24, E192⓪		0402	10,000	R	7" reel paper tape
		16	0.1W	0603	T9	25ppm	±0.25%	E96, E24, E192⓪		0603, 0805, 1206	5,000	R	
		20	0.125W	0805	TD	15ppm	±0.5%	E96, E24, E192⓪			1,000	I	
		32	0.25W	1206			⓪ Non-standard		2010, 2512	4,000	R		
		57	0.5W	2010						1,000	I		
		63	1W	2512									