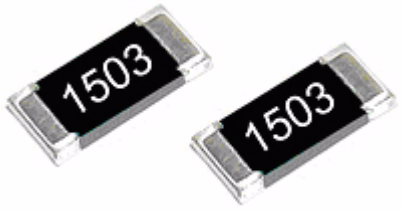
Features:

- Special Passivation for moisture sensitive applications
- Absolute TCR's to ±25 ppm/ºC
- Available in industry standard sizes from 0402 to 2512
- Resistance range from 10Ω to 1MΩ
- Test proven immunity to humidity and moisture corrosion
- Absolute tolerances to 0.1%
- Ideal replacement for costly Tantalum Nitride resistors
- RoHS compliant / lead-free



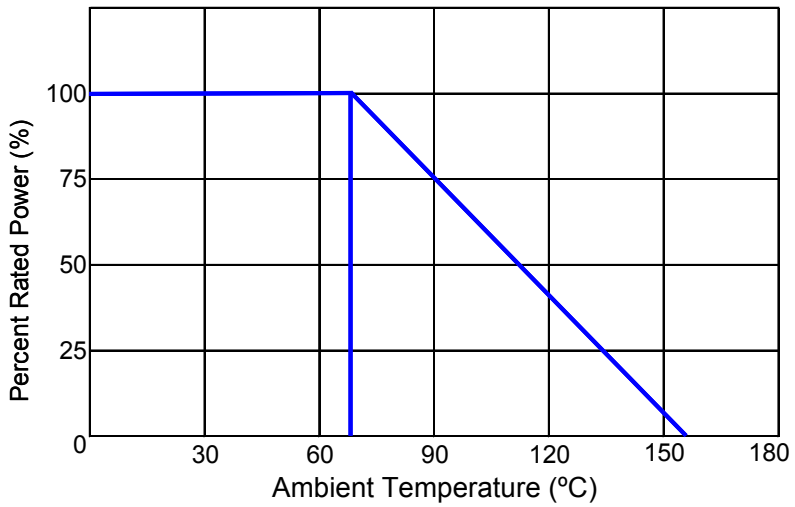
The RNCS series employs a special manufacturing process to ensure high precision, ultra stable performance, and long life in the harshest environments. In moisture comparison testing, the RNCS series outperformed Nichrome Chip Resistors and demonstrated the anti-corrosive claims characterized by Tantalum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

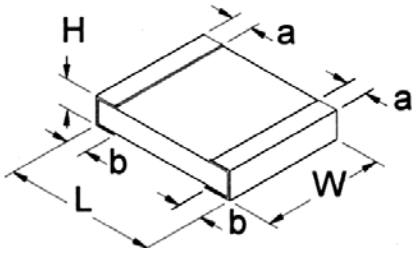
Electrical Specifications

Type / Code	Old Pkg Code	Power Rating (Watts) @ 70ºC	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/ºC ±25 ppm/ºC ±50 ppm/ºC	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/ºC ±25 ppm/ºC ±50 ppm/ºC	25 - 332K	25 - 332K	25 - 332K
RNCS0805	20	0.1W (0.125W(2))	100V	200V	±15 ppm/ºC ±25 ppm/ºC ±50 ppm/ºC	10 - 1M	10 - 1M	10 - 1M
RNCS1206	32	0.125W (0.25W(2))	150V	300V	±15 ppm/ºC ±25 ppm/ºC ±50 ppm/ºC	10 - 1M	10 - 1M	10 - 1M
RNCS2010	57	0.25W (0.5W(2))	150V	300V	±15 ppm/ºC ±25 ppm/ºC ±50 ppm/ºC	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/ºC ±25 ppm/ºC ±50 ppm/ºC	25 - 1M 10 - 1M 10 - 1M	25 - 1M 10 - 1M 10 - 1M	25 - 1M 10 - 1M 10 - 1M

(1) Lesser of √PR or maximum working voltage.
(2) Higher power rating for each package size is valid if ambient temp ≤80ºC and terminal temp ≤105ºC

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 -55ºC - 125ºC, 100 Cycles	≤±0.02%	≤±0.1%
Load Life	MIL - STD - 202F Method 108A RCWV, 70ºC, 1.5 hours ON, 0.5 hours OFF, total 1000 - 1048 hours	≤±0.05%	≤±0.25%
Humidity (Steady State)	MIL - STD - 202F Method 103B 40ºC, 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 @ +125ºC without load	≤±0.05%	≤±0.5%
Resistance to Soldering Heat	MIL - STD - 202F Method 210E 260 ± 5ºC, 10 ± 1 second	≤±0.02%	≤±0.1%

(1) Storage Temperature: 25 ± 3ºC; 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	
RNCS	Anti-corrosive Titanium-nitride Replacement

Size	Power
0402	0.063W
0603	0.1W
0805	0.125W
1206	0.25W
2010	0.5W
2512	1W

Tolerance		
Code	Tol	Value
B	0.1%	E192(1), E96, E24
C	0.25%	
D	0.5%	

(1) E192 values are unmarked

Packaging			
Code	Description	Size	Quantity
T	7" Reel Paper Tape	0402	10,000
		0603, 0805, 1206	5,000
		2010, 2512	4,000
K		0603, 0805, 1206 2010, 2512	1,000

TCR	
Code	ppm
S	15
E	25
C	50

Resistance Value
Four characters with the multiplier used as the decimal holder.
10 ohm = 10R0
800 Kohm = 800K
1 Mohm = 1M00

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
RNCS	Anti-corrosive Titanium-Nitride Replacement

Code	Wattage	Size
10	0.063W	0402
16	0.1W	0603
20	0.125W	0805
32	0.25W	1206
57	0.5W	2010
63	1W	2512

TCR	
T2	50ppm
T9	25ppm
TD	15ppm

Tol	Values
±0.1%	E192(1), E96, E24
±0.25%	
±0.5%	

(1) E192 values are unmarked

SEI Types	Pkg Qty	Code	Description
0402	10,000	R	7" reel paper tape
0603, 0805, 1206	5,000	R	
	1,000	I	
2010, 2512	4,000	R	
	1,000	I	