

# RNC Series — Precision Thin Film Chip Resistors



## Features

- Precision tolerances to  $\pm 0.01\%$
- TCR down to  $\pm 5\text{ppm}/^\circ\text{C}$
- RoHS compliant / lead-free available (RNCF)
- E96 and E24 values are standard; E192 are built to order with no part marking
- Wide R-value range
- Consult factory for tighter tolerances
- 2010 and 2512 sizes now available

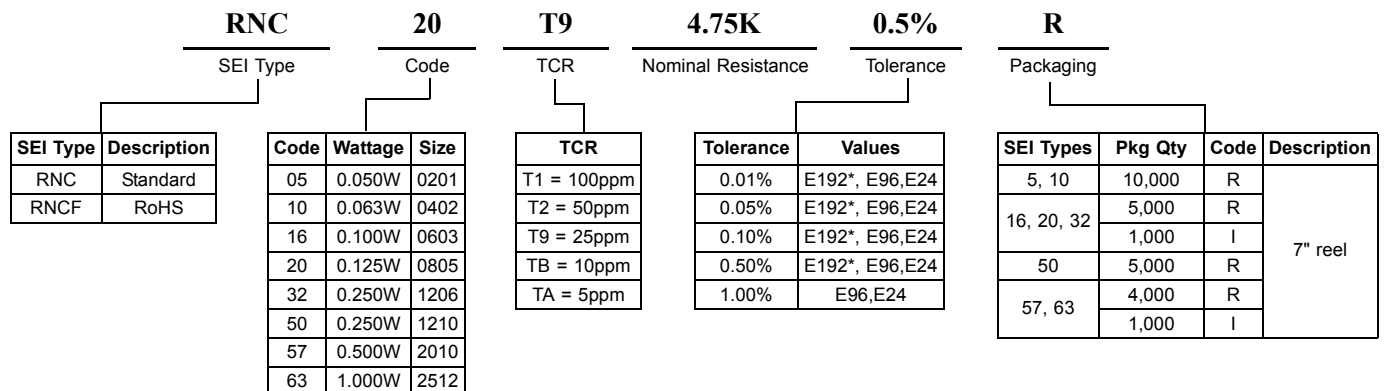


## Electrical Specifications

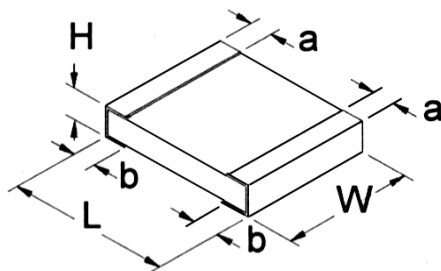
Type / Code	Package Size	Power Rating (W) @ 70°C	Maximum Working Voltage*	Maximum Overload Voltage	Resistance Temperature Coefficient	Ohmic Range and Tolerance				
						0.01%	0.05%	0.1%	0.5%	1%
RNC 05	0201	0.050W	15V	30V	$\pm 25\text{ ppm}/^\circ\text{C}$ $\pm 200\text{ ppm}/^\circ\text{C}$	-	-	-	33Ω – 22K -	- 100Ω – 1M
RNC 10	0402	0.063W	50V	100V	$\pm 5\text{ ppm}/^\circ\text{C}$ $\pm 10\text{ ppm}/^\circ\text{C}$ $\pm 25\text{ ppm}/^\circ\text{C}$ $\pm 50\text{ ppm}/^\circ\text{C}$	49.9Ω – 3K 49.9Ω – 12K - -	49.9Ω – 3K 49.9Ω – 12K - -	49.9Ω – 3K 49.9Ω – 12K 10Ω – 200K 10Ω – 200K	100Ω – 3K 47Ω – 100K 10Ω – 200K 10Ω – 200K	-
RNC 16	0603	0.100W	75V	150V	$\pm 5\text{ ppm}/^\circ\text{C}$ $\pm 10\text{ ppm}/^\circ\text{C}$ $\pm 25\text{ ppm}/^\circ\text{C}$ $\pm 50\text{ ppm}/^\circ\text{C}$	25Ω – 15K 25Ω – 100K - -	25Ω – 15K 25Ω – 100K 4.7Ω – 150K 4.7Ω – 150K	25Ω – 15K 4.7Ω – 332K 4.7Ω – 1M 4.7Ω – 1M	- - 2Ω – 1M 2Ω – 1M	-
RNC 20	0805	0.125W	100V	200V	$\pm 5\text{ ppm}/^\circ\text{C}$ $\pm 10\text{ ppm}/^\circ\text{C}$ $\pm 25\text{ ppm}/^\circ\text{C}$ $\pm 50\text{ ppm}/^\circ\text{C}$	25Ω – 30K 25Ω – 200K - -	25Ω – 30K 4.7Ω – 500K 4.7Ω – 500K 4.7Ω – 500K	25Ω – 30K 4.7Ω – 500K 4.7Ω – 2M 4.7Ω – 2M	- - 1Ω – 2M 1Ω – 2M	-
RNC 32	1206	0.250W	150V	300V	$\pm 5\text{ ppm}/^\circ\text{C}$ $\pm 10\text{ ppm}/^\circ\text{C}$ $\pm 25\text{ ppm}/^\circ\text{C}$ $\pm 50\text{ ppm}/^\circ\text{C}$	25Ω – 50K 25Ω – 500K - -	25Ω – 50K 25Ω – 500K 4.7Ω – 1M 4.7Ω – 1M	25Ω – 50K 4.7Ω – 1M 4.7Ω – 2.5M 4.7Ω – 2.5M	- - 1Ω – 2.5M 1Ω – 2.5M	-
RNC 50	1210	0.250W	200V	400V	$\pm 25\text{ ppm}/^\circ\text{C}$ $\pm 50\text{ ppm}/^\circ\text{C}$	-	-	51Ω – 2M 10Ω – 49.9Ω	51Ω – 2M 10Ω – 49.9Ω	-
RNC 57	2010	0.500W	200V	400V	$\pm 5\text{ ppm}/^\circ\text{C}$ $\pm 10\text{ ppm}/^\circ\text{C}$ $\pm 25\text{ ppm}/^\circ\text{C}$ $\pm 50\text{ ppm}/^\circ\text{C}$	25Ω – 100K 25Ω – 500K - -	25Ω – 100K 25Ω – 500K 4.7Ω – 1M 4.7Ω – 1M	25Ω – 100K 4.7Ω – 1M 4.7Ω – 3M 4.7Ω – 3M	- - 1Ω – 3M 1Ω – 3M	-
RNC 63	2512	1.000W	200V	400V	$\pm 5\text{ ppm}/^\circ\text{C}$ $\pm 10\text{ ppm}/^\circ\text{C}$ $\pm 25\text{ ppm}/^\circ\text{C}$ $\pm 50\text{ ppm}/^\circ\text{C}$	25Ω – 100K 25Ω – 500K - -	25Ω – 100K 25Ω – 500K 4.7Ω – 1M 4.7Ω – 1M	25Ω – 100K 4.7Ω – 1M 4.7Ω – 3M 4.7Ω – 3M	- - 1Ω – 3M 1Ω – 3M	-

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

## How to Order



\*non-standard



Mechanical Specifications						
Type / Code	L Body Length	W Body Width	H Body Height	a Top Termination	b Bottom Termination	Units
RNC 05	0.024 ± 0.002 0.60 ± 0.05	0.012 ± 0.002 0.30 ± 0.05	0.009 ± 0.001 0.23 ± 0.030	0.005 ± 0.002 0.12 ± 0.05	0.005 ± 0.002 0.12 ± 0.05	inches mm
RNC 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
RNC 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
RNC 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
RNC 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
RNC 50	0.126 ± 0.008 3.20 ± 0.20	0.100 ± 0.008 2.50 ± 0.20	0.024 ± 0.008 0.60 ± 0.20	0.020 ± 0.012 0.50 ± 0.30	0.016 ± 0.008 0.40 ± 0.20	inches mm
RNC 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
RNC 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 (JIS C 5202)		
Test	Specification	Typical
Moisture Resistance, Thermal Shock	±(0.25% +0.05Ω)	≤0.1%
Load Life	±(0.5% +0.05Ω)	≤0.2%
Load Life in Moisture	±(0.5% +0.05Ω)	≤0.25%
Resistance to Soldering Heat	±(0.25% +0.05Ω)	≤0.05%
Solderability	min 95% coverage	≥0.95%
Terminal Strength	±(0.2% +0.05Ω)	≤0.05%
Dielectric Withstanding Voltage	±(0.25% +0.05Ω)	≤0.05%
Short Time Overload	±(0.25% +0.05Ω)	≤0.05%
Insulation Resistance	1MΩ minimum	≥1MΩ