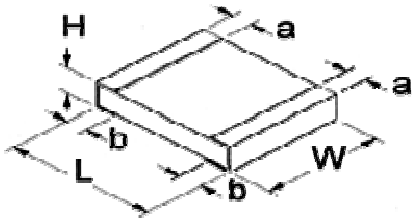
Features:

- Precision tolerances to ±0.01%
- TCR down to ±5ppm/ºC
- Wide R-value range
- Consult factory for tighter tolerances
- 2010 and 2512 sizes now available
- RoHS compliant

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					
						0.01%	0.05%	0.1%	0.25%	0.5%	1%
RNCF0201	05	0.032W (0.05W(2))	15V	30V	±25 ppm/ºC ±50/100 ppm/ºC	-	-	-	-	49.9 - 5K 49.9 - 33K	49.9 - 5K 49.9 - 33K
RNCF0402	10	0.063W	25V	50V	±5 ppm/ºC ±10 ppm/ºC ±15 ppm/ºC ±25 ppm/ºC ±50/100 ppm/ºC	49.9 - 5K 49.9 - 12K 49.9 - 12K - -	49.9 - 5K 49.9 - 12K - - -	49.9 - 5K 10 - 100K 49.9 - 70K 10 - 205K 10 - 205K	- 10 - 100K - 10 - 205K 10 - 205K	- 10 - 100K - 10 - 205K 1 - 205K	- 10 - 100K - 10 - 205K 1 - 205K
RNCF0603	16	0.063W (0.1W(2))	50V	100V	±5 ppm/ºC ±10 ppm/ºC ±15 ppm/ºC ±25 ppm/ºC ±50/100 ppm/ºC	24.9 - 15K 24.9 - 100K 24.9 - 100K - -	24.9 - 15K 4.7 - 332K - 4.7 - 332K 4.7 - 332K	24.9 - 15K 4.7 - 390K 4.7 - 332K 4.7 - 1M 4.7 - 1M	- 10 - 390K - 2 - 1M 2 - 1M	- 10 - 390K - 2 - 1M 1 - 1M	- 10 - 390K - 2 - 1M 1 - 1M
RNCF0805	20	0.1W (0.125W(2))	100V	200V	±5 ppm/ºC ±10 ppm/ºC ±15 ppm/ºC ±25 ppm/ºC ±50/100 ppm/ºC	24.9 - 30K 24.9 - 200K 24.9 - 200K - -	24.9 - 30K 4.7 - 511K - 4.7 - 511K 4.7 - 511K	24.9 - 30K 4.7 - 800K 4.7 - 511K 4.7 - 2M 4.7 - 2M	- 10 - 800K - 1 - 2M 1 - 2M	- 10 - 800K - 1 - 2M 1 - 2M	- 10 - 800K - 1 - 2M 1 - 2M
RNCF1206	32	0.125W (0.25W(2))	150V	300V	±5 ppm/ºC ±10 ppm/ºC ±15 ppm/ºC ±25 ppm/ºC ±50/100 ppm/ºC	24.9 - 50K 24.9 - 500K 24.9 - 500K - -	24.9 - 50K 4.7 - 1M - 4.7 - 1M 4.7 - 1M	24.9 - 50K 4.7 - 1M 4.7 - 1M 4.7 - 2.5M 4.7 - 2.5M	- 10 - 1M - 1 - 2.5M 1 - 2.5M	- 10 - 1M - 1 - 2.5M 1 - 2.5M	- 10 - 1M - 1 - 2.5M 1 - 2.5M
RNCF1210	50	0.2W (0.25W(2))	150V	300V	±5 ppm/ºC ±10 ppm/ºC ±15 ppm/ºC ±25 ppm/ºC ±50/100 ppm/ºC	24.9 - 50K 24.9 - 500K 24.9 - 500K - -	24.9 - 50K 4.7 - 1M - 4.7 - 1M 4.7 - 1M	24.9 - 50K 4.7 - 1M 4.7 - 1M 4.7 - 2.5M 4.7 - 2.5M	- - - 1 - 2.5M 1 - 2.5M	- - - 1 - 2.5M 1 - 2.5M	- - - 1 - 2.5M 1 - 2.5M
RNCF2010	57	0.25W (0.5W(2))	150V	300V	±5 ppm/ºC ±10 ppm/ºC ±15 ppm/ºC ±25 ppm/ºC ±50/100 ppm/ºC	24.9 - 100K 24.9 - 500K 24.9 - 500K - -	24.9 - 100K 4.7 - 1M - 4.7 - 1M 4.7 - 1M	24.9 - 100K 4.7 - 1M 4.7 - 1M 4.7 - 3M 4.7 - 3M	- - - 1 - 3M 1 - 3M	- - - 1 - 3M 1 - 3M	- - - 1 - 3M 1 - 3M
RNCF2512	63	0.5W (1W(2))	150V	300V	±5 ppm/ºC ±10 ppm/ºC ±15 ppm/ºC ±25 ppm/ºC ±50/100 ppm/ºC	24.9 - 100K 24.9 - 500K 24.9 - 500K - -	24.9 - 100K 4.7 - 1M - 4.7 - 1M 4.7 - 1M	24.9 - 100K 4.7 - 1M 4.7 - 1M 4.7 - 3M 4.7 - 3M	- - - 1 - 3M 1 - 3M	- - - 1 - 3M 1 - 3M	- - - 1 - 3M 1 - 3M

(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



Mechanical Specifications

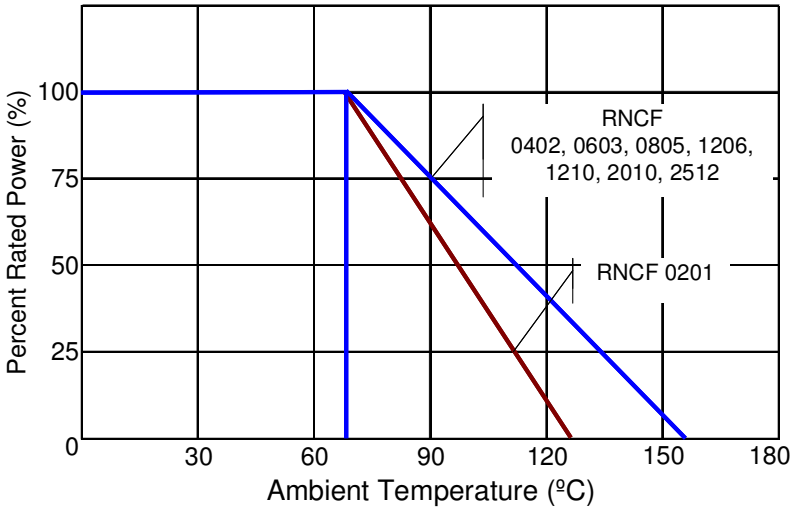
Type / Code	L Body Length	W Body Width	H Body Height	a Top Termination	b Bottom Termination	Unit
RNCF0201	0.024 ± 0.002 0.60 ± 0.05	0.012 ± 0.002 0.30 ± 0.05	0.009 ± 0.001 0.23 ± 0.03	0.005 ± 0.002 0.12 ± 0.05	0.005 ± 0.002 0.12 ± 0.05	inches mm
RNCF0402	0.039 ± 0.002 1.00 ± 0.05	0.020 ± 0.002 0.50 ± 0.05	0.014 ± 0.002 0.35 ± 0.05	0.008 ± 0.004 0.20 ± 0.10	0.010 ± 0.004 0.25 ± 0.10	inches mm
RNCF0603	0.063 ± 0.008 1.60 ± 0.20	0.031 ± 0.008 0.80 ± 0.20	0.016 ± 0.006 0.40 ± 0.15	0.012 ± 0.008 0.30 ± 0.20	0.012 ± 0.008 0.30 ± 0.20	inches mm
RNCF0805	0.079 ± 0.008 2.00 ± 0.20	0.049 ± 0.008 1.25 ± 0.20	0.020 ± 0.006 0.50 ± 0.15	0.016 ± 0.008 0.40 ± 0.20	0.016 ± 0.008 0.40 ± 0.20	inches mm
RNCF1206	0.126 ± 0.008 3.20 ± 0.20	0.063 ± 0.008 1.60 ± 0.20	0.020 ± 0.006 0.50 ± 0.15	0.020 ± 0.012 0.50 ± 0.30	0.016 ± 0.008 0.40 ± 0.20	inches mm
RNCF1210	0.122 ± 0.008 3.10 ± 0.20	0.094 ± 0.006 2.40 ± 0.15	0.024 ± 0.004 0.60 ± 0.10	0.020 ± 0.012 0.50 ± 0.30	0.016 ± 0.008 0.40 ± 0.20	inches mm
RNCF2010	0.193 ± 0.006 4.90 ± 0.15	0.094 ± 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
RNCF2512	0.248 ± 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	Specification	Specification for Tolerances = 0.01%	Specification for Tolerances = 0.05%	Typical	Test Method
Moisture Resistance, Thermal Shock	ΔR±(0.25% + 0.05Ω)	ΔR±0.01%	ΔR±0.05%	≤0.1%	-55ºC - 150ºC, 100 cycles
Load Life	ΔR±(0.2% + 0.05Ω)	ΔR±0.01%	ΔR±0.05%	≤0.2%	70±2ºC, Maximum working voltage for 1000 hrs with 1.5 hrs ON and 0.5 hrs OFF
	>7KΩ ΔR ± 0.5% ΔR±0.5% for high power rating				
Load Life in Moisture	ΔR± (0.3% + 0.05Ω)	ΔR±0.01%	ΔR±0.05%	≤0.25%	40±2ºC, 90-95% RH Maximum working voltage for 1000 hrs with 1.5 hrs ON and 0.5 hrs OFF
	ΔR±0.5% for high power rating				
Resistance to Soldering Heat	ΔR±(0.2% + 0.05Ω)	ΔR±0.01%	ΔR±0.05%	≤0.5%	260±5ºC for 10 seconds
Solderability	Min 95% coverage			≥0.95%	245±5ºC for 3 seconds
Bending Strength	ΔR±(0.2% + 0.05Ω)	ΔR±0.01%	ΔR±0.05%	≤0.05%	Bending amplitude 3mm for 10 seconds
Dielectric Withstanding Voltage	by type			≤0.05%	Maximum overload voltage for 1 minute
Short Time Overload	ΔR±(0.2% + 0.05Ω)	ΔR±0.01%	ΔR±0.05%	≤0.05%	RCWV*2.5 or Maximum overload voltage for 5 seconds
Insulation Resistance	>1GΩ			≥1GΩ	Apply 100V_{DC} for 1 minute
Low Temperature Operation	ΔR±0.2%	ΔR±0.01%	ΔR±0.05%		1 hour, -65ºC, followed by 45 minutes of RCWV
	ΔR±0.5% for high power rating				

Operating Temperature Range: -55ºC to +125ºC (0201); -55ºC to +155ºC (0402 to 2512)
Reference Standards: MIL-STD-202, JIS-C 5201-1

Power Derating Curve:



How to Order

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

Product Series	
RNCF	Precision Thin Film Chip Resistors

Size	Power
0201	0.032W
0402	0.063W
0603	0.063W
0805	0.1W
1206	0.125W
1210	0.2W
2010	0.25W
2512	0.5W

Tolerance		
Code	Tol	Value (1)
T	0.01%	E192, E96, E24
A	0.05%	
B	0.1%	
C	0.25%	
D	0.5%	
F	1%	E96, E24

Packaging			
Code	Description	Size	Quantity
T	7" Reel Paper Tape	0201, 0402	10,000
		0603, 0805 1206, 1210	5,000
		2010, 2512	4,000
K	7" Reel Paper Tape	0603, 0805, 1206 2010, 2512	1,000

TCR	
Code	ppm
Y	5
T	10
S	15
E	25
C	50
D	100

Resistance Value (2)
Four characters with the multiplier used as the decimal holder.
24.9 ohm = 24R9
10 Kohm = 10K0
1 Mohm = 1M00

(1) E192 values are not marked, and may be subject to 20Kpc MOQ
(2) Values below 10 ohm and above 1 Mohm may be subject to 20Kpc MOQ

Legacy Part Number (before January 3, 2011):

SEI Type	Code	TCR	Nominal Resistance (2)	Tolerance	Packaging
RNCF	20	T9	4.75K	0.5%	R

Type	Description
RNCF	Precision Thin Film Chip Resistor

Code	Wattage	Size
05	0.032W	0201
10	0.063W	0402
16	0.063W	0603
20	0.1W	0805
32	0.125W	1206
50	0.2W	1210
57	0.25W	2010
63	0.5W	2512

TCR	
T1	100ppm
T2	50ppm
T9	25ppm
TD	15ppm
TB	10ppm
TA	5ppm

Tol	Values (1)
0.01%	E192, E96, E24
0.05%	
0.1%	
0.25%	
0.5%	
1%	E96, E24

SEI Types	Pkg Qty	Code	Description
0201, 0402	10,000	R	7" reel paper tape
0603, 0805, 1206	5,000	R	
	1,000	I	
1210	5,000	R	
2010, 2512	4,000	R	
	1,000	I	

(1) E192 values are not marked, and may be subject to 20Kpc MOQ
(2) Values below 10 ohm and above 1 Mohm may be subject to 20Kpc MOQ