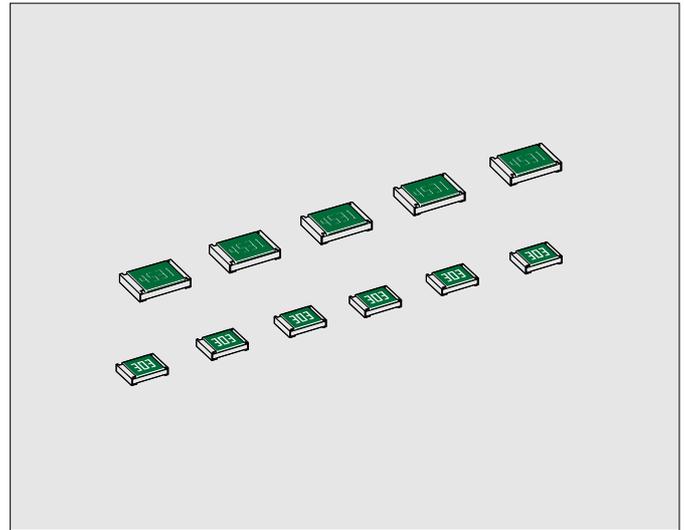


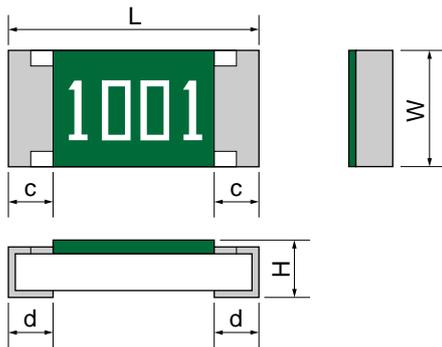
# RNC20, 32

## ●Features

1. The RNC Series resistors are rectangular type chip resistors for high precision, stability and reliability applications above those of thick film varieties.
2. Suitable for flow and reflow soldering (including IR and VPS).
3. Size of 0805(RNC 20) and 1206(RNC 32). T.C.R. of  $\pm 25 \times 10^{-6}/^{\circ}\text{C}$  and  $\pm 50 \times 10^{-6}/^{\circ}\text{C}$  are available.
4. Use of RNC series contributes to the reduction of fine adjustment and improves circuit accuracy and stability.
5. Stability class : 1%



## ●Dimensions



The nominal resistance is marked on the surface of over coating with the use of 3 or 4 figures.

Style	Metric	Inch	L	W	H	c	d	*Unit weight/pc.
RNC20	2012	0805	2.0±0.15	1.25 <sup>+0.10</sup> <sub>-0.05</sub>	0.6±0.1	0.4 ±0.2	0.3 <sup>+0.2</sup> <sub>-0.1</sub>	5mg
RNC32	3216	1206	3.1±0.1	1.55 <sup>+0.10</sup> <sub>-0.05</sub>	0.6±0.1	0.45±0.2	0.3 <sup>+0.2</sup> <sub>-0.1</sub>	9mg

Unit : mm

\*Values for reference

## ●Product Classification

Example

RNC	32	
① Product Type	② Size	
Style		
① Product Type		
② Size		
Code	Size	
	Metric	Inch
20	2012	0805
32	3216	1206

E	
③ Resistance Temperature Coefficient	
Code	Resistance Temperature Coefficient
E	$\pm 25 \times 10^{-6}/^{\circ}\text{C}$
C	$\pm 50 \times 10^{-6}/^{\circ}\text{C}$

1002	
④ Rated Resistance	
E96 Series	e.g. : 10R2=10.2 ohm
	1002=10k ohm
E24 Series	e.g. : 103=10k ohm

B	
⑤ Resistance Tolerance	
Code	Resistance Tolerance
B	±0.1%
C	±0.25%
D	±0.5%

TP	
⑥ Packaging	
*⑥ Packaging	
Code	Packaging
B	Bulk(Loose Package)
TP	Paper Tape.

\*Refer to Taping and Packaging information in page 34.35

●Ratings

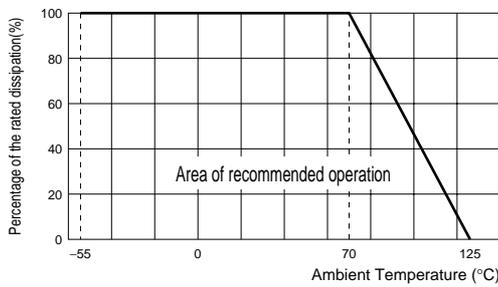
Style	Rated Dissipation at 70°C W	Limiting Element Voltage V	Temperature Coefficient of Resistance 10 <sup>-6</sup> /°C	Rated Resistance Range	Tolerance on Rated Resistance	Preferred Number Series for Resistors	Isolation Voltage V	Category Temperature Range °C
RNC20	0.1	75	E(±25) C(±50)	100ohm~130kohm	B(±0.1%)	E24 Series	100	-55~+125
				10ohm~130kohm	C(±0.25%) D(±0.5%)			
RNC32	0.125	150		100ohm~180kohm	B(±0.1%)	E96 Series		
				10ohm~180kohm	C(±0.25%) D(±0.5%)			

Note.1 Rated Voltage =  $\sqrt{\text{Rated Power} \times \text{Rated Resistance}}$  (d.c. or a.c. r.m.s. Voltage)

Note.2 Limiting Element Voltage can only be applied to resistors when the resistance value is equal to or higher than the critical resistance value.

●Derating Curve

The derated values of dissipation at temperature in excess of 70°C shall be as indicated by the following Curve.



●Climatic Category

55/125/56

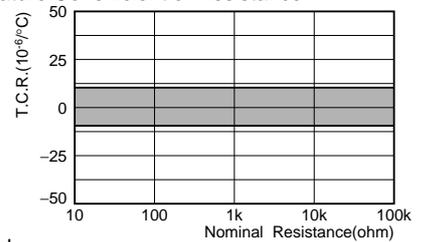
Lower Category Temperature -55°C  
Upper Category Temperature +125°C  
Duration of the Damp heat, Steady-State Test 56days

●Performance Characteristics JIS C 5201-1 : 1998

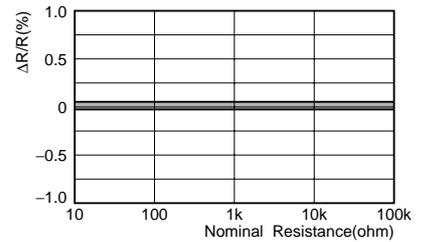
Description	Requirements	Test Methods
Voltage proof	No breakdown or flashover R≥1G ohm	Clause 4.7 100Va.c.,60s
Variation of resistance with temperature	See Ratings Table	Clause 4.8 Measuring temperature : +20°C/-55°C /+20°C/+125°C/+20°C
Overload	$\Delta R \leq \pm(0.25\%+0.05\text{ohm})$ No visible damage, legible marking	Clause 4.13 The applied voltage shall be 2.5 times of the rated voltage or twice of the limiting element voltage, whichever is the less severe, 2s.
Solderability	In accordance with Clause 4.17.4.5	Clause 4.17 235°C, 2s
Resistance to soldering heat	$\Delta R \leq \pm(0.25\%+0.05\text{ohm})$	Clause 4.18 After immersion into the flux, the immersion into solder shall be carried out in solder bath at 260°C for 5s.
Rapid change of temperature	$\Delta R \leq \pm(0.25\%+0.05\text{ohm})$ No visible damage	Clause 4.19 5 cycles between -55°C and +125°C
Climatic sequence	$\Delta R \leq \pm(1\%+0.05\text{ohm})$ No visible damage	Clause 4.23 Dry/Damp heat(12+12h cycle), first cycle./ Cold/Damp heat(12+12h cycle), remaining cycle./ D.C.Load.
Damp test, steady state	$\Delta R \leq \pm(1\%+0.05\text{ohm})$ No visible damage, legible marking	Clause 4.24 40°C 95%R.H. 56 days, test a) and b) of Clause 4.24.2.1
Endurance at 70°C	$\Delta R \leq \pm(1\%+0.05\text{ohm})$ No visible damage, legible marking	Clause 4.25.1 Rated voltage, 1.5h"ON", 0.5h"OFF", 70°C, 1000h.
Endurance at the upper category temperature	$\Delta R \leq \pm(1\%+0.05\text{ohm})$ No visible damage	Clause 4.25.3 125°C, no-load, 1000h.
Adhesion	No visible damage	Clause 4.32 5N, 10s
Bend strength of the face plating	$\Delta R \leq \pm(0.25\%+0.05\text{ohm})$	Clause 4.33 Amount of bend : 3mm

●Example of Typical Characteristics(RNC20, T.C.R.:E)

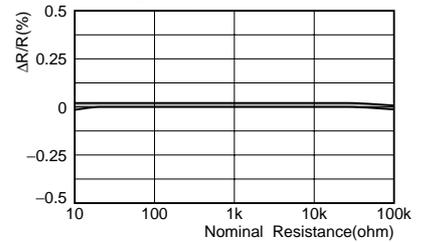
Temperature Coefficient of Resistance



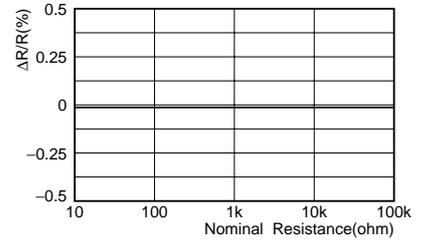
Overload



Resistance to soldering heat(260°C,5sec)



Rapid change of temperature(-55°C/125°C,5cycle)



Endurance at 70°C

