

FEATURES

- EXTENDED VALUE RANGE (0.047Ω ~ 4.7GΩ) & PRECISION TOLERANCES
- EIA STANDARD SIZING 0603, 0805, 1206, 1210, 2010 AND 2512
- METAL GLAZED THICK FILM ON HIGH PURITY ALUMINA SUBSTRATE (CERMET) PROVIDES UNIFORM QUALITY AND HIGH RELIABILITY
- DOUBLE GLASS OVERCOAT ASSURES STRONG MECHANICAL CONSTRUCTION AND LONG LIFE, NICKEL BARRIER PREVENTS LEACHING
- ALL SIZES ARE AVAILABLE IN TAPE/REEL FOR AUTOMATIC MOUNTING
- BOTH FLOW SOLDER AND REFLOW SOLDERING ARE APPLICABLE

RoHS Compliant



*See Part Number System for Details

SPECIFICATIONS

Type	EIA Size	Power Rating at 70°C	Max.*1 Working Voltage	Max.*2 Overload Voltage	Resistance Tolerance (Code)	Temperature Coefficient (ppm/°C)	Resistance Range (Ω)	Resistance Value	Operating Temperature Range (°C)
NRCE06	0603	1/16 (0.063) W	50V	100V	±10%(K) ±20%(M)	±500	43MΩ ~ 1GΩ	E24	-55 ~ +125
NRCE10	0805	1/10 (0.10) W	150V	300V	±10%(K) ±20%(M)	±500	43MΩ ~ 1GΩ	E24	
		±10%(K) ±20%(M)			±1500	1.2GΩ ~ 4.7GΩ	E24		
		±1%(F) ±5%(J)			±200	0.2Ω ~ 10Ω	E24		
NRCE12	1206	1/8 (0.125) W	200V	400V	±2%(G) ±5%(J)	±250	0.1 ~ 0.18	E24	
					±10%(K) ±20%(M)	±500	43MΩ ~ 1GΩ	E24	
		±10%(K) ±20%(M)			±1500	1.2GΩ ~ 4.7GΩ	E24		
		±1%(F) ±5%(J)			±100	0.2Ω ~ 10Ω	E24		
NRCE25	1210	1/3 (0.33) W	200V	400V	±2%(G) ±5%(J)	±200	0.1 ~ 0.18	E24	
					±1%(F) ±5%(J)	±100	0.2Ω ~ 10Ω	E24	
					±5%(J)	±350	0.047Ω ~ 0.091Ω	E24	
NRCE50	2010	3/4 (.75) W	200V	400V	±1%(F) ±5%(J)	±100	0.1Ω ~ 1.0Ω	E24	
NRCE100	2512	1W	250V	500V	±1%(F) ±5%(J)	±100	0.1Ω ~ 1.0Ω	E24	
					±5%(J)	±350	0.047Ω ~ 0.091Ω	E24	

Note *1 - Maximum allowable continuous Working Voltage for all resistors is the lower of the two values:

“Maximum Working Voltage” as specified above

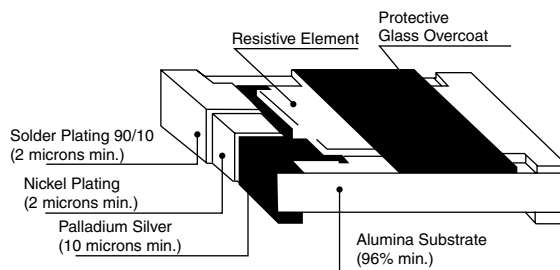
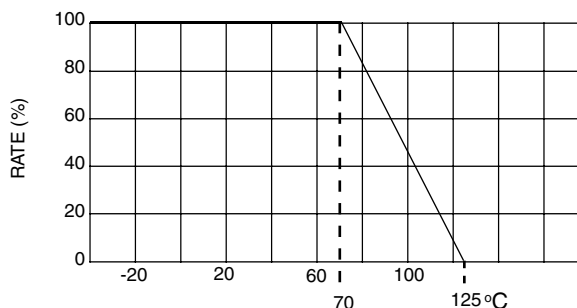
$$\sqrt{\text{Power rating (Watts) x Resistance (Ohms)}}$$

(or)

Note *2 - Maximum allowable Overload voltage is two times the Maximum Working Voltage (see Note *1 above).

Please note, NIC's NRCE series products are capable of meeting the following specifications: JIS-C 5202, EIAJ RC-2690, EIA575, EIA PDP-100, MIL-R-5542D and UL94V-0.

Power Derating Curve: For operation above 70°C, power rating must be derated according to the following chart:



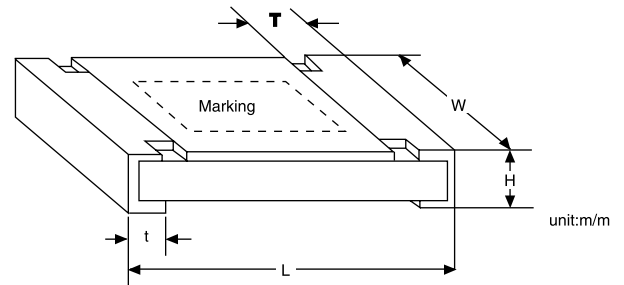
CONSTRUCTION

*Note: Lead Free terminations also available.
See part numbering system (page 2) for ordering instructions

DIMENSIONS (mm)

Type	EIA Size	L	W	H	T	t
NRCE06	0603	1.6 ±0.15	0.80 ±0.15	0.45 ±0.1	0.3 ±0.20	0.3 ±0.2
NRCE10	0805	2.0 ±0.20	1.25 ±0.10	0.50 ±0.1	0.4 ±0.20	0.4 ±0.2
NRCE12	1206	3.1 ±0.15	1.55 ±0.15	0.55 ±0.1	0.5 ±0.25	0.5 ±0.3
NRCE25	1210	3.1 ±0.15	2.65 ±0.15	0.55 ±0.1	0.5 ±0.20	0.5 ±0.2
NRCE50	2010	5.0 ±0.15	2.50 ±0.15	0.55 ±0.1	1.0 ±0.20	0.5 ±0.3
NRCE100	2512	6.4 ±0.20	3.20 ±0.15	0.55 ±0.1	1.3 ±0.20	0.7 ±0.2

Note: For details on Constructin see the NRC Seires data sheet



Marking

E-24 Series: Tolerances are ±20% (M), ±10% (K), ±5% (J), ±2% (G) and ±1% (F).

3 or 4 DIGIT SYSTEM (depending on value) - First 2 digits are significant and 3rd digit is multiplier, "R" indicates decimal on values under 10Ω. Four digit code where required for values below 0.1Ω.

Examples: R01= 0.01 ohms, R047= 0.047

R10 = 0.10 ohms, 1R0 = 1.0 ohms, 470 = 47 ohms, 221 = 220 ohms, 562 = 5.6K ohms,

683 = 68K ohms, 104 = 100K ohms, 475 = 4.7Meg ohms, 756 = 75Meg ohms,

827 = 820Meg ohms, 108 = 1Gig ohms

STANDARD E-24 VALUES

E-24 Value
100
110
120
130
150
160
180
200
220
240
270
300
330
360
390
430
470
510
560
620
680
750
820
910

PART NUMBERING SYSTEM (E-24 VALUES)

NRCE12 J 1R3 TR F 10

NRCE12: Series and Size
 J: Tolerance Code: M=20%, K=10%, J=5%, G=2%, F=1%
 1R3: Resistance Code: First 2 figures are significant, 3rd digit is the multiplier, "R" indicates a decimal point.
 TR: Tape & Reel Packaging
 F: Pb-free/RoHS compliant
 10: Optional 10,000 Piece Reel