

## FEATURES

- **EXTENDED VALUE RANGE** (47MΩ ~ 4.7GΩ) & **PRECISION TOLERANCES**
- EIA STANDARD SIZING 0603, 0805 and 1206
- 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**  
includes all homogeneous materials

\*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
NRCE06	0603	1/16 (0.063) W	50V	100V	±10%(K), ±20%(M)	±500	47MΩ ~ 1GΩ	E-12	-55°C ~ +125°C
NRCE10	0805	1/10 (0.10) W	150V	300V	±10%(K), ±20%(M)	±500	47MΩ ~ 1GΩ		
NRCE12	1206	1/8 (0.125) W	200V	400V	±10%(K), ±20%(M)	±1500	1.2GΩ ~ 4.7GΩ		
						±500	47MΩ ~ 1GΩ		
						±1500	1.2GΩ ~ 4.7GΩ		

Note \*1 - Maximum allowable continuous Working Voltage for all resistors is the lower of the two values: "Maximum Working Voltage" as specified above (or)

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

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

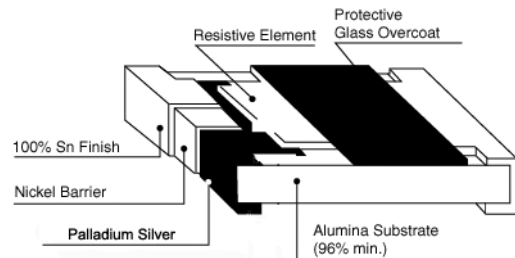
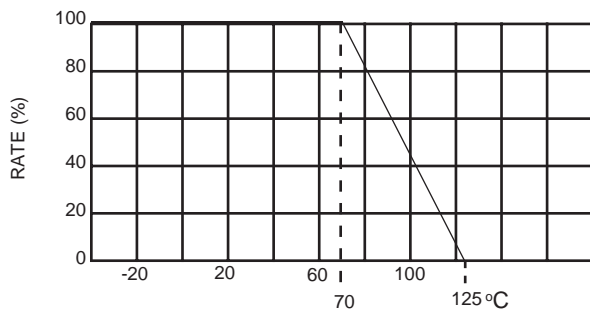
Please note, NIC's NRCE series products are capable of meeting the following specifications: JIS-C 5202, EIAJ RC-2690, EIA575, EIA PDP-100, MIL-R-5542D and UL94V-0.

### PART NUMBER SYSTEM (E-24 VALUES)

NRCE12 K 476 TR 10 E

- NRCE12: Series and Size
- K: Tolerance Code: M=20%, K=10%
- 476: Resistance Code: First 2 figures are significant, 3rd digit is the multiplier, "R" indicates a decimal point.
- TR: Tape & Reel Packaging
- 10: Optional 10,000 Piece reel
- E: RoHS Compliant

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



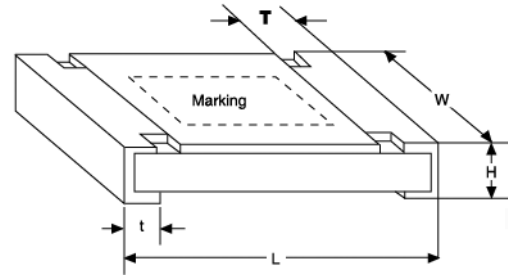
### CONSTRUCTION

\*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	1.60 ± 0.15	0.80 ± 0.15	0.45 ± 0.10	0.30 ± 0.20	0.30 ± 0.20
NRCE10	0805	2.00 ± 0.20	1.25 ± 0.10	0.50 ± 0.10	0.40 ± 0.20	0.40 ± 0.20
NRCE12	1206	3.10 ± 0.15	1.55 ± 0.15	0.55 ± 0.10	0.50 ± 0.25	0.50 ± 0.30

Note: For details on construction see the NRC Series data sheet



### Marking

**E-12 Series:** Tolerances are ±20% (M), ±10% (K).

**3 DIGIT SYSTEM** - First 2 digits are significant and 3rd digit is multiplier.

Examples: 686 = 68Meg ohms, 827 = 820Meg ohms, 108 = 1Gig ohms

### STANDARD E-12 VALUES

E-12 Value
10
12
15
18
22
27
33
39
47
56
68
82
91

See NRC Series for tape and reel specification