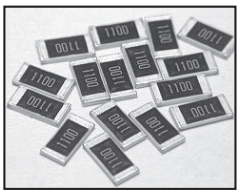
NRCE Series

Thick Film Chip Resistors

ROHS/REACH COMPLIANT HALOGEN FREE

COMPONENTS
Performance Passives By Design

FEATURES



- **EXTENDED VALUE RANGE** (47MΩ ~ 4.7GΩ)
- 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 CONTRUCTION 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

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		
						±1500	1.2GΩ ~ 4.7GΩ		
NRCE12	1206	1/8 (0.125) W	200V	400V	±10%(K), ±20%(M)	±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)

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

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

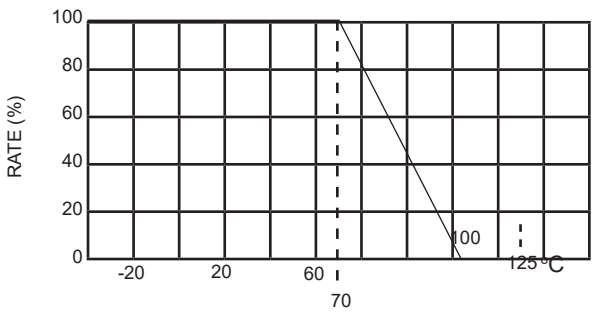
Please note, NIC's NRCE series products are capable of meeting the following specifications: JIS-C 5202, EIAJ RC-2690, EIA575, EIA PDP-100, MIL-R-5542D and UL94V-0.

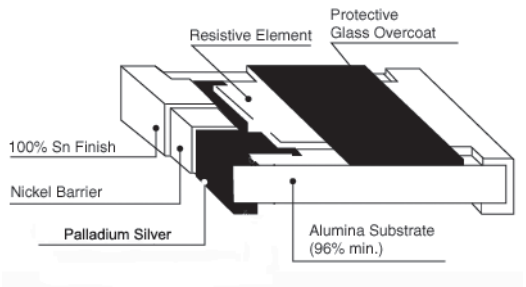
PART NUMBER SYSTEM (E-12 VALUES)

NRCE12 K 476 TR 10 F

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

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

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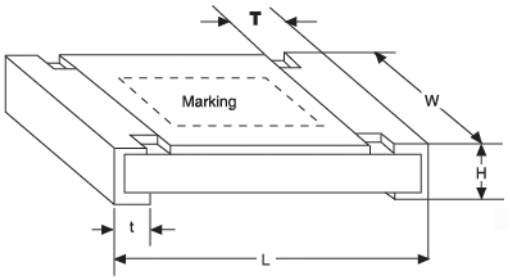
DIMENSIONS (mm)

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

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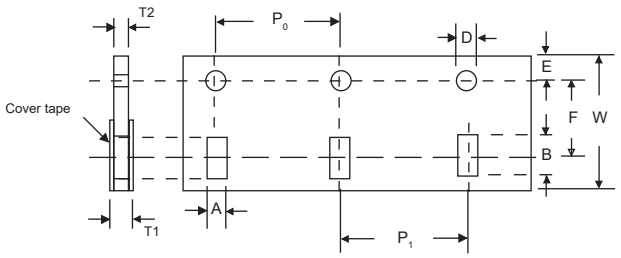
TAPING SPECIFICATIONS

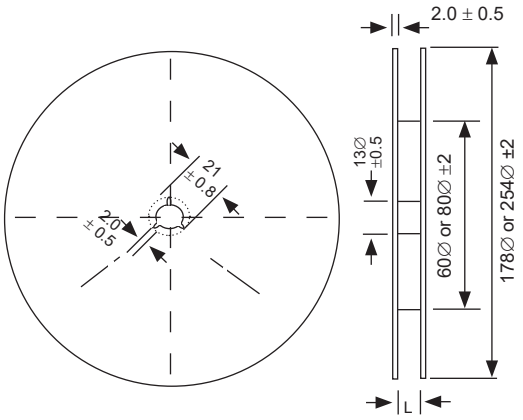
Type	Power Rating	EIA Size	Carrier Tape			Qty per 7" Reel	Qty per 10" Reel
			Fig.	Material	Width (mm)		
NRC06	1/16W	0603	A	Paper	8	5,000	10,000
NRC10	1/10W	0805	A	Paper	8	5,000	10,000
NRC12	1/8W	1206	A	Paper	8	5,000	10.000

CARRIER DIMENSIONS (mm)

Type	EIA Size	A	B	D	E	F	P_o	P_1	T_1	T_2	W
NRC06	0603	1.135 ± 0.05	1.95 ± 0.05	1.5 + 0.1	1.75 ± 0.1	3.5 ± 0.05	4.0 ± 0.1	4.0 ± 0.05	1.1 max.	1.0 max.	8.0 ± 0.2
NRC10	0805	1.65 ±0.2	2.4 ±0.2								
NRC12	1206	2.0 ±0.2	3.6 ±0.2								



REEL SPECIFICATIONS



1. Leader tape : Approximately 250 m/m leader shall be provided at each end of the tape.

2. Accumulative tolerance of feeding hole and chip pocket shall not exceed 0.2mm over 10 pitches.

Type	EIA Size	L (mm)
NRC06	0603	10.0 ±1.5
NRC10	0805	10.0 ±1.5
NRC12	1206	10.0 ±1.5