

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



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	
		1/8 (0.125) W			±1%(F) ±5%(J)	±200	0.2Ω ~ 10Ω	E24	
NRCE12	1206	1/8 (0.125) W	200V	400V	±10%(K) ±20%(M)	±500	43MΩ ~ 1GΩ	E24	
					±10%(K) ±20%(M)	±1500	1.2GΩ ~ 4.7GΩ	E24	
		1/4 (0.25) W			±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	
NRCE50	2010	3/4 (.75) W	200V	400V	±2%(G) ±5%(J)	±200	0.1 ~ 0.18	E24	
					±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	

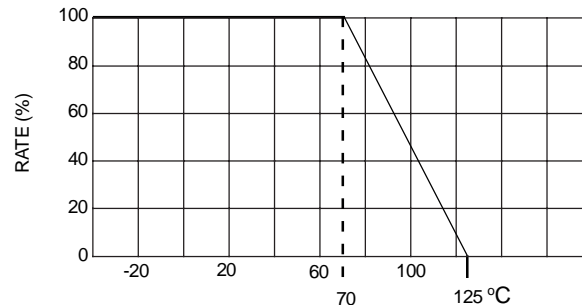
Note *1 - Maximum allowable continuous Working Voltage for all resistors is the lower of the two values: "Maximum Working Voltage" as specified above (or)

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

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.

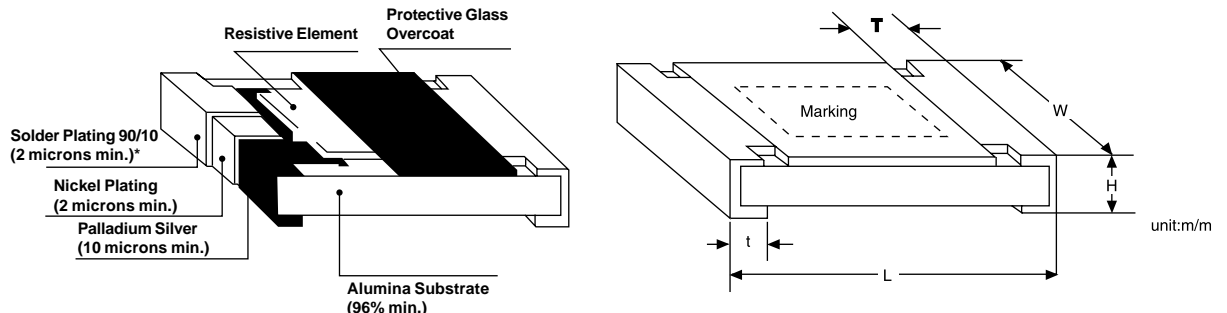
Power Derating Curve: For operation above 70°C, power rating must be derated according to the following chart:



DIMENSIONS (mm)

Type	Power Rating	EIA Size	L	W	H	T	t
NRCE06	See Specifications Table	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

CONSTRUCTION



*Note: Lead Free terminations also available. See part numbering system (page 5) for ordering instructions



Marking

1. For **E-12 & E-24** Series ($\pm 5\%$ -J, (STD), $\pm 2\%$ -G, (OPT.), Tolerances In 0603, 0805, 1206, 1210, 2010 and 2512 sizes:

3 DIGIT SYSTEM - First 2 digits are significant and 3rd digit is multiplier, "R" indicates decimal on values under 10 Ω

Examples: R10 = .10 ohms 1R0 = 1.0 ohms 102 = 1k ohms 470 = 47 ohms
 103 = 10k ohms 101 = 100 ohms 104 = 100k ohms 105 = 1 megohms

Note: Values below 0.1 ohm use a 4 digit marking code (ex. 0.047 Ω = R047)

2. For **E-96** Series ($\pm 1\%$ - F Tolerance) in 0805, 1206 and 1210 sizes:

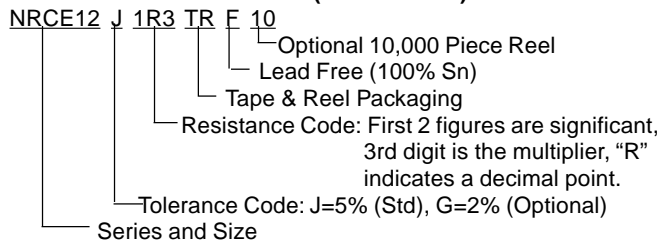
4 DIGIT SYSTEM - First 3 digits are significant and 4th digit is multiplier, "R" indicates decimal on values under 100 Ω

Examples: 0R10 = .10 ohms 1R00 = 1.0 ohms 10R0 = 10 ohms 1003 = 100 kohms
 1000 = 100 ohms 1004 = 1 megohms 1001 = 1k ohms
 1052 = 10.5k ohms 1002 = 10k ohms 2213 = 221k ohms

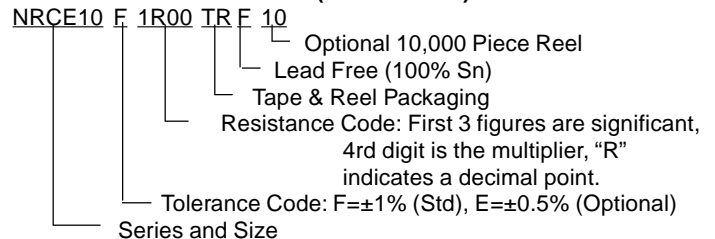
STANDARD E-12, E-24, E-96 VALUES

E-12	E-24	E-96			
	Value	Value	Value	Value	Value
10	100	100	102	105	107
12	110	110	113	115	118
15	120	121	124	127	130
18	130	133	137	140	143
22	150	147	150	154	158
27	160	162	165	169	174
33	180	178	182	187	191
39	200	196	200	205	210
47	220	215	221	226	232
56	240	237	243	249	255
68	270	261	267	274	280
82	300	287	294	301	309
91	330	316	324	332	340
	360	348	357	365	374
	390	383	392	402	412
	430	422	432	442	453
	470	464	475	487	499
	510	511	523	536	549
	560	562	576	590	604
	620	619	634	649	665
	680	681	698	715	732
	750	750	768	787	806
	820	825	845	866	887
	910	909	931	953	976

PART NUMBERING SYSTEM (E-24 VALUES)



PART NUMBERING SYSTEM (E-96 VALUES)



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