NIC COMPONENTS CORP.
70 Maxess Road • Melville, New York 11747
(631) 396-7500 • Fax (631) 396-7575

6/4/99

PART MARKING GUIDE

PRODUCTS: SMT THICK FILM CHIP RESISTORS AND ARRAYS
SERIES: NRC AND NRSN

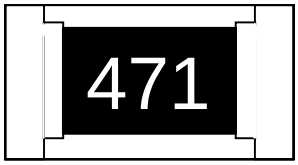
Please be advised NIC Component NRC series of thick film chip resistors are marked with three digit (for E-24 5% tolerance values) or four digits (for E-96 1% tolerance values) resistance value marking codes. This marking is in compliance with EIA-575, the standard for chip resistors. Section 1.2.3 "Resistance", of the EIA standard, details the coding of the 3 and 4 digit marking codes. Table III shows designation 3-digit and 4-digit codes covering resistance values from 0.1ohm to 10 Meg-ohm. Table IV identifies the industry standard 1% (F) and 5% (J) tolerance values. Unfortunately Table IV contains several typographical errors, so please refer to the attached NIC Standard Resistance Values table for correct resistance values.

COMPONENT MARKING:

Please note the following marking systems are used on all **0603** (5% tolerance) **and larger sizes** (1% and 5% tolerance) chip resistor products.

Marking is white lettering on black.

E24 Values (±5% tolerance)

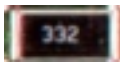


3 digit (±5% tolerance part)
470Ω example shown

3-digit codes (5% tolerances) breakdown as follows:

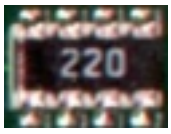
- First and Second digits identify the resistance value.
- The Third digit indicates the number of zeros.
- "R" is used as decimal point on values below 10 ohms.

Examples: 1.5 ohm = "1R5", 33 ohm = "330", 470 ohm = "471" code, 1200 ohm = "122" code, 10,000 ohm = "103", 560,000 ohm = "564" and 1,000,000 ohm = "105"



"332" = 3300Ω

"220" = 22Ω



"220" = 22Ω
8 TERMINAL
4 ELEMENT
RESISTOR ARRAY

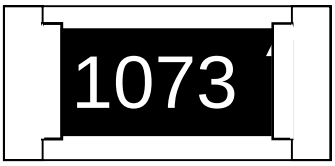
"102" = 1000Ω
10 TERMINAL
8 ELEMENT
RESISTOR ARRAY

NIC COMPONENTS CORP.
70 Maxess Road • Melville, New York 11747
(631) 396-7500 • Fax (631) 396-7575

6/4/99

Part Marking continued…

E96 Values (**±**1% tolerance)



4 digit (±1% tolerance part)
107,000Ω example shown.

4-digit codes (1% tolerances) breakdown as follows:

- First, Second and Third digits identify the resistance value.
- The Fourth digit indicates the number of zeros.
- "R" is used as decimal point on values below 100 ohms.

Examples: 1.15 ohm = "1R15", 33.2 ohm = "33R2", 475 ohm = "4750" code, 1270 ohm = "1271" code, 10,500 ohm = "1052", 562,000 ohm = "5623" and 1,000,000 ohm = "1004"

"1003" = 100,000Ω

***Special Cases*:** Non-standard value ±1% (F) tolerance chip resistors.

Please be advise ±1% (F) tolerance chip resistors supplied in the following *non-standard* E96 values **will be marked with 3-digit codes**:

1. **E24** (±5% tolerance) values:
   120,160,180,220,240,270,300,330,360,390,430,470,510,560,620,680,820 and 910.

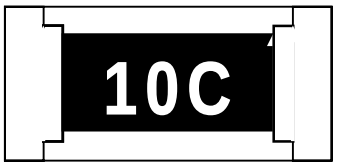
2. Values **above 1 MegΩ**and **below 10Ω**.

For example:

- P/N: NRC10F1005TR (10 MegΩ±1%) is a special value and is supplied marked with 3-digit code; "**106**".
- P/N: NRC12F4702TR (47KΩ±1%) is a standard E24 value in special ±1% (F) tolerance and is supplied marked with 3-digit code; "**473**".

0603 SIZE E96 (±1% TOLERANCE):
Due to limited space special 3-digit codes, per JIS-C-5201 (see example below), are used for 0603 size (±1% tolerance) parts.

"**07**" is code for "115" value
"**B**" is code for 10^1 multiplier
"**07B**" is marking code for **1150Ω**



"**10**" is JIS C 5201 code for "124" value
"**C**" is JIS C 5201 code for 10^2 multiplier
"**10C**" is marking code for **12,400Ω**

0402 SIZE PARTS: 0402 size parts are too small to resistance value mark

NIC COMPONENTS CORP.
70 Maxess Road • Melville, New York 11747
(631) 396-7500 • Fax (631) 396-7575

6/4/99

Part Marking continued…

Standard Resistance Values
(PER EIA-575 & RS 460)

E12	E24	E96		
10	**10**	**10.0**	21.5	46.4
12	**11**	10.2	22.1	47.5
15	**12**	10.5	22.6	48.7
18	**13**	10.7	23.2	49.9
22	**15**	**11.0**	23.7	51.1
27	**16**	11.3	2.43	52.3
33	**18**	11.5	24.9	53.6
39	**20**	11.8	25.5	54.9
47	**22**	12.1	26.1	56.2
56	**24**	12.4	26.7	57.6
68	**27**	12.7	27.4	59.0
82	**30**	**13.0**	28.0	60.4
91	**33**	13.3	28.7	61.9
	36	13.7	29.4	63.4
	39	14.0	30.1	64.9
	43	14.3	30.9	66.5
	47	14.7	31.6	68.1
	51	**15.0**	32.4	69.8
	56	15.4	33.2	71.5
	62	15.8	34.0	73.2
	68	16.2	34.8	**75.0**
	75	16.5	35.7	76.8
	82	16.9	36.5	78.7
	91	17.4	37.4	80.6
		17.8	38.3	82.5
		18.2	39.2	84.5
		18.7	40.2	86.6
		19.1	41.2	88.7
		19.6	42.2	90.9
		20.0	43.2	93.1
		20.5	44.2	95.3
		21.0	45.3	97.6