

FEATURES

- NEGATIVE TEMPERATURE COEFFICIENT
- FAST RESPONSE TO TEMPERATURE VARIATIONS MAKE THEM IDEALLY SUITED FOR TEMPERATURE SENSORS AND COMPENSATORS
- STANDARD EIA 0201, 0402, 0603 AND 0805 SIZES
- NICKEL BARRIER SOLDER PLATE TERMINATIONS
- TAPE AND REEL FOR AUTOMATIC MOUNTING

**RoHS
Compliant**

*See Part Number System for Details

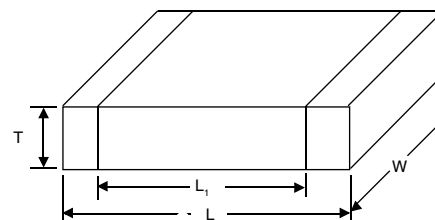
CHARACTERISTICS

Series	NTHC02	NTHC04	NTHC06	NTHC08
EIA Size	0201	0402	0603	0805
Resistance Range (+25°C)*	25 ohm ~ 2K ohm	1000 ohm ~ 2Megohm	30 ohm ~ 150Kohm	40 ohm ~ 2Megohm
Resistance Tolerance (+25°C)*	5% (J), 10% (K)	5% (J), 10% (K)	5% (J), 10% (K)	5% (J), 10% (K)***
Operating Temperature Range	-40°C ~ +100°C	-40°C ~ +125°C	-40°C ~ +125°C	-40°C ~ +125°C
Storage Temperature Range	-40°C ~ +100°C	-40°C ~ +125°C	-40°C ~ +125°C	-40°C ~ +125°C
Maximum Power Rating**	110mW	250mW	300mW	500mW
Dissipation Constant	1.5mW/°C	2.4mW/°C	3.0mW/°C	5.0mW/°C
Beta Value Range (+25°C ~ +50°C)	2750 ~ 4100	3110 ~ 4950	2150 ~ 4100	2300 ~ 5000
Beta Value Tolerance	±3% (H)	±3% (H) ±5% (J)	±3% (H) ±5% (J) (values ≥ 100Ω)	±3% (H) ±5% (J) (values ≥ 100Ω)***

*See Standard Products Table **Test Method per JIS-C2571 ***Special 1% (F) tolerance available. Contact NIC for Details.

DIMENSIONS (mm)

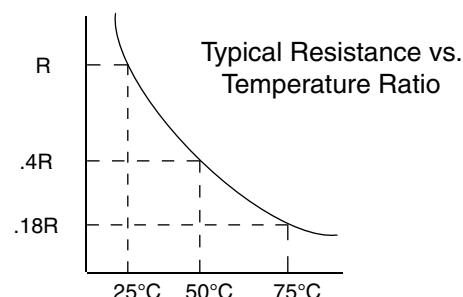
Series	EIA Size	L	W	T max.	L1 min.
NTHC02	0201	0.6 ± 0.04	0.30 ± 0.04	0.34	0.10
NTHC04	0402	1.0 ± 0.15	0.50 ± 0.10	0.55	0.20
NTHC06	0603	1.6 ± 0.15	0.80 ± 0.15	0.95	0.30
NTHC08	0805	2.0 ± 0.20	1.25 ± 0.20	1.25	0.40



PART NUMBER SYSTEM

NTHC08 3H J 103 K TR F

- Series: NTHC02, NTHC04, NTHC06, NTHC08
- Beta Value Code (See Standard Products Table)
- Beta Value Tolerance: J=±5%, H=±3%
- Resistance Value Code (See Standard Products Table)
- Resistance Tolerance: K=±10%, J=±5%
- Packaging, TR: Tape and Reel
- Pb-Free/RoHS compliant



NIC Applications Bulletin #NTHC-002 contains resistance over temperature information. Contact NIC or download information at www.niccomp.com

New! 0201 Case Size

Resistance (+25°C)		Type: NTHC02 Size: 0201		
Value (OHMS)	Code	Beta		TC
25	250	Value	Code	%/°C
30	300	2750	2S	-3.07
40	400	2750	2S	-3.07
1K	102	2750	2S	-3.07
1.5K	152	4100	4C	-4.58
2K	202	4100	4C	-4.58

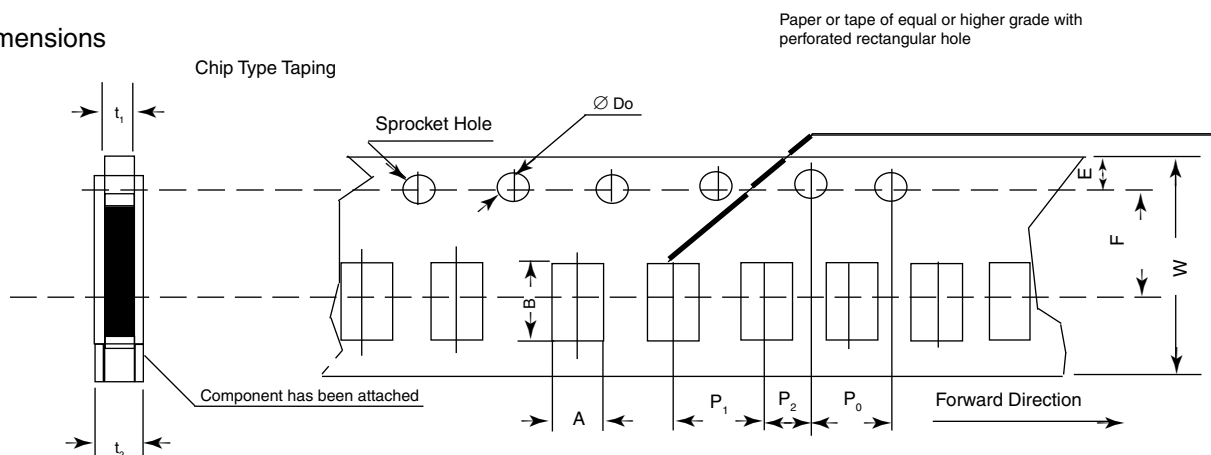
STANDARD PRODUCTS TABLE

Resistance (+25°C)		Type: NTHC04			Type: NTHC06			Type: NTHC08		
		Size: 0402			Size: 0603			Size: 0805		
		Beta**		TC*	Beta**		TC*	Beta**		TC*
Value (OHM)	Code	Value	Code	%/°C	Value	Code	%/°C	Value	Code	%/°C
30	300	n/a	n/a	n/a	2150	2D	-2.40	n/a	n/a	n/a
40	400	n/a	n/a	n/a	2200	2E	-2.46	2300	2G	-2.57
40	400	n/a	n/a	n/a	2750	2S	-3.07	n/a	n/a	n/a
50	500	n/a	n/a	n/a	2250	2F	-2.51	2400	2I	-2.68
50	500	n/a	n/a	n/a	2750	2S	-3.07	n/a	n/a	n/a
56	560	n/a	n/a	n/a	n/a	n/a	n/a	2400	2I	-2.68
68	680	n/a	n/a	n/a	2350	2H	-2.63	2650	2N	-2.96
82	820	n/a	n/a	n/a	2700	2R	-3.02	n/a	n/a	n/a
100	101	n/a	n/a	n/a	2700	2R	-3.02	2750	2S	-3.07
120	121	n/a	n/a	n/a	2750	2S	-3.07	n/a	n/a	n/a
150	151	n/a	n/a	n/a	2800	2T	-3.13	2800	2T	3.13
180	181	n/a	n/a	n/a	2900	2V	-3.24	n/a	n/a	n/a
220	221	n/a	n/a	n/a	2900	2V	-3.24	2900	2V	-3.24
330	331	n/a	n/a	n/a	3000	3A	-3.35	3000	3A	-3.35
470	471	n/a	n/a	n/a	3100	3C	-3.46	3100	3C	-3.46
680	681	n/a	n/a	n/a	3150	3D	-3.52	3200	3E	-3.58
820	821	n/a	n/a	n/a	3250	3F	-3.63	n/a	n/a	n/a
1K	102	3110	3C	-3.48	3250	3F	-3.63	3200	3E	-3.58
1.2K	122	n/a	n/a	n/a	3400	3I	-3.80	n/a	n/a	n/a
1.5K	152	3200	3E	-3.58	3400	3I	-3.83	3400	3I	-3.80
1.5K	152	n/a	n/a	n/a	3900	3V	-4.36	n/a	n/a	n/a
1.8K	182	n/a	n/a	n/a	3900	3V	-4.36	n/a	n/a	n/a
2.0K	202	n/a	n/a	n/a	3900	3V	-4.36	3500	3K	-3.91
2.0K	202	n/a	n/a	n/a	4100	4C	-4.58	n/a	n/a	n/a
2.2K	222	3290	3G	-3.68	3500	3K	-3.91	n/a	n/a	n/a
3.0K	302	3370	3H	-3.77	4100	4C	-4.58	4100	4C	-4.58
3.3K	332	3420	3I	-3.82	3650	3N	-4.08	3750	3S	-4.19
4.7K	472	3530	3L	-3.94	3750	3S	-4.19	3950	3W	-4.41
6.8K	682	3670	3N	-4.10	3900	3V	-4.36	4100	4C	-4.58
10K	103	3820	3T	-4.27	4100	4C	-4.58	3370	3H	-3.77
10K	103	n/a	n/a	n/a	n/a	n/a	n/a	3924	3V	-4.38
15K	153	4030	4B	-4.50	3850	3U	-4.30	3650	3N	-4.08
22K	223	3900	3V	-4.36	3500	3K	-3.91	3750	3S	-4.19
30K	303	n/a	n/a	n/a	n/a	n/a	n/a	3950	3W	-4.41
33K	333	3650	3N	-4.08	3450	3J	-3.86	3800	3T	-4.25
47K	473	3400	3I	-3.80	3500	3K	-3.91	3850	3U	-4.30
68K	683	3450	3J	-3.86	3600	3M	-4.02	3650	3N	-4.08
80K	803	3500	3K	-3.91	n/a	n/a	n/a	3700	3R	-4.13
100K	104	3540	3L	-3.96	3700	3R	-4.13	4100	4C	-4.58
150K	154	3620	3M	-4.05	3750	3S	-4.19	4150	4D	-4.64
2MEG	205	4950	4W	-5.53	n/a	n/a	n/a	5000	5A	-5.59



TAPE PACKAGING (Paper Tape)

Tape Dimensions

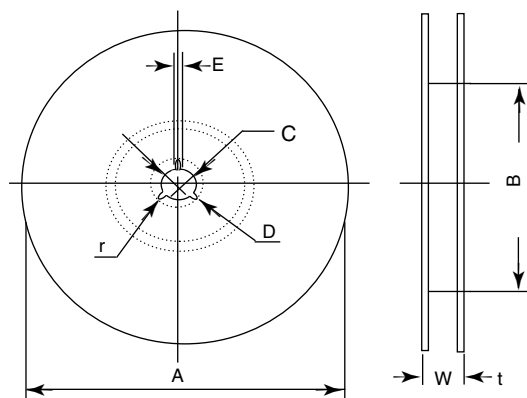


Series	EIA Size	A	B
NTHC02	0201	0.37 ± 0.08	0.67 ± 0.08
NTHC04	0402	0.62 ± 0.1	1.15 ± 0.1
NTHC06	0603	1.10 ± 0.2	1.90 ± 0.2
NTHC08	0805	1.65 ± 0.2	2.40 ± 0.2

TAPE DIMENSIONS (mm)

W	F	E	P ₁	P ₂	P ₀	D ₀	t ₁	t ₂
8.0 ± 0.03	3.5 ± 0.05	1.75 ± 0.1	4.0 ± 0.1	2.0 ± 0.05	4.0 ± 0.1	$\varnothing 1.5 \pm 0.1$	1.1 Min.	1.1 Min.

REEL



PACKAGE QUANTITY

Series	EIA Size	Quantity per Reel
NTHC02	0201	10,000
NTHC04	0402	10,000
NTHC06	0603	4,000
NTHC08	0805	4,000

REEL DIMENSIONS (mm)

A	B	C	D	E	W	t	r
$\varnothing 178 \pm 2.0$	$\varnothing 50$ Min.	$\varnothing 13.0 \pm 0.5$	$\varnothing 21.0 \pm 0.8$	2.0 ± 0.5	11.0 ± 1.5	0.8 ± 0.2	1.0

LAND PATTERN DIMENSIONS (mm)

Dim.	NTHC02 (0201)	NTHC04 (0402)	NTHC06 (0603)		NTHC08 (0805)	
	Reflow Soldering	Reflow Soldering	Flow Soldering	Reflow Soldering	Flow Soldering	Reflow Soldering
a	0.75	1.5 ~ 1.7	2.6 ~ 3.2	2.6 ~ 3.2	3.0 ~ 4.0	3.0 ~ 4.5
b	0.25	0.2 ~ 0.3	0.4 ~ 0.9	0.4 ~ 0.9	0.6 ~ 1.2	0.6 ~ 1.6
c	0.25	0.5 ~ 0.6	0.8 ~ 1.0	0.8 ~ 1.0	0.8 ~ 1.4	0.8 ~ 1.4
d	0.30	0.5 ~ 0.6	0.7 ~ 0.8	0.7 ~ 0.8	0.9 ~ 1.2	0.9 ~ 1.5

