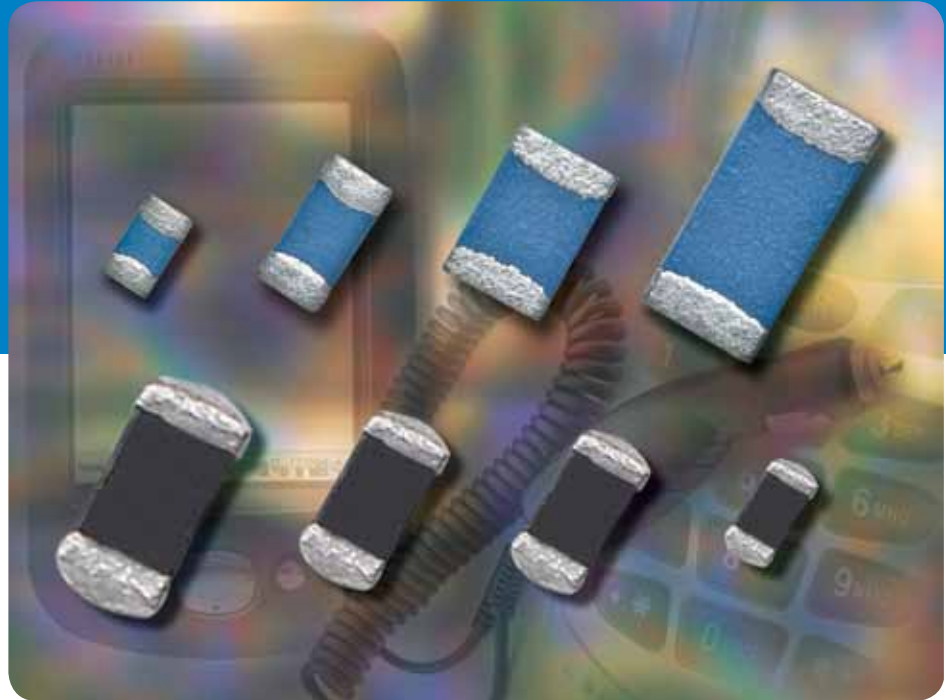




THERMISTORS – NTC SMD

NTHS and NTCS Series



NTC Thermistors, Surface-Mount Chip

KEY BENEFITS

- Nickel/tin and tin/lead terminations available
- Wraparound terminations
- Allows design flexibility for use with hybrid circuitry
- High-density monolithic construction
- Customized values available

APPLICATIONS

- Battery chargers for cell phones, laptops, PDAs, LED display compensation
- Hard disk drives

Datasheet is available on our web site at www.vishay.com
for NTHS- <http://www.vishay.com/doc?29003>
<http://www.vishay.com/doc?29056>
<http://www.vishay.com/doc?29044>

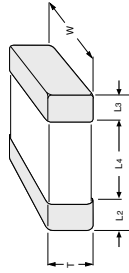
NTCS Surface Mount Thermistors

FEATURES

- Wide electrical range from Vishay BCC and Vishay Dale
- 1206 to 0402 case sizes available
- High accuracy over a wide temperature range
- Suitable for wave or reflow soldering
- NiSn terminations
- Fully glass coated
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC



DIMENSIONS in millimeters



	L1	W	T	L2 and L3 min.	L4 min	L5
NTCS0402E3****T	1.0 ± 0.15	0.5 ± 0.15	0.5 ± 0.15	0.1	0.3	0.4
NTCS0603E3****T	1.6 ± 0.15	0.8 ± 0.15	0.8 ± 0.15	0.2	0.4	0.5
NTCS0805E3****T	2.0 ± 0.2	1.25 ± 0.15	1.0 ± 0.15	0.2	0.2	0.55

PRODUCT VALUE RANGE BY CASE SIZE-VISHAY BCC NTCS SERIES

0402 SIZE			0603 SIZE			0805 SIZE		
R25 (KΩ)	R25 (KΩ)	R25 (KΩ)	R25 (KΩ)	R25 (KΩ)	R25 (KΩ)	ORDERING PART NUMBER	ORDERING PART NUMBER	ORDERING PART NUMBER
4.7	3995 ± 3%	NTCS0402E3472*MT	2	3420 ± 1%	NTCS0603E3202*LT	2.2	3600 ± 1%	NTCS0805E3222*MT
10	3490 ± 3%	NTCS0402E3109*LT	2.2	3520 ± 1%	NTCS0603E3222*MT	4.7	3500 ± 1%	NTCS0805E3472*MT
10	3950 ± 3%	NTCS0402E3103*HT	2.7	3600 ± 1%	NTCS0603E3272*MT	10	3430 ± 3%	NTCS0805E3103*LT
15	3600 ± 3%	NTCS0402E3153*MT	4.7	3830 ± 1%	NTCS0603E3472*HT	10	3670 ± 3%	NTCS0805E3103*MT
22	3590 ± 3%	NTCS0402E3223*MT	10	3430 ± 3%	NTCS0603E3103*LT	10	3940 ± 1%	NTCS0805E103*HT
33	3670 ± 3%	NTCS0402E3333*MT	10	3610 ± 1%	NTCS0603E3103*MT	15	3700 ± 1%	NTCS0805E3163*MT
47	4075 ± 3%	NTCS0402E3473*XT	10	3960 ± 1%	NTCS0603E3103*HT	22	3800 ± 1%	NTCS0805E3223*HT
66	3910 ± 3%	NTCS0402E3983*HT	15	3600 ± 1%	NTCS0603E3153*MT	33	3920 ± 1%	NTCS0805E3333*HT
100	3950 ± 3%	NTCS0402E3104*HT	22	3730 ± 1%	NTCS0603E3223*MT	47	3960 ± 1%	NTCS0805E3473*HT
			33	3960 ± 1%	NTCS0603E3333*HT	66	4100 ± 1%	NTCS0805E3983*XT
			47	3960 ± 1%	NTCS0603E3473*HT	100	3590 ± 1%	NTCS0805E3104*MT
			66	3985 ± 1%	NTCS0603E3983*HT	100	4100 ± 1%	NTCS0805E3104*XT
			100	4100 ± 1%	NTCS0603E3104*XT	330	3930 ± 1%	NTCS0805E3334*HT
						470	4025 ± 1%	NTCS0805E3474*XT
						660	4125 ± 1%	NTCS0805E3984*XT

GLOBAL PART INFORMATION FOR VISHAY BCC COMPONENTS PRODUCTS

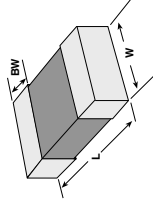
ORDER P/N (12 NC FORMAT)	615 execution	5 size & type	3 tolerance on 25	103 R25 value (ohms)
ROHS compliance	2381 = YES	5= 0805 NiSn	5= 1%	103 = 10 x 10 ³ ohms
	2322 = NO	4= 0402 Ni Sn	4= 2%	102= 10 x 10 ²
		3= 0603 Ni Sn	6= 3%	101= 10 x 10 ¹
			3= 5%	109= 10 x 10 ⁻¹
			2 = 10%	108 = 10 x 10 ⁻²
				see spec. for values

SAP P/N (NEW GLOBAL NUMBERING)	0805 execution	0805 size	E3 ROHS compliance	103 R25 value (ohms)	F tolerance on R25	M B25/85 value (K)	T packing
NTC= Negative Temperature Coefficient	S= SMD	0805	E3 NiSn	103 = 10 x 10 ³ ohms	F=1%	U: B25/85 < 3000	T: paper tape
		0603		102= 10 x 10 ²	G=2%	L: 3000-B25/85 < 3500	
		0402		101 = 10 x 10 ¹	H=3%	M: 3500-B25/85 < 3750	
				109 = 10 x 10 ⁻¹	J=5%	H: 3750-B25/85 < 4000	

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For technical questions, contact thermistor1@vishay.com

DIMENSIONS in inches



VISHAY DALE NTHS PRODUCT R 25 °C VALUE RANGE BY CURVE

CURVE	NTHS-0603	NTHS-0805	NTHS-1206	NTHS-1012	% Tolerance Availability
3	1000 - 2000	1000 - 2000	1000 - 2000	500 - 700	5%, 10%
6	2 K - 3.5 K	1.5 K - 2.8 K	1.5 K - 3.5 K	1000 - 2000	5%, 10%
2	6.8 K - 12 K	4.7 K - 10 K	4.7 K - 10 K	1.3 K - 4.3 K	3%, 5%, 10%
10	10 K - 20 K	6 K - 12 K	10 K - 20 K	4.5 K - 7 K	3%, 5%, 10%
11	22 K - 50 K	12 K - 30 K	20 K - 33 K	9 K - 13 K	3%, 5%, 10%
5	32 K - 50 K	35 K - 50 K	30 K - 44 K	15 K - 20 K	3%, 5%, 10%
1	32 K - 100 K	33 K - 100 K	32 K - 70 K	10 K - 30 K	1% to 10%
17	150 K - 200 K	100 K - 200 K	100 K - 200 K	30 K - 93 K	3%, 5%, 10%
4	200 K - 220 K	200 K - 220 K	200 K - 330 K	93 K - 140K	3%, 5%, 10%

Note: Contact factory for availability of additional values and tolerances.

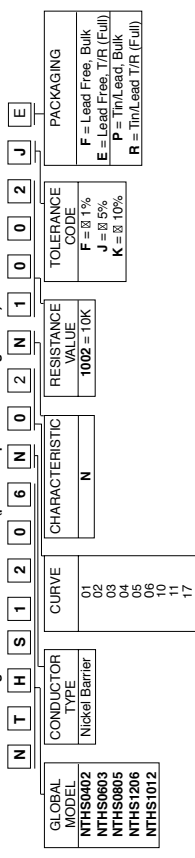
TYPICAL PRODUCT RTC CHARACTERISTICS

CURVE	1	2	3	4	5	6	10	11	17
NTC%/°C at + 25°C	-4.4	-3.83	-3.5	-4.68	-4.3	-3.6	-3.9	-4.0	-4.54
Beta + 25 °C / + 75 °C	3964	3477	3181	4247	3890	3254	3500	3700	4064

Beta Tolerance is ± 3%.

GLOBAL PART NUMBER INFORMATION

New Global Part Numbering: NTHS1206N02N1002JE (preferred part numbering format)



Build Vishay into your Design