

## NTC SMD Thermistor with Ni/Sn termination

for Automotive, Industrial and General applications

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**SpiCAT**



KYOCERA AVX Chip NTC Thermistors are high quality devices developed especially for surface mounting applications. They are widely used for temperature compensation, but can also achieve temperature control of printed circuits in a wide range of applications, including automotive, industrial and general purpose. Ni barrier/100% Sn plated termination for lead free soldering.

## Characteristics

Case Size	1206
Operating temperature	-55°C to +150°C
Resistance	180 kOhm
Tolerance on Resistance (25°C)	$\pm 20\%$
B 25/85	4220K $\pm 3\%$
Maximum dissipation at 25°C	0.24 W
Thermal dissipation factor	4 mW/°C
Thermal time constant	7 s
Termination	Ni barrier/100%Sn (for Pb free soldering)



MSL 1  
Pb Free  
260°C



AEC-Q200  
based qualification

## Dimensions

mm (inches)

Size (EIA)	Length (L)	Width (W)	Thickness (T)	Terminal (t)
1206	3.2 $\pm 0.4$	1.6 $\pm 0.25$	1.5 max	0.2 min
	(0.126 $\pm 0.016$ )	(0.063 $\pm 0.01$ )	(0.059) max	(0.008) min



## How to Order (Packaging options)

<b>NB</b>	<b>20</b>	<b>P0</b>	<b>0184</b>	<b>M</b>	<b>BE</b>
Type	Size	Material Code	Resistance (Ohm)	Tolerance	Suffix: Packaging
NB = Ni/Sn Term for lead free soldering	20 = 1206	See Datasheet	2 Sig. Digits + Number of Zeros	H = $\pm 3\%*$ J = $\pm 5\%$ K = $\pm 10\%$ M = $\pm 20\%$	BA = Plastic tape (180mm reel, 3,000 pcs/reel) BE = Plastic tape (180mm reel, 1,500 pcs/reel) BC = Plastic tape (330mm reel, 10,000 pcs/reel) -- = Bulk (5000 pcs/bag)
				* For selected PNs	

NOTICE: Specifications are subject to change without notice. All statements, information and data given herein are believed to be accurate and reliable, but are presented without guarantee or responsibility of any kind, expressed or implied. Specifications are typical and may not apply to all applications.

## Material Table

P0 (B25/85 = 4220K $\pm 3\%$ )

T (°C)	R(T) / R25	TF (%)	$\alpha$ (%/°C)
-55	121.4	24.83	-7.56
-50	83.35	21.45	-7.32
-45	57.92	18.44	-7.09
-40	40.72	15.77	-6.87
-35	28.95	13.39	-6.66
-30	20.80	11.29	-6.45
-25	15.10	9.42	-6.26
-20	11.07	7.78	-6.07
-15	8.197	6.33	-5.89
-10	6.123	5.07	-5.71
-5	4.615	3.96	-5.54
0	3.508	3.00	-5.38
5	2.688	2.18	-5.22
10	2.076	1.48	-5.07
15	1.616	0.89	-4.92
20	1.267	0.40	-4.78
25	1.000	0.00	-4.64
30	0.7949	0.38	-4.51
35	0.6359	0.82	-4.38
40	0.5120	1.31	-4.26
45	0.4148	1.84	-4.14
50	0.3379	2.40	-4.03
55	0.2769	3.00	-3.92
60	0.2281	3.63	-3.81
65	0.1890	4.28	-3.71
70	0.1573	4.96	-3.61
75	0.1316	5.66	-3.52
80	0.1106	6.38	-3.42
85	0.0934	7.11	-3.34
90	0.0792	7.86	-3.25
95	0.0674	8.62	-3.17
100	0.0577	9.39	-3.09
105	0.0495	10.16	-3.01
110	0.0427	10.95	-2.93
115	0.0369	11.74	-2.86
120	0.0320	12.53	-2.79
125	0.0279	13.33	-2.72
130	0.0244	14.13	-2.66
135	0.0214	14.93	-2.59
140	0.0188	15.73	-2.53
145	0.0166	16.53	-2.47
150	0.0147	17.33	-2.42

B25/50	B25/75	B25/85	B25/100	B Tol
4181 K	4211 K	4220 K	4232 K	$\pm 3\%$

R Min ( $\Omega$ )	R Nom ( $\Omega$ )	R Max ( $\Omega$ )
12,053,835	21,848,653	31,643,471
8,783,584	15,002,459	21,221,334
6,417,941	10,426,319	14,434,697
4,708,299	7,330,348	9,952,398
3,471,061	5,211,318	6,951,576
2,573,070	3,744,671	4,916,271
1,918,696	2,718,598	3,518,501
1,439,582	1,993,297	2,547,012
1,086,944	1,475,476	1,864,008
825,943	1,102,226	1,378,508
631,642	830,688	1,029,735
486,134	631,382	776,631
376,511	483,834	591,158
293,426	373,697	453,969
230,076	290,828	351,581
181,487	227,996	274,504
144,000	180,000	216,000
113,910	143,075	172,241
90,635	114,471	138,307
72,526	92,164	111,802
58,355	74,656	90,958
47,203	60,830	74,456
38,380	49,844	61,309
31,362	41,066	50,769
25,752	34,012	42,271
21,244	28,312	35,380
17,606	23,684	29,762
14,654	19,905	25,156
12,249	16,806	21,363
10,281	14,252	18,223
8,663.9	12,138	15,611
7,329.1	10,379	13,429
6,223.0	8,910.9	11,599
5,302.9	7,679.6	10,056
4,534.7	6,643.0	8,751.2
3,890.9	5,766.8	7,642.8
3,349.4	5,023.6	6,697.8
2,892.3	4,390.8	5,889.2
2,505.4	3,850.1	5,194.9
2,176.6	3,386.6	4,596.6
1,896.4	2,987.9	4,079.4
1,656.9	2,643.8	3,630.8