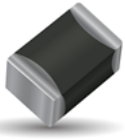


NTC SMD Thermistor with Ni/Sn termination

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	0603
Operating temperature	-55°C to +150°C
Resistance	220 kOhm
Tolerance on Resistance (25°C)	$\pm 10\%$
B 25/85	4220K $\pm 3\%$
Maximum dissipation at 25°C	0.07 W
Thermal dissipation factor	1 mW/°C
Thermal time constant	4 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)
0603	1.6 ± 0.2	0.8 ± 0.2	1.0 max	0.2 min
	(0.063 ± 0.008)	(0.031 ± 0.008)	(0.039) max	(0.008) min



How to Order (Packaging options)

NB	21	P0	0224	K	BF
Type	Size	Material Code	Resistance (Ohm)	Tolerance	Suffix: Packaging
NB = Ni/Sn Term for lead free soldering	21 = 0603	See Datasheet	2 Sig. Digits + Number of Zeros	H = $\pm 3\%*$ J = $\pm 5\%$ K = $\pm 10\%$ M = $\pm 20\%$	BB = Cardboard tape (180mm reel, 4,000 pcs/reel) BF = Cardboard tape (180mm reel, 2,000 pcs/reel) BD = Cardboard 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 (%)	α (%/°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 (Ω)	R Nom (Ω)	R Max (Ω)
17,402,856	26,703,909	36,004,962
12,569,125	18,336,339	24,103,552
9,118,478	12,743,279	16,368,080
6,650,519	8,959,315	11,268,110
4,879,347	6,369,389	7,859,431
3,602,546	4,576,820	5,551,094
2,677,345	3,322,731	3,968,117
2,003,114	2,436,252	2,869,390
1,508,823	1,803,360	2,097,896
1,144,203	1,347,165	1,550,127
873,535	1,015,285	1,157,036
671,332	771,689	872,046
519,315	591,353	663,391
404,305	456,741	509,177
316,750	355,457	394,164
249,683	278,661	307,639
198,000	220,000	242,000
156,710	174,870	193,029
124,767	139,909	155,050
99,907	112,645	125,383
80,447	91,247	102,046
65,127	74,347	83,567
53,001	60,921	68,841
43,351	50,192	57,032
35,632	41,570	47,508
29,426	34,604	39,782
24,413	28,947	33,481
20,343	24,329	28,314
17,026	20,541	24,056
14,308	17,419	20,530
12,073	14,835	17,597
10,226	12,686	15,145
8,695	10,891	13,087
7,420	9,386	11,352
6,354	8,119	9,884
5,460	7,048	8,636
4,708	6,140	7,572
4,072	5,367	6,661
3,533	4,706	5,879
3,074	4,139	5,204
2,683	3,652	4,621
2,348	3,231	4,115