

## SPECIFICATION FOR APPROVAL

CUSTOMER	
PART NO.	502FAT3375FAL0400
APPLICATION	
CUSTOMER P/N	
ISSUE DATE	October 10, 2019
REV. NO	1.0
REV. DATE	

FOR CUSTOMER APPROVAL	CHECKED BY
	APPROVED BY

### REVISED RECORD

REV. No.	REV. DATE	REVISED CONTENT
1.0	October 10, 2019	New Establish



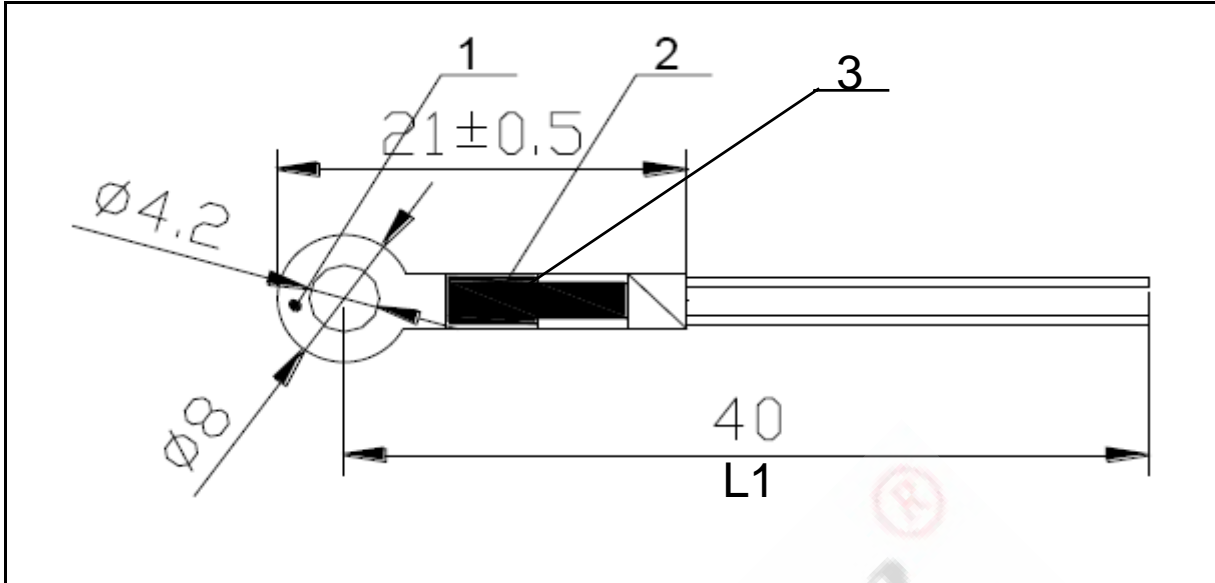
# Technical Data

**502FAT3375FAL0400**

**N T C Thermistor Specifications**

**1 Part Number** 502FAT3375FAL0400

**2 Dimensions**



No	Item	Standard	Material	Remark
1	Lug	Ø8 X Ø4.2 X 21	Brass	Tin-Plated
2	Thermistor	502F-AT-2-3375FA	Ceramic+12	SensorBase
3	Epoxy	TXH-92H-C92A/B		Black Color
L1	L1	40 ± 1.0mm		

**3 Rating**

- a) Rated zero-power resistance.  $R = 5.0K \text{ Ohm} \pm 1\% \text{ ( at } 25^{\circ}\text{C )}$
- b) B constant  $B ( 25 / 85^{\circ}\text{C} ) = 3375K \pm 1\%$   
The B constant is calculated using the zero-power resistance values measured at 25°C and 85°C
- c) Dissipation constant : 3.5 mW / °C Min. ( at 25°C in still air )
- d) Thermal time constant : Approx. 10 sec. ( at 25°C in still air )
- e) Operating temperature : -40°C to +120°C
- f) Power consumption : 250 mW Max. ( at 25°C )
- g) Insulation Resistance : Above 100 M Ohm ( at DC 500V )
- h) Insulation Voltage : AC 10,000V ( Be endured during 1 Min. )

**4 Reliability**

- a) High Temperature Aging Test ( HTAT )  
Elements are placed in a chamber of temperature at 110°C ± 5°C for 1,000 hours.  
Drift of electric characteristics ( R<sub>25</sub>, B<sub>25/85</sub> ) after HTAT are less than ±1%.
- b) Low Temperature Aging Test ( LTAT )  
Elements are placed in an oil bath of temperature at -30°C ± 5°C for 1,000 hours.  
Drift of electric characteristics ( R<sub>25</sub>, B<sub>25/85</sub> ) after LTAT are less than ±1%.
- c) Heat Cycling Test ( HCT )  
Elements are dipped into an oil bath of temperature at -30°C for 5 minute and then dipped into another bath of temperature at 90°C for 5 minute. Drift of the characteristics ( R<sub>25</sub>, B<sub>25/85</sub> ), after 1,000 times of HCT, are less than ±1%.
- d) High Temperature Aging Test at DC 5V  
Elements are placed in atmosphere of 110°C ± 5°C at DC 5V for 1,000 hours.  
Drift of electric characteristics ( R<sub>25</sub>, B<sub>25/85</sub> ) after test are less than ±1%.



## Technical Data

### 502FAT3375FAL0400

### N T C Thermistor Specifications

#### 5 R / T table for 502FAT3375FAL0400

Temperature °C	Minimum ( KΩ )	Center ( KΩ )	Maximum ( KΩ )	Res. Tolerance (%)		Tolerance ( °C )	
				ΔR (%)	-ΔR (%)	Max	Min
-40	83.381	86.660	90.059	3.92	-3.78	0.82	-0.79
-39	79.446	82.530	85.725	3.87	-3.74	0.81	-0.78
-38	75.690	78.590	81.593	3.82	-3.69	0.80	-0.77
-37	72.114	74.840	77.662	3.77	-3.64	0.79	-0.76
-36	68.698	71.260	73.910	3.72	-3.60	0.78	-0.75
-35	65.442	67.850	70.339	3.67	-3.55	0.77	-0.74
-34	62.348	64.610	66.948	3.62	-3.50	0.76	-0.73
-33	59.395	61.520	63.714	3.57	-3.45	0.75	-0.72
-32	56.584	58.580	60.640	3.52	-3.41	0.74	-0.71
-31	53.906	55.780	57.713	3.47	-3.36	0.73	-0.70
-30	51.361	53.120	54.934	3.42	-3.31	0.72	-0.70
-29	48.948	50.600	52.303	3.36	-3.27	0.71	-0.69
-28	46.639	48.190	49.787	3.31	-3.22	0.70	-0.68
-27	44.454	45.910	47.409	3.26	-3.17	0.69	-0.67
-26	42.374	43.740	45.146	3.21	-3.12	0.68	-0.66
-25	40.388	41.670	42.989	3.16	-3.08	0.67	-0.65
-24	38.507	39.710	40.947	3.11	-3.03	0.66	-0.65
-23	36.721	37.850	39.010	3.07	-2.98	0.66	-0.64
-22	35.020	36.080	37.168	3.02	-2.94	0.65	-0.63
-21	33.405	34.400	35.421	2.97	-2.89	0.64	-0.62
-20	31.867	32.800	33.757	2.92	-2.84	0.63	-0.61
-19	30.405	31.280	32.177	2.87	-2.80	0.62	-0.61
-18	29.019	29.840	30.682	2.82	-2.75	0.84	-0.82
-17	28.056	28.840	29.643	2.79	-2.72	0.48	-0.47
-16	26.447	27.170	27.910	2.72	-2.66	0.60	-0.59
-15	25.261	25.940	26.634	2.68	-2.62	0.59	-0.58
-14	24.133	24.770	25.421	2.63	-2.57	0.58	-0.57
-13	23.052	23.650	24.261	2.58	-2.53	0.58	-0.56
-12	22.029	22.590	23.163	2.53	-2.48	0.57	-0.56
-11	21.064	21.590	22.127	2.49	-2.44	0.56	-0.55
-10	20.136	20.630	21.134	2.44	-2.39	0.55	-0.54
-9	19.257	19.720	20.192	2.40	-2.35	0.55	-0.54
-8	18.425	18.860	19.303	2.35	-2.31	0.53	-0.52
-7	17.622	18.030	18.445	2.30	-2.26	0.53	-0.52
-6	16.867	17.250	17.640	2.26	-2.22	0.53	-0.52
-5	16.151	16.510	16.875	2.21	-2.18	0.51	-0.51
-4	15.463	15.800	16.143	2.17	-2.13	0.51	-0.50
-3	14.814	15.130	15.451	2.12	-2.09	0.50	-0.49
-2	14.193	14.490	14.791	2.08	-2.05	0.49	-0.49
-1	13.602	13.880	14.163	2.04	-2.01	0.49	-0.48
0	13.039	13.300	13.565	1.99	-1.96	0.48	-0.47
1	12.505	12.750	12.999	1.95	-1.92	0.47	-0.46
2	11.990	12.220	12.453	1.91	-1.88	0.47	-0.46
3	11.504	11.720	11.938	1.86	-1.84	0.46	-0.46
4	11.048	11.250	11.455	1.82	-1.80	0.45	-0.44
5	10.600	10.790	10.982	1.78	-1.76	0.45	-0.44
6	10.182	10.360	10.540	1.74	-1.72	0.43	-0.43
7	9.778	9.945	10.114	1.70	-1.68	0.43	-0.42
8	9.394	9.551	9.709	1.66	-1.64	0.42	-0.42
9	9.028	9.175	9.323	1.61	-1.60	0.41	-0.41
10	8.678	8.816	8.955	1.57	-1.56	0.41	-0.40

R = 5.0K Ohm ± 1% ( at 25°C )

B ( 25 / 85°C ) = 3375K ± 1%

# Technical Data

**502FAT3375FAL0400**

**N T C Thermistor Specifications**

Temperature °C	Minimum ( KΩ )	Center ( KΩ )	Maximum ( KΩ )	Res. Tolerance (%)		Tolerance ( °C )	
				ΔR (%)	-ΔR (%)	Max	Min
10	8.678	8.816	8.955	1.57	-1.56	0.41	-0.40
11	8.345	8.474	8.604	1.53	-1.52	0.40	-0.39
12	8.026	8.147	8.269	1.49	-1.48	0.39	-0.39
13	7.721	7.834	7.948	1.45	-1.44	0.38	-0.38
14	7.430	7.536	7.643	1.42	-1.41	0.37	-0.37
15	7.152	7.251	7.351	1.38	-1.37	0.37	-0.36
16	6.886	6.979	7.072	1.34	-1.33	0.36	-0.36
17	6.631	6.718	6.805	1.30	-1.29	0.35	-0.35
18	6.388	6.469	6.551	1.26	-1.25	0.34	-0.34
19	6.155	6.231	6.307	1.22	-1.22	0.33	-0.33
20	5.932	6.003	6.074	1.18	-1.18	0.33	-0.33
21	5.719	5.785	5.851	1.15	-1.14	0.32	-0.32
22	5.514	5.576	5.638	1.11	-1.11	0.31	-0.31
23	5.318	5.376	5.434	1.07	-1.07	0.30	-0.30
24	5.130	5.184	5.238	1.04	-1.04	0.29	-0.29
25	4.950	5.000	5.050	1.00	-1.00	0.28	-0.28
26	4.774	4.824	4.874	1.04	-1.04	0.30	-0.30
27	4.605	4.655	4.705	1.07	-1.07	0.31	-0.31
28	4.443	4.493	4.543	1.11	-1.11	0.32	-0.32
29	4.288	4.337	4.387	1.14	-1.14	0.33	-0.33
30	4.139	4.188	4.237	1.18	-1.18	0.35	-0.34
31	3.996	4.045	4.094	1.21	-1.21	0.36	-0.35
32	3.858	3.907	3.956	1.25	-1.24	0.37	-0.37
33	3.727	3.775	3.823	1.28	-1.28	0.38	-0.38
34	3.600	3.648	3.696	1.32	-1.31	0.39	-0.39
35	3.479	3.526	3.574	1.35	-1.35	0.10	-0.10
36	3.004	3.049	3.095	1.50	-1.49	-0.19	0.18
37	3.249	3.296	3.343	1.42	-1.41	0.43	-0.43
38	3.141	3.187	3.233	1.46	-1.44	0.45	-0.44
39	3.037	3.083	3.129	1.49	-1.48	0.45	-0.45
40	2.937	2.982	3.027	1.52	-1.51	0.47	-0.46
41	2.840	2.885	2.930	1.56	-1.54	0.48	-0.48
42	2.748	2.792	2.836	1.59	-1.58	0.49	-0.49
43	2.659	2.702	2.746	1.62	-1.61	0.50	-0.50
44	2.572	2.615	2.658	1.66	-1.64	0.52	-0.52
45	2.490	2.532	2.575	1.69	-1.67	0.53	-0.52
46	2.409	2.451	2.493	1.72	-1.70	-0.15	0.15
47	2.690	2.734	2.778	1.61	-1.60	0.10	-0.10
48	2.258	2.299	2.340	1.79	-1.77	0.57	-0.56
49	2.187	2.227	2.268	1.82	-1.80	0.58	-0.57
50	2.118	2.157	2.197	1.85	-1.83	0.60	-0.59
51	2.051	2.090	2.129	1.88	-1.86	0.61	-0.60
52	1.987	2.025	2.064	1.92	-1.89	0.62	-0.61
53	1.924	1.962	2.000	1.95	-1.92	0.63	-0.62
54	1.864	1.901	1.939	1.98	-1.95	0.65	-0.64
55	1.806	1.843	1.880	2.01	-1.98	0.65	-0.64
56	1.750	1.786	1.823	2.05	-2.01	0.68	-0.67
57	1.697	1.732	1.768	2.08	-2.04	0.68	-0.67
58	1.644	1.679	1.714	2.11	-2.07	0.69	-0.68
59	1.594	1.628	1.663	2.14	-2.10	0.70	-0.69
60	1.544	1.578	1.612	2.17	-2.14	0.73	-0.72

R = 5.0K Ohm ± 1% ( at 25°C )

B ( 25 / 85°C ) = 3375K ± 1%

# Technical Data

## 502FAT3375FAL0400

## N T C Thermistor Specifications

Temperature °C	Minimum ( KΩ )	Center ( KΩ )	Maximum ( KΩ )	Res. Tolerance (%)		Tolerance ( °C )	
				ΔR (%)	-ΔR (%)	Max	Min
60	1.544	1.578	1.612	2.17	-2.14	0.73	-0.72
61	1.498	1.531	1.565	2.20	-2.16	0.70	-0.69
62	1.450	1.483	1.516	2.24	-2.20	0.77	-0.76
63	1.408	1.440	1.473	2.27	-2.22	0.76	-0.75
64	1.366	1.397	1.429	2.30	-2.25	0.76	-0.75
65	1.324	1.355	1.387	2.33	-2.28	0.77	-0.75
66	1.284	1.314	1.345	2.36	-2.31	0.79	-0.78
67	1.245	1.275	1.305	2.39	-2.34	0.80	-0.79
68	1.208	1.237	1.267	2.42	-2.37	0.83	-0.82
69	1.172	1.201	1.230	2.45	-2.40	0.82	-0.80
70	1.137	1.165	1.194	2.48	-2.43	0.85	-0.83
71	1.103	1.131	1.159	2.51	-2.46	0.86	-0.84
72	1.071	1.098	1.126	2.54	-2.49	0.85	-0.83
73	1.038	1.065	1.092	2.57	-2.52	0.88	-0.87
74	1.008	1.034	1.061	2.60	-2.55	0.90	-0.88
75	0.978	1.004	1.030	2.63	-2.58	0.91	-0.89
76	0.950	0.975	1.001	2.66	-2.61	0.92	-0.90
77	0.922	0.947	0.972	2.70	-2.63	0.93	-0.91
78	0.895	0.919	0.944	2.73	-2.66	0.95	-0.92
79	0.869	0.893	0.917	2.76	-2.69	0.96	-0.93
80	0.843	0.867	0.891	2.79	-2.72	0.97	-0.95
81	0.819	0.842	0.866	2.82	-2.75	0.99	-0.96
82	0.795	0.818	0.841	2.84	-2.78	1.00	-0.97
83	0.773	0.795	0.818	2.87	-2.80	1.02	-0.99
84	0.750	0.772	0.795	2.90	-2.83	1.03	-1.00
85	0.729	0.751	0.773	2.93	-2.86	1.04	-1.02
86	0.708	0.729	0.751	2.96	-2.89	1.05	-1.03
87	0.688	0.709	0.730	2.99	-2.92	1.08	-1.05
88	0.669	0.689	0.710	3.02	-2.94	1.09	-1.06
89	0.650	0.670	0.691	3.05	-2.97	1.10	-1.08
90	0.632	0.652	0.672	3.08	-3.00	1.12	-1.09
91	0.615	0.634	0.653	3.11	-3.02	1.14	-1.11
92	0.598	0.616	0.636	3.14	-3.05	1.16	-1.13
93	0.581	0.600	0.619	3.16	-3.08	1.17	-1.14
94	0.565	0.584	0.602	3.19	-3.10	1.19	-1.16
95	0.550	0.568	0.586	3.22	-3.13	1.21	-1.18
96	0.535	0.553	0.571	3.25	-3.16	1.24	-1.20
97	0.521	0.538	0.556	3.28	-3.18	1.25	-1.21
98	0.507	0.524	0.542	3.30	-3.21	1.27	-1.24
99	0.494	0.511	0.528	3.33	-3.23	1.30	-1.26
100	0.481	0.498	0.514	3.36	-3.26	1.33	-1.29
101	0.469	0.485	0.501	3.38	-3.28	1.35	-1.30
102	0.457	0.473	0.489	3.41	-3.31	1.37	-1.33
103	0.446	0.461	0.477	3.44	-3.33	1.40	-1.36
104	0.435	0.450	0.465	3.46	-3.36	1.43	-1.38
105	0.424	0.439	0.454	3.49	-3.38	1.46	-1.41
106	0.414	0.428	0.443	3.51	-3.40	1.49	-1.44
107	0.404	0.418	0.433	3.54	-3.43	1.51	-1.46
108	0.394	0.408	0.423	3.56	-3.45	1.56	-1.51
109	0.385	0.399	0.413	3.59	-3.47	1.59	-1.54
110	0.376	0.390	0.404	3.61	-3.49	1.64	-1.58

R = 5.0K Ohm ± 1% ( at 25°C )

B ( 25 / 85°C ) = 3375K ± 1%

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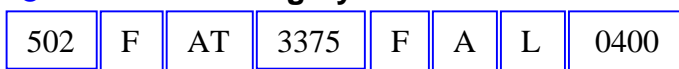
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## N T C Thermistor Specifications

Temperature °C	Minimum ( KΩ )	Center ( KΩ )	Maximum ( KΩ )	Res. Tolerance (%)		Tolerance ( °C )	
				ΔR (%)	-ΔR (%)	Max	Min
110	0.376	0.390	0.404	3.61	-3.49	1.64	-1.58
111	0.368	0.381	0.395	3.63	-3.52	1.69	-1.63
112	0.360	0.373	0.387	3.66	-3.54	1.73	-1.67
113	0.352	0.365	0.379	3.68	-3.56	1.77	-1.71
114	0.345	0.358	0.371	3.70	-3.58	1.81	-1.75
115	0.338	0.350	0.363	3.72	-3.60	1.89	-1.83
116	0.331	0.344	0.356	3.74	-3.62	1.95	-1.88
117	0.325	0.337	0.350	3.76	-3.63	2.04	-1.98
118	0.319	0.331	0.343	3.78	-3.65	2.08	-2.01
119	0.313	0.325	0.337	3.80	-3.67	2.16	-2.09
120	0.307	0.319	0.331	3.82	-3.69	2.21	-2.15

### 6 Part Numbering System



- Wire Length Code ( 0400 = 40mm )
- Lug Code
- B Value Calculation Method  
A=25°C/85°C, B=25°C/50°C
- B Value Tolerance Code
- B Value Code
- AT Series Code
- Resistance Tolerance at 25°C
- Resistance Code

\* All coding please see Coding page

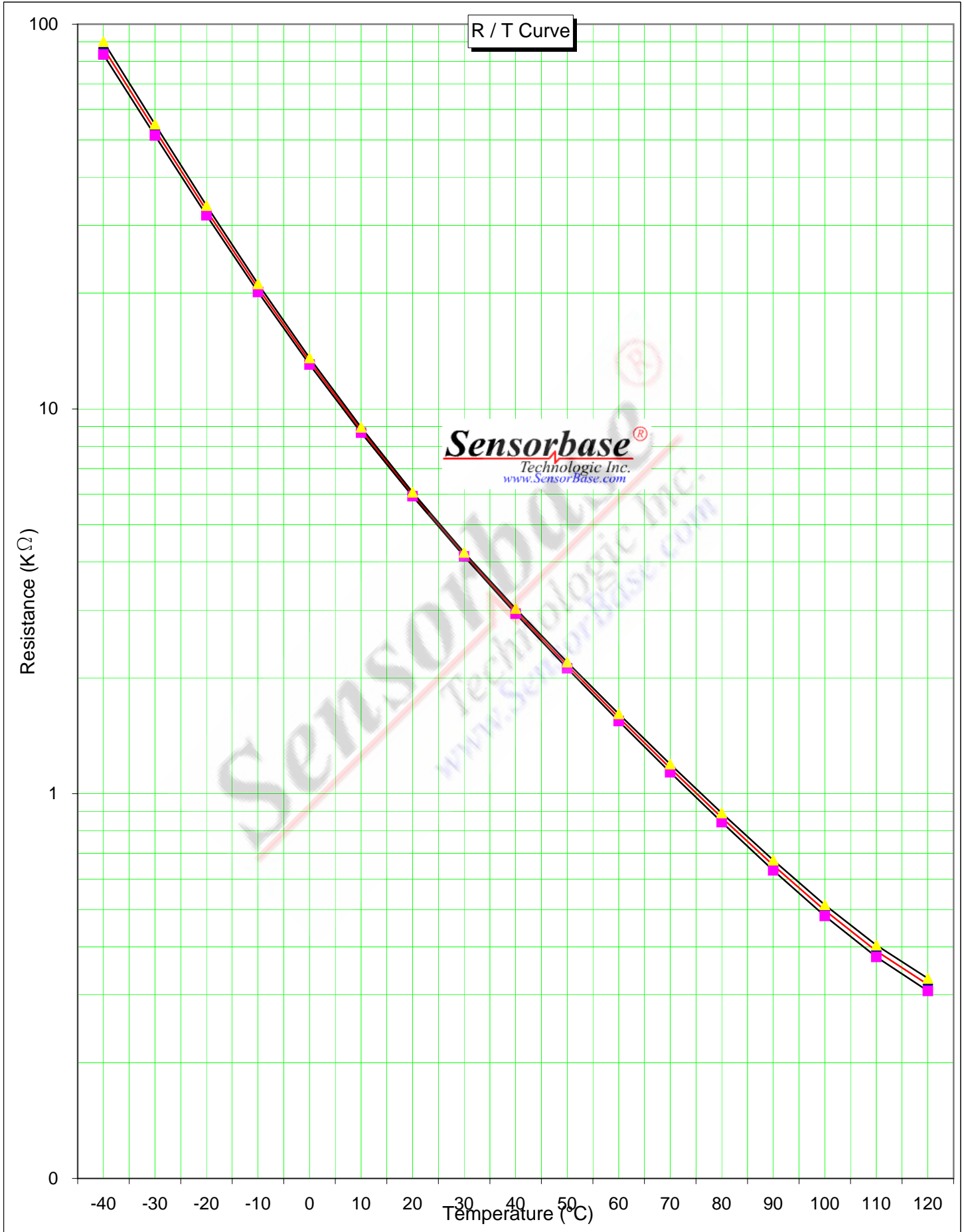
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 B ( 25 / 85°C ) = 3375K ± 1%

# Technical Data

502FAT3375FAL0400

N T C Thermistor Specifications

## 7 R / T Curve



R = 5.0K Ohm  $\pm$  1% ( at 25°C )

B ( 25 / 85°C ) = 3375K  $\pm$  1%

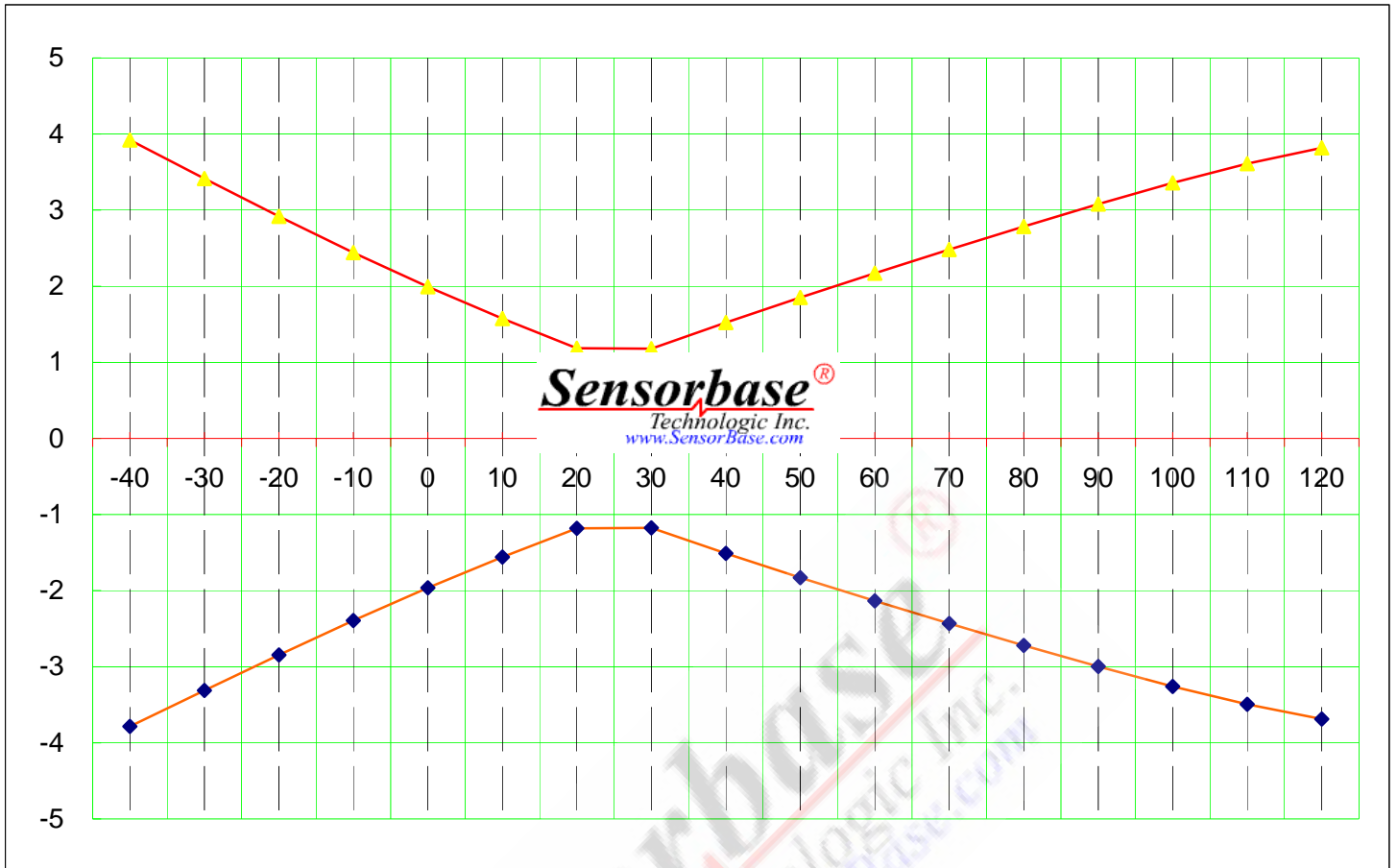
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# Technical Data

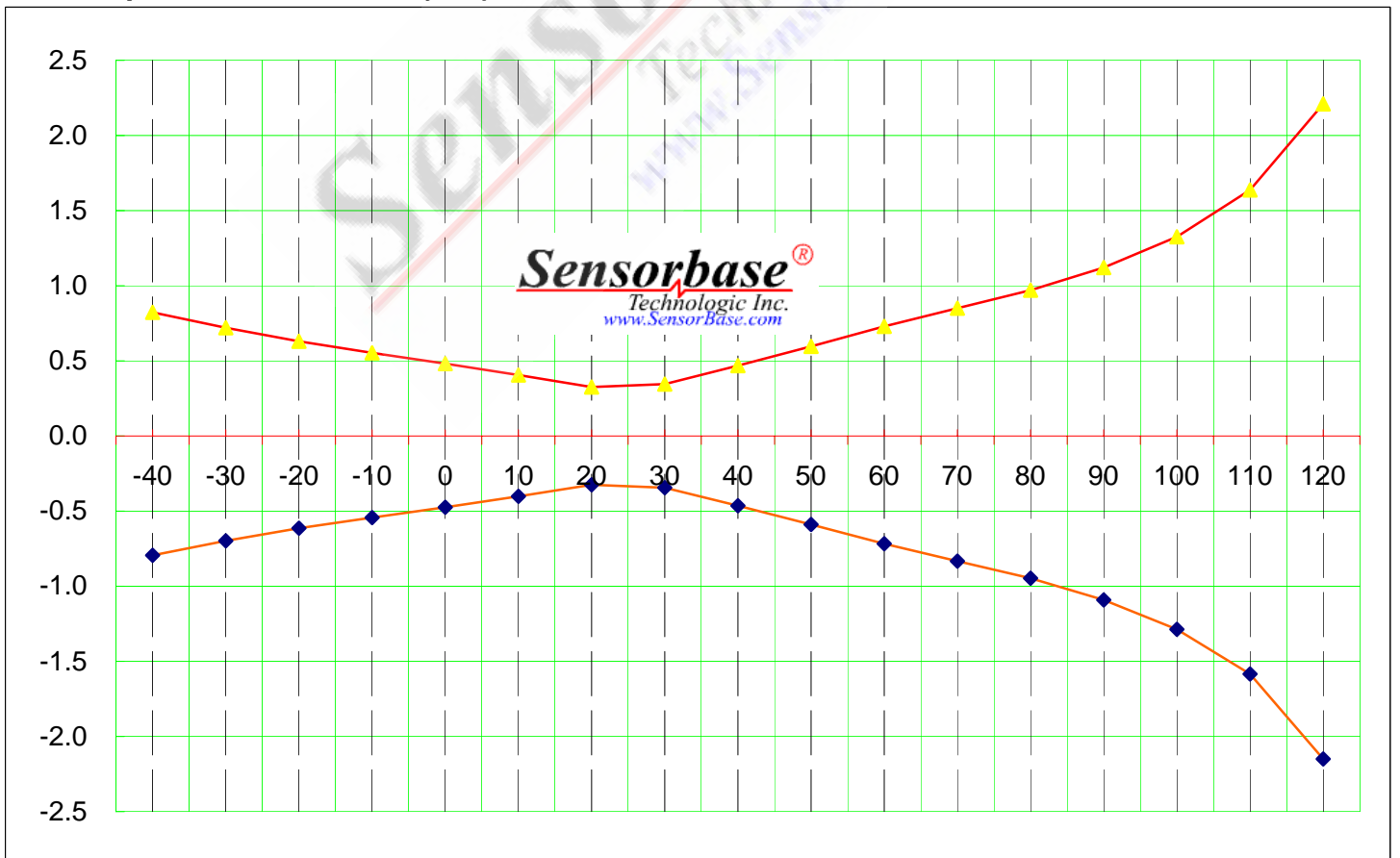
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N T C Thermistor Specifications

## 8 Resistance Tolerance ( % )



## 9 Temperature Tolerance ( °C )



R = 5.0K Ohm  $\pm$  1% ( at 25°C )

B ( 25 / 85°C ) = 3375K  $\pm$  1%

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