



MEAS HD DO-35 SERIES THERMISTOR 10K BETA ^{25/85} 3450

- High Stability DO-35 Thermistor
- Highly Density (HD) electroceramic thermistor
- Hermetically sealed elements, glass encapsulation
- Axial Leads for PCB mounting
- High temperature devices for applications up to +300°C
- RoHS Compliant
- Copper clad steel (CCS Wire)

Features

- Hermetically sealed glass package
- Proven Stability at elevated temperatures
- High temperature capability to +300°C
- 24 AWG Nickel Plated CCS Wire
- Cost effective for high volume applications
- Temp range (Nickel plated) -40°C to +300 °C
- Temp range (Tinned) -40 °C to +200 °C

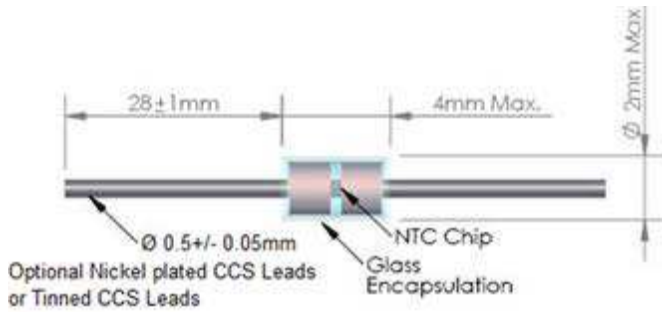
Applications

- HVAC and refrigeration probe assemblies
- High humidity due to glass protection
- Consumer electronics
- PCB temperature sensing
- Air conditioning

TE has recently developed new advanced ceramic processing techniques and proprietary formulations for the manufacture of high-stability electroceramic thermistor materials. These materials are now used in a select range of DO-35 thermistor sensor components. The newly developed high-density thermistor chip is hermetically sealed in a glass (DO-35 diode style) package to provide protection where high humidity is present and long-term performance is required.

MEAS NTC DO-35 THERMISTOR 10K BETA_{25/85} 3450

Dimensions



Electrical Specifications

PARAMETERS	UNITS	VALUE
Resistance @ +25°C	Ohms	10,000
Resistance tolerance @ +25°C	%	± 1
Beta Value 25/85	K	3450
Tolerance on Beta Value 25/85	%	± 1
Time response in liquid	Seconds	Approx.2
Dissipation Constant in still air	mW/°C	1.9
Operating Temperature (Nickel plated CCS Leads)	°C	-40 to +300
Operating Temperature (Tinned CCS Leads)	°C	-40 to +200
Max' Permissible Current (25°C, Still Air)	A max	0.25mA
Max' Power Rating (25°C, Still Air)	P max	110 mW

General Test

TEST ITEM	PERFORMANCE REQUIREMENTS	TEST CONDITION
A. Appearance	No Cracking	Visual examination
B. Dimension	Dimension tolerances	Caliper, Micrometer
C. Resistance (R25)	10K±1%	At zero power, 25°C
D. Beta Value	B25/85=3450K±1%	B= $\frac{\ln R25 - \ln R85}{1/298.15 - 1/358.15}$
		R25=Resistance at 25.0±0.1°C
		R85=Resistance at 85.0±0.1°C
E. Thermal time constant (τ)	Approx.2 sec	Measured in stirred water
F. Thermal Dissipation Constant (δ)	Approx.1.9m W/°C	Measured in still air, normal temp

Reliability

TEST ITEM	TEST METHODS	CRITERIA
A. Low temperature storage	After placing a thermistor in -40°C±3°C for 1000 hours, keep it in normal temperature and humidity for one hour.	$\Delta R/R \leq 2\%$ $\Delta B/B \leq 1\%$
B. High temperature storage	Tinned Version: After placing a thermistor in 200°C±3°C for 1000 hours, keep it in normal temperature and humidity for one hour.	$\Delta R/R \leq 2\%$ $\Delta B/B \leq 1\%$
	Nickel Plated Version: After placing a thermistor in 300°C±3°C for 1000 hours, keep it in normal temperature and humidity for one hour.	$\Delta R/R \leq 3\%$ $\Delta B/B \leq 2\%$
C. Thermal cycle test	After 100 cycles test under the conditions as shown below, keep the thermistor in normal temperature and humidity for one hour.	$\Delta R/R \leq 2\%$ $\Delta B/B \leq 1\%$
<p>The diagram illustrates the thermal cycle test waveform. It features three horizontal lines representing temperature levels: 80°C±3°C (in air) at the top, Normal temp (in air) in the middle, and -20°C±3°C (in air) at the bottom. The waveform shows a sequence of temperature steps: a 30-minute dwell at 80°C, a 15-minute dwell at Normal temp, a 30-minute dwell at -20°C, and a 15-minute dwell at Normal temp. This sequence is repeated for two cycles. Arrows at the bottom indicate the duration of each dwell and the total duration of one and two cycles.</p>		
D. Humidity test	After placing a thermistor in 40°C±2°C, 90~95%RH, for 1000 hours, keep it in normal temperature and humidity for one hour.	$\Delta R/R \leq 2\%$ $\Delta B/B \leq 1\%$

Resistance vs. Temperature Table

R25=10KΩ±1% B25/85=3450K±1%

TEMP. (°C)	MINIMUM (KΩ)	NOMINAL (KΩ)	MAXIMUM (KΩ)	ALPHA(%/°C)
-40.0	194.700	204.224	214.193	-5.82
-39.0	183.872	192.727	201.988	-5.77
-38.0	173.724	181.959	190.565	-5.73
-37.0	164.208	171.869	179.870	-5.68
-36.0	155.281	162.411	169.852	-5.64
-35.0	146.902	153.540	160.461	-5.60
-34.0	139.035	145.216	151.657	-5.55
-33.0	131.645	137.402	143.397	-5.51
-32.0	124.698	130.063	135.644	-5.47
-31.0	118.167	123.167	128.365	-5.43
-30.0	112.023	116.684	121.526	-5.39
-29.0	106.242	110.587	115.100	-5.35
-28.0	100.798	104.851	109.057	-5.31
-27.0	95.671	99.452	103.373	-5.27
-26.0	90.839	94.368	98.024	-5.23
-25.0	86.285	89.578	92.988	-5.19
-24.0	81.990	85.064	88.245	-5.15
-23.0	77.937	80.808	83.776	-5.12
-22.0	74.113	76.793	79.563	-5.08
-21.0	70.501	73.005	75.590	-5.04
-20.0	67.090	69.429	71.843	-5.01
-19.0	63.866	66.052	68.305	-4.97
-18.0	60.819	62.862	64.966	-4.93
-17.0	57.937	59.846	61.812	-4.90
-16.0	55.211	56.996	58.832	-4.87
-15.0	52.631	54.299	56.014	-4.83
-14.0	50.189	51.748	53.351	-4.80
-13.0	47.875	49.334	50.831	-4.76
-12.0	45.684	47.047	48.446	-4.73
-11.0	43.607	44.882	46.189	-4.70
-10.0	41.637	42.830	44.052	-4.67
-9.0	39.770	40.885	42.027	-4.63

Resistance vs. Temperature Table

R25=10KΩ±1% B25/85=3450K±1%

TEMP. (°C)	MINIMUM (KΩ)	NOMINAL (KΩ)	MAXIMUM (KΩ)	ALPHA(%/°C)
-8.0	37.998	39.041	40.108	-4.60
-7.0	36.316	37.291	38.289	-4.57
-6.0	34.719	35.632	36.564	-4.54
-5.0	33.203	34.056	34.928	-4.51
-4.0	31.763	32.560	33.375	-4.48
-3.0	30.394	31.140	31.901	-4.45
-2.0	29.092	29.790	30.501	-4.42
-1.0	27.855	28.507	29.171	-4.39
0.0	26.677	27.287	27.908	-4.35
1.0	25.560	26.130	26.710	-4.32
2.0	24.496	25.029	25.571	-4.29
3.0	23.483	23.981	24.487	-4.26
4.0	22.518	22.984	23.456	-4.24
5.0	21.599	22.034	22.475	-4.21
6.0	20.723	21.129	21.541	-4.18
7.0	19.888	20.267	20.651	-4.15
8.0	19.091	19.445	19.804	-4.13
9.0	18.332	18.662	18.996	-4.10
10.0	17.607	17.915	18.226	-4.07
11.0	16.915	17.202	17.492	-4.05
12.0	16.254	16.522	16.792	-4.02
13.0	15.623	15.872	16.124	-4.00
14.0	15.021	15.253	15.487	-3.97
15.0	14.445	14.661	14.878	-3.95
16.0	13.895	14.095	14.297	-3.92
17.0	13.368	13.555	13.743	-3.90
18.0	12.865	13.038	13.213	-3.87
19.0	12.384	12.545	12.706	-3.85
20.0	11.924	12.072	12.222	-3.83
21.0	11.483	11.621	11.759	-3.80
22.0	11.061	11.189	11.316	-3.78
23.0	10.657	10.775	10.893	-3.76
24.0	10.271	10.379	10.488	-3.73
25.0	9.900	10.000	10.100	-3.71
26.0	9.536	9.637	9.738	-3.69

Resistance vs. Temperature Table

R25=10KΩ±1% B25/85=3450K±1%

TEMP. (°C)	MINIMUM (KΩ)	NOMINAL (KΩ)	MAXIMUM (KΩ)	ALPHA(%/°C)
27.0	9.188	9.289	9.391	-3.67
28.0	8.854	8.956	9.058	-3.64
29.0	8.534	8.636	8.739	-3.62
30.0	8.228	8.330	8.433	-3.60
31.0	7.934	8.036	8.139	-3.58
32.0	7.653	7.755	7.857	-3.56
33.0	7.383	7.484	7.587	-3.54
34.0	7.124	7.225	7.327	-3.52
35.0	6.875	6.976	7.078	-3.50
36.0	6.637	6.737	6.838	-3.48
37.0	6.408	6.508	6.608	-3.46
38.0	6.188	6.287	6.387	-3.44
39.0	5.977	6.076	6.175	-3.42
40.0	5.775	5.872	5.970	-3.40
41.0	5.580	5.677	5.774	-3.38
42.0	5.393	5.489	5.585	-3.36
43.0	5.214	5.308	5.404	-3.34
44.0	5.041	5.134	5.229	-3.32
45.0	4.875	4.967	5.061	-3.30
46.0	4.715	4.806	4.899	-3.28
47.0	4.561	4.652	4.743	-3.26
48.0	4.413	4.503	4.593	-3.25
49.0	4.271	4.359	4.449	-3.23
50.0	4.134	4.221	4.310	-3.28
51.0	3.999	4.085	4.172	-3.27
52.0	3.869	3.954	4.040	-3.26
53.0	3.744	3.828	3.913	-3.25
54.0	3.624	3.706	3.790	-3.23
55.0	3.507	3.588	3.671	-3.22
56.0	3.395	3.475	3.556	-3.21
57.0	3.287	3.365	3.446	-3.20
58.0	3.182	3.260	3.339	-3.18
59.0	3.082	3.158	3.236	-3.17
60.0	2.985	3.060	3.136	-3.16
61.0	2.891	2.965	3.040	-3.15

Resistance vs. Temperature Table

R25=10KΩ±1% B25/85=3450K±1%

TEMP. (°C)	MINIMUM (KΩ)	NOMINAL (KΩ)	MAXIMUM (KΩ)	ALPHA(%/°C)
62.0	2.800	2.873	2.947	-3.14
63.0	2.713	2.785	2.858	-3.13
64.0	2.629	2.699	2.771	-3.11
65.0	2.548	2.617	2.688	-3.10
66.0	2.469	2.537	2.607	-3.09
67.0	2.393	2.460	2.529	-3.08
68.0	2.320	2.386	2.453	-3.07
69.0	2.249	2.314	2.380	-3.06
70.0	2.181	2.244	2.310	-3.05
71.0	2.115	2.177	2.241	-3.03
72.0	2.051	2.112	2.175	-3.02
73.0	1.989	2.050	2.111	-3.01
74.0	1.930	1.989	2.050	-3.00
75.0	1.872	1.930	1.990	-2.99
76.0	1.816	1.874	1.932	-2.98
77.0	1.763	1.819	1.876	-2.97
78.0	1.710	1.766	1.822	-2.96
79.0	1.660	1.714	1.770	-2.95
80.0	1.611	1.665	1.719	-2.94
81.0	1.564	1.617	1.670	-2.93
82.0	1.519	1.570	1.623	-2.92
83.0	1.475	1.525	1.577	-2.91
84.0	1.432	1.481	1.532	-2.90
85.0	1.391	1.439	1.489	-2.89
86.0	1.351	1.398	1.447	-2.88
87.0	1.312	1.359	1.407	-2.87
88.0	1.275	1.320	1.368	-2.86
89.0	1.238	1.283	1.330	-2.85
90.0	1.203	1.247	1.293	-2.84
91.0	1.169	1.213	1.257	-2.83
92.0	1.136	1.179	1.223	-2.82
93.0	1.104	1.146	1.189	-2.81
94.0	1.073	1.114	1.157	-2.80
95.0	1.044	1.084	1.125	-2.79
96.0	1.015	1.054	1.095	-2.78

Resistance vs. Temperature Table

R25=10KΩ±1% B25/85=3450K±1%

TEMP. (°C)	MINIMUM (KΩ)	NOMINAL (KΩ)	MAXIMUM (KΩ)	ALPHA(%/°C)
97.0	0.986	1.025	1.065	-2.77
98.0	0.959	0.997	1.037	-2.76
99.0	0.933	0.970	1.009	-2.75
100.0	0.907	0.944	0.982	-2.66
101.0	0.883	0.919	0.956	-2.65
102.0	0.860	0.895	0.932	-2.64
103.0	0.837	0.872	0.908	-2.63
104.0	0.815	0.849	0.885	-2.62
105.0	0.794	0.827	0.862	-2.61
106.0	0.773	0.806	0.840	-2.60
107.0	0.753	0.785	0.819	-2.60
108.0	0.734	0.765	0.798	-2.59
109.0	0.715	0.746	0.778	-2.58
110.0	0.696	0.727	0.759	-2.57
111.0	0.679	0.708	0.740	-2.56
112.0	0.661	0.691	0.721	-2.55
113.0	0.644	0.673	0.703	-2.54
114.0	0.628	0.656	0.686	-2.53
115.0	0.612	0.640	0.669	-2.52
116.0	0.597	0.624	0.653	-2.51
117.0	0.582	0.609	0.637	-2.50
118.0	0.567	0.594	0.621	-2.50
119.0	0.553	0.579	0.606	-2.49
120.0	0.540	0.565	0.591	-2.48
121.0	0.526	0.551	0.577	-2.47
122.0	0.513	0.538	0.563	-2.46
123.0	0.501	0.525	0.550	-2.45
124.0	0.488	0.512	0.537	-2.44
125.0	0.477	0.500	0.524	-2.44
126.0	0.465	0.488	0.512	-2.43
127.0	0.454	0.476	0.499	-2.42
128.0	0.443	0.465	0.488	-2.41
129.0	0.432	0.454	0.476	-2.40
130.0	0.422	0.443	0.465	-2.39
131.0	0.412	0.432	0.454	-2.39

Resistance vs. Temperature Table

R25=10KΩ±1% B25/85=3450K±1%

TEMP. (°C)	MINIMUM (KΩ)	NOMINAL (KΩ)	MAXIMUM (KΩ)	ALPHA(%/°C)
132.0	0.402	0.422	0.444	-2.38
133.0	0.392	0.412	0.433	-2.37
134.0	0.383	0.403	0.423	-2.36
135.0	0.374	0.393	0.414	-2.35
136.0	0.365	0.384	0.404	-2.35
137.0	0.357	0.375	0.395	-2.34
138.0	0.348	0.367	0.386	-2.33
139.0	0.340	0.358	0.377	-2.32
140.0	0.332	0.350	0.369	-2.31
141.0	0.325	0.342	0.360	-2.31
142.0	0.317	0.334	0.352	-2.30
143.0	0.310	0.327	0.344	-2.29
144.0	0.303	0.319	0.337	-2.28
145.0	0.296	0.312	0.329	-2.28
146.0	0.289	0.305	0.322	-2.27
147.0	0.283	0.298	0.315	-2.26
148.0	0.276	0.292	0.308	-2.26
149.0	0.270	0.285	0.301	-2.25
150.0	0.264	0.279	0.294	-2.20
151.0	0.258	0.273	0.288	-2.19
152.0	0.252	0.267	0.282	-2.18
153.0	0.247	0.261	0.276	-2.17
154.0	0.242	0.255	0.270	-2.16
155.0	0.236	0.250	0.264	-2.15
156.0	0.231	0.245	0.259	-2.14
157.0	0.226	0.240	0.253	-2.14
158.0	0.222	0.234	0.248	-2.13
159.0	0.217	0.230	0.243	-2.12
160.0	0.212	0.225	0.238	-2.11
161.0	0.208	0.220	0.233	-2.10
162.0	0.203	0.216	0.228	-2.09
163.0	0.199	0.211	0.224	-2.08
164.0	0.195	0.207	0.219	-2.07
165.0	0.191	0.203	0.215	-2.06
166.0	0.187	0.198	0.210	-2.05

Resistance vs. Temperature Table

R25=10KΩ±1% B25/85=3450K±1%

TEMP. (°C)	MINIMUM (KΩ)	NOMINAL (KΩ)	MAXIMUM (KΩ)	ALPHA(%/°C)
167.0	0.183	0.194	0.206	-2.04
168.0	0.179	0.190	0.202	-2.03
169.0	0.176	0.187	0.198	-2.03
170.0	0.172	0.183	0.194	-2.02
171.0	0.169	0.179	0.190	-2.01
172.0	0.165	0.176	0.187	-2.00
173.0	0.162	0.172	0.183	-1.99
174.0	0.159	0.169	0.179	-1.98
175.0	0.156	0.166	0.176	-1.97
176.0	0.153	0.162	0.173	-1.97
177.0	0.150	0.159	0.169	-1.96
178.0	0.147	0.156	0.166	-1.95
179.0	0.144	0.153	0.163	-1.94
180.0	0.141	0.150	0.160	-1.93
181.0	0.138	0.147	0.157	-1.92
182.0	0.136	0.144	0.154	-1.92
183.0	0.133	0.142	0.151	-1.91
184.0	0.131	0.139	0.148	-1.90
185.0	0.128	0.136	0.145	-1.89
186.0	0.126	0.134	0.143	-1.88
187.0	0.123	0.131	0.140	-1.88
188.0	0.121	0.129	0.138	-1.87
189.0	0.119	0.127	0.135	-1.86
190.0	0.116	0.124	0.133	-1.85
191.0	0.114	0.122	0.130	-1.85
192.0	0.112	0.120	0.128	-1.84
193.0	0.110	0.118	0.126	-1.83
194.0	0.108	0.115	0.123	-1.82
195.0	0.106	0.113	0.121	-1.82
196.0	0.104	0.111	0.119	-1.81
197.0	0.102	0.109	0.117	-1.80
198.0	0.100	0.107	0.115	-1.79
199.0	0.099	0.105	0.113	-1.79
200.0	0.097	0.104	0.111	-1.78
201.0	0.095	0.102	0.109	-1.77

Resistance vs. Temperature Table

R25=10KΩ±1% B25/85=3450K±1%

TEMP. (°C)	MINIMUM (KΩ)	NOMINAL (KΩ)	MAXIMUM (KΩ)	ALPHA(%/°C)
202.0	0.093	0.100	0.107	-1.76
203.0	0.092	0.098	0.105	-1.76
204.0	0.090	0.097	0.103	-1.75
205.0	0.089	0.095	0.102	-1.74
206.0	0.087	0.093	0.100	-1.74
207.0	0.086	0.092	0.098	-1.73
208.0	0.084	0.090	0.096	-1.72
209.0	0.083	0.089	0.095	-1.72
210.0	0.081	0.087	0.093	-1.71
211.0	0.080	0.086	0.092	-1.70
212.0	0.078	0.084	0.090	-1.69
213.0	0.077	0.083	0.089	-1.69
214.0	0.076	0.081	0.087	-1.68
215.0	0.075	0.080	0.086	-1.67
216.0	0.073	0.079	0.084	-1.67
217.0	0.072	0.077	0.083	-1.66
218.0	0.071	0.076	0.082	-1.65
219.0	0.070	0.075	0.080	-1.65
220.0	0.069	0.074	0.079	-1.64
221.0	0.067	0.072	0.078	-1.64
222.0	0.066	0.071	0.077	-1.63
223.0	0.065	0.070	0.075	-1.62
224.0	0.064	0.069	0.074	-1.62
225.0	0.063	0.068	0.073	-1.61
226.0	0.062	0.067	0.072	-1.60
227.0	0.061	0.066	0.071	-1.60
228.0	0.060	0.065	0.070	-1.59
229.0	0.059	0.064	0.069	-1.59
230.0	0.058	0.063	0.067	-1.58
231.0	0.057	0.062	0.066	-1.57
232.0	0.056	0.061	0.065	-1.57
233.0	0.056	0.060	0.064	-1.56
234.0	0.055	0.059	0.063	-1.56
235.0	0.054	0.058	0.062	-1.55
236.0	0.053	0.057	0.061	-1.54

Resistance vs. Temperature Table

R25=10KΩ±1% B25/85=3450K±1%

TEMP. (°C)	MINIMUM (KΩ)	NOMINAL (KΩ)	MAXIMUM (KΩ)	ALPHA(%/°C)
237.0	0.052	0.056	0.061	-1.54
238.0	0.051	0.055	0.060	-1.53
239.0	0.051	0.054	0.059	-1.53
240.0	0.050	0.054	0.058	-1.52
241.0	0.049	0.053	0.057	-1.51
242.0	0.048	0.052	0.056	-1.51
243.0	0.048	0.051	0.055	-1.50
244.0	0.047	0.051	0.055	-1.50
245.0	0.046	0.050	0.054	-1.49
246.0	0.045	0.049	0.053	-1.49
247.0	0.045	0.048	0.052	-1.48
248.0	0.044	0.048	0.051	-1.48
249.0	0.043	0.047	0.051	-1.47
250.0	0.043	0.046	0.050	-1.46
251.0	0.042	0.046	0.049	-1.46
252.0	0.042	0.045	0.049	-1.45
253.0	0.041	0.044	0.048	-1.45
254.0	0.040	0.044	0.047	-1.44
255.0	0.040	0.043	0.046	-1.44
256.0	0.039	0.042	0.046	-1.43
257.0	0.039	0.042	0.045	-1.43
258.0	0.038	0.041	0.045	-1.42
259.0	0.038	0.041	0.044	-1.42
260.0	0.037	0.040	0.043	-1.41
261.0	0.036	0.039	0.043	-1.41
262.0	0.036	0.039	0.042	-1.40
263.0	0.035	0.038	0.042	-1.40
264.0	0.035	0.038	0.041	-1.39
265.0	0.034	0.037	0.040	-1.39
266.0	0.034	0.037	0.040	-1.38
267.0	0.034	0.036	0.039	-1.38
268.0	0.033	0.036	0.039	-1.37
269.0	0.033	0.035	0.038	-1.37
270.0	0.032	0.035	0.038	-1.36
271.0	0.032	0.034	0.037	-1.36

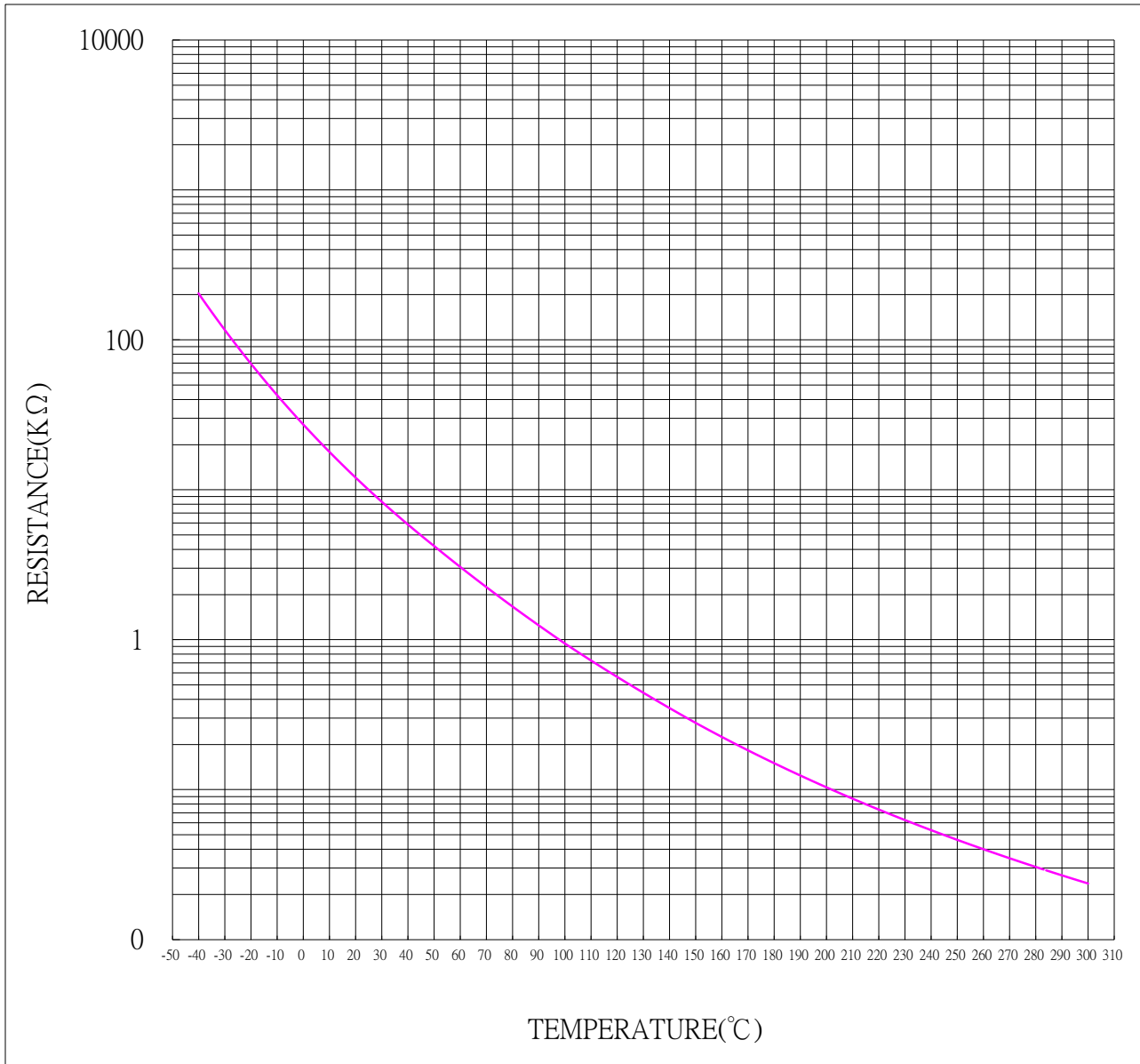
Resistance vs. Temperature Table

R25=10KΩ±1% B25/85=3450K±1%

TEMP. (°C)	MINIMUM (KΩ)	NOMINAL (KΩ)	MAXIMUM (KΩ)	ALPHA(%/°C)
272.0	0.031	0.034	0.037	-1.35
273.0	0.031	0.033	0.036	-1.35
274.0	0.030	0.033	0.036	-1.34
275.0	0.030	0.033	0.035	-1.34
276.0	0.030	0.032	0.035	-1.33
277.0	0.029	0.032	0.034	-1.33
278.0	0.029	0.031	0.034	-1.32
279.0	0.028	0.031	0.034	-1.32
280.0	0.028	0.030	0.033	-1.31
281.0	0.028	0.030	0.033	-1.31
282.0	0.027	0.030	0.032	-1.30
283.0	0.027	0.029	0.032	-1.30
284.0	0.027	0.029	0.031	-1.30
285.0	0.026	0.029	0.031	-1.29
286.0	0.026	0.028	0.031	-1.29
287.0	0.026	0.028	0.030	-1.28
288.0	0.025	0.027	0.030	-1.28
289.0	0.025	0.027	0.030	-1.27
290.0	0.025	0.027	0.029	-1.27
291.0	0.024	0.026	0.029	-1.26
292.0	0.024	0.026	0.028	-1.26
293.0	0.024	0.026	0.028	-1.26
294.0	0.023	0.025	0.028	-1.25
295.0	0.023	0.025	0.027	-1.25
296.0	0.023	0.025	0.027	-1.24
297.0	0.023	0.025	0.027	-1.24
298.0	0.022	0.024	0.026	-1.23
299.0	0.022	0.024	0.026	-1.23
300.0	0.022	0.024	0.026	-1.23

Resistance vs. Temperature Table

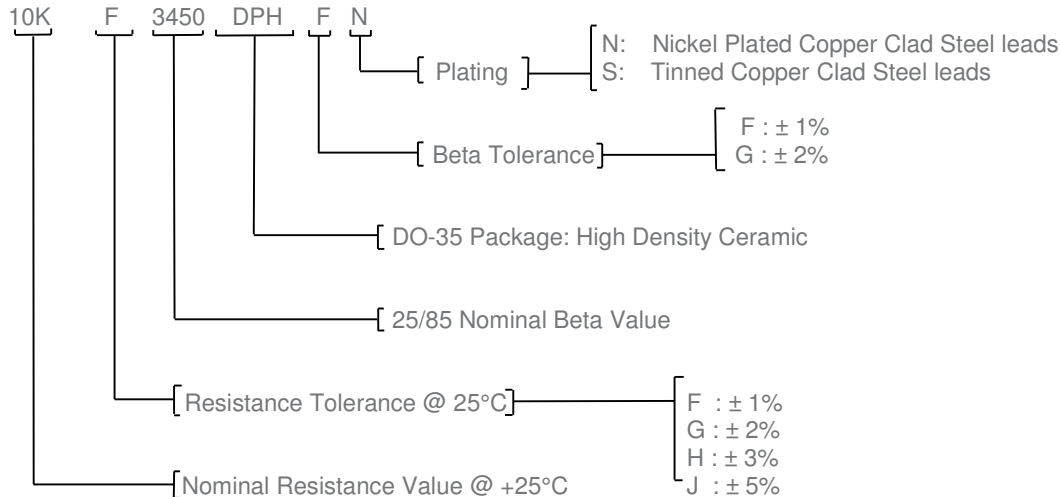
R25=10KΩ±1% B25/85=3450K±1%



MEAS NTC DO-35 THERMISTOR 10K BETA_{25/85} 3450

Ordering Information

PART NUMBER	DESCRIPTION	NOM. Ω @25°C	RES. TOLERANCE	PACKAGING
10KF3450DPHFN	DO-35 Series Thermistor (+300°C) [®] for Nickel version	10,000	± 1%	Bulk
10KF3450DPHFS	DO-35 Series Thermistor (+200°C) [®] for Tinned version	10,000	± 1%	Bulk



MEAS PART NUMBER	RESISTANCE [Ω] @ +25°C	TOLERANCE @ +25°C	BETA VALUE 25/85	BETA TOLERANCE	OPERATING TEMPERATURE
5KF3950DPHFN	5000	± 1%	3950	± 1%	-40° to +300°C
5KF3950DPHFS	5000	± 1%	3950	± 1%	-40° to +200°C
10KF3977DPHFN	10000	± 1%	3977	± 1%	-40° to +300°C
10KF3977DPHFS	10000	± 1%	3977	± 1%	-40° to +200°C
50KF4050DPHFN	50000	± 1%	4050	± 1%	-40° to +300°C
50KF4050DPHFS	50000	± 1%	4050	± 1%	-40° to +200°C

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