Thermistor Specification

L-KLS6-MF52-F-222F3900CF-L17

NINGBO KLS ELECTRONIC CO., LTD.

Customer：		
Customer Confirmation	Confirmer	
	Checker	
	Time	

1、ELECTRICAL CHARACTERISTIC

Item	Symbol	Test Condition	Performance	Unit
1.1 Rated resistance	R25℃	+25±0.05℃	2.2±1%	kΩ
1.2 B value	B25/100	+25±0.05℃、+100±0.05℃	3900±1%	K
1.3 Time constant	τ	In still air	≤15	sec
1.4 Dissipation factor	δ	In still air	≥2.1	mW/℃
1.5 Max.Power	Pmax	Ambient Temp. +25℃	≤60	mW

2、Reliability test

2.1 Intensity：Fix the thermistor probe，pull the lead wire gradually with force 5N for 10±1sec, no visible damage.

2.2 Solderability:

260±10℃ 2±0.5sec cover the solder joint evenly with solder

△R25/R25≤±3%

2.3 Solder heat resist:

260±10℃ 5±1sec solder 6mm away from thermistor probe

△R25/R25≤±3%

2.4 High temp.store（in air）

105±3℃ 1000h

△R25/R25≤±3%

2.5 Low temp.store（in air）

-40±3℃ 1000h

△R25/R25≤±3%

2.6 Heat and Humidity Stability

40±5℃ 98%RH 1000h △R25/R25≤±3%

2.7 Temperature shift:

-40±5℃ ×30min ⇄ (Nor.Temp, 2±1min) 105±3℃ ×30min 10times

△R25/R25≤2%

3、Operation Notice:

3.1 Application：Temperature measure and control;

3.2 Operating temperature range：-40℃～+125℃;

3.3 Min. cutting length ≥6mm;

3.4 Avoid measurement error caused by excessive current;

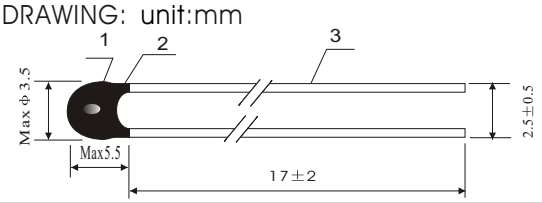
3.5 While adding heat shrink tube ,the outlet of hot air blower should be at least 10mm to the thermistor lest excessive heat shock.

3.6 Cannot be used in water (with steam), high humidity, electrolysis, salt, acid,alkaline and organic solvents and other corrosive environments

3.7 In view of the structural characteristics of epoxy components, users should avoid excessive stretching and bending force from the lead wire on the component encapsulating head when using it. If the lead wire needs to be bent, the bending point or the force point should be controlled on the leads beyond 6 mm below the encapsulating head , so as not to strain the chip, cause resistance drift or even open circuit, especially when the component is heated.

4、Resistance-Temperature Table:
(see accessory)

5、SIZE DRAWING: unit:mm



Number	Material &spec.
1	Thermistor chip
2	Encapsulating epoxy resin (black)
3	φ0.4CP wire

File Number	Version	Date	Compile by	Check by
KLS6-MF52-F	A	2022-04-21	Wang Run	Yang Guilin

R-T TABLE

R(25℃)=2.2kohm±1%				B(25/100)=3900±1%			
Temp.	Resistance(kΩ)			resistance tol.（%）		Temp.tol.（℃）	
℃	Rmin	R(t)Normal	Rmax	MIN	MAX	MIN	MAX
-40	60.33	63.02	65.82	-4.3%	4.4%	-0.6	0.7
-39	56.97	59.48	62.09	-4.2%	4.4%	-0.6	0.7
-38	53.81	56.15	58.58	-4.2%	4.3%	-0.6	0.7
-37	50.84	53.02	55.28	-4.1%	4.3%	-0.6	0.7
-36	48.04	50.07	52.17	-4.0%	4.2%	-0.6	0.7
-35	45.40	47.29	49.25	-4.0%	4.1%	-0.6	0.6
-34	42.92	44.68	46.50	-3.9%	4.1%	-0.6	0.6
-33	40.58	42.22	43.92	-3.9%	4.0%	-0.6	0.6
-32	38.37	39.90	41.49	-3.8%	4.0%	-0.6	0.6
-31	36.30	37.72	39.19	-3.8%	3.9%	-0.6	0.6
-30	34.34	35.66	37.04	-3.7%	3.9%	-0.6	0.6
-29	32.50	33.74	35.02	-3.7%	3.8%	-0.6	0.6
-28	30.77	31.93	33.12	-3.6%	3.7%	-0.6	0.6
-27	29.14	30.21	31.32	-3.6%	3.7%	-0.6	0.6
-26	27.59	28.59	29.63	-3.5%	3.6%	-0.6	0.6
-25	26.13	27.06	28.03	-3.5%	3.6%	-0.6	0.6
-24	24.74	25.62	26.52	-3.4%	3.5%	-0.6	0.6
-23	23.44	24.25	25.09	-3.3%	3.5%	-0.6	0.6
-22	22.20	22.96	23.74	-3.3%	3.4%	-0.6	0.6
-21	21.03	21.74	22.47	-3.2%	3.3%	-0.6	0.6
-20	19.93	20.59	21.26	-3.2%	3.3%	-0.5	0.6
-19	18.86	19.47	20.10	-3.1%	3.2%	-0.5	0.6
-18	17.86	18.42	19.01	-3.1%	3.2%	-0.5	0.5
-17	16.91	17.43	17.98	-3.0%	3.1%	-0.5	0.5
-16	16.01	16.50	17.01	-3.0%	3.1%	-0.5	0.5
-15	15.16	15.62	16.09	-2.9%	3.0%	-0.5	0.5
-14	14.37	14.79	15.23	-2.9%	2.9%	-0.5	0.5
-13	13.61	14.01	14.41	-2.8%	2.9%	-0.5	0.5
-12	12.90	13.27	13.64	-2.8%	2.8%	-0.5	0.5
-11	12.23	12.57	12.92	-2.7%	2.8%	-0.5	0.5
-10	11.59	11.91	12.23	-2.7%	2.7%	-0.5	0.5
-9	11.00	11.30	11.60	-2.6%	2.7%	-0.5	0.5
-8	10.45	10.72	11.00	-2.6%	2.6%	-0.5	0.5
-7	9.919	10.17	10.43	-2.5%	2.6%	-0.5	0.5
-6	9.422	9.659	9.901	-2.5%	2.5%	-0.5	0.5
-5	8.952	9.173	9.398	-2.4%	2.5%	-0.5	0.5

R-T TABLE							
R(25℃)=2.2kohm±1%				B(25/100)=3900±1%			
Temp.	Resistance(kΩ)			resistance tol.（%）		Temp.tol.（℃）	
℃	Rmin	R(t)Normal	Rmax	MIN	MAX	MIN	MAX
-4	8.509	8.714	8.923	-2.4%	2.4%	-0.4	0.5
-3	8.089	8.280	8.474	-2.3%	2.3%	-0.4	0.4
-2	7.692	7.870	8.050	-2.3%	2.3%	-0.4	0.4
-1	7.317	7.482	7.650	-2.2%	2.2%	-0.4	0.4
0	6.962	7.116	7.272	-2.2%	2.2%	-0.4	0.4
1	6.626	6.768	6.913	-2.1%	2.1%	-0.4	0.4
2	6.307	6.440	6.574	-2.1%	2.1%	-0.4	0.4
3	6.005	6.128	6.253	-2.0%	2.0%	-0.4	0.4
4	5.719	5.833	5.949	-2.0%	2.0%	-0.4	0.4
5	5.448	5.554	5.662	-1.9%	1.9%	-0.4	0.4
6	5.190	5.288	5.388	-1.9%	1.9%	-0.4	0.4
7	4.945	5.036	5.129	-1.8%	1.8%	-0.4	0.4
8	4.713	4.798	4.884	-1.8%	1.8%	-0.4	0.4
9	4.493	4.572	4.652	-1.7%	1.7%	-0.4	0.4
10	4.285	4.358	4.432	-1.7%	1.7%	-0.3	0.4
11	4.087	4.155	4.223	-1.6%	1.6%	-0.3	0.3
12	3.900	3.963	4.026	-1.6%	1.6%	-0.3	0.3
13	3.722	3.780	3.839	-1.5%	1.5%	-0.3	0.3
14	3.553	3.607	3.661	-1.5%	1.5%	-0.3	0.3
15	3.393	3.443	3.493	-1.4%	1.5%	-0.3	0.3
16	3.242	3.288	3.334	-1.4%	1.4%	-0.3	0.3
17	3.098	3.141	3.184	-1.4%	1.4%	-0.3	0.3
18	2.962	3.001	3.041	-1.3%	1.3%	-0.3	0.3
19	2.832	2.869	2.905	-1.3%	1.3%	-0.3	0.3
20	2.709	2.743	2.776	-1.2%	1.2%	-0.3	0.3
21	2.592	2.623	2.654	-1.2%	1.2%	-0.3	0.3
22	2.481	2.509	2.538	-1.1%	1.1%	-0.3	0.3
23	2.375	2.401	2.427	-1.1%	1.1%	-0.2	0.2
24	2.274	2.298	2.322	-1.0%	1.0%	-0.2	0.2
25	2.178	2.200	2.222	-1.0%	1.0%	-0.2	0.2
26	2.084	2.106	2.128	-1.0%	1.0%	-0.2	0.2
27	1.995	2.017	2.039	-1.1%	1.1%	-0.3	0.3
28	1.910	1.932	1.954	-1.1%	1.1%	-0.3	0.3
29	1.830	1.851	1.873	-1.2%	1.2%	-0.3	0.3
30	1.753	1.774	1.796	-1.2%	1.2%	-0.3	0.3
31	1.680	1.701	1.722	-1.3%	1.3%	-0.3	0.3

R-T TABLE

R(25℃)=2.2kohm±1%				B(25/100)=3900±1%			
Temp.	Resistance(kΩ)			resistance tol.（%）		Temp.tol.（℃）	
℃	Rmin	R(t)Normal	Rmax	MIN	MAX	MIN	MAX
32	1.610	1.631	1.652	-1.3%	1.3%	-0.3	0.3
33	1.543	1.564	1.585	-1.3%	1.3%	-0.3	0.3
34	1.480	1.501	1.522	-1.4%	1.4%	-0.3	0.3
35	1.420	1.440	1.461	-1.4%	1.4%	-0.3	0.3
36	1.362	1.382	1.403	-1.5%	1.5%	-0.4	0.4
37	1.307	1.327	1.347	-1.5%	1.5%	-0.4	0.4
38	1.255	1.274	1.294	-1.5%	1.6%	-0.4	0.4
39	1.205	1.224	1.244	-1.6%	1.6%	-0.4	0.4
40	1.157	1.176	1.195	-1.6%	1.6%	-0.4	0.4
41	1.111	1.130	1.149	-1.7%	1.7%	-0.4	0.4
42	1.068	1.086	1.105	-1.7%	1.7%	-0.4	0.4
43	1.026	1.044	1.063	-1.7%	1.8%	-0.4	0.4
44	0.987	1.004	1.022	-1.8%	1.8%	-0.5	0.5
45	0.949	0.966	0.984	-1.8%	1.8%	-0.5	0.5
46	0.912	0.929	0.947	-1.8%	1.9%	-0.5	0.5
47	0.877	0.894	0.911	-1.9%	1.9%	-0.5	0.5
48	0.844	0.861	0.878	-1.9%	2.0%	-0.5	0.5
49	0.812	0.829	0.845	-2.0%	2.0%	-0.5	0.5
50	0.782	0.798	0.814	-2.0%	2.0%	-0.5	0.5
51	0.753	0.769	0.785	-2.0%	2.1%	-0.5	0.6
52	0.725	0.741	0.756	-2.1%	2.1%	-0.6	0.6
53	0.699	0.714	0.729	-2.1%	2.1%	-0.6	0.6
54	0.673	0.688	0.703	-2.1%	2.2%	-0.6	0.6
55	0.649	0.664	0.678	-2.2%	2.2%	-0.6	0.6
56	0.626	0.640	0.654	-2.2%	2.3%	-0.6	0.6
57	0.603	0.617	0.631	-2.3%	2.3%	-0.6	0.6
58	0.582	0.595	0.609	-2.3%	2.3%	-0.6	0.7
59	0.561	0.575	0.588	-2.3%	2.4%	-0.7	0.7
60	0.541	0.555	0.568	-2.4%	2.4%	-0.7	0.7
61	0.522	0.535	0.548	-2.4%	2.4%	-0.7	0.7
62	0.504	0.517	0.530	-2.4%	2.5%	-0.7	0.7
63	0.487	0.499	0.512	-2.5%	2.5%	-0.7	0.7
64	0.470	0.482	0.494	-2.5%	2.5%	-0.7	0.7
65	0.454	0.466	0.478	-2.5%	2.6%	-0.7	0.8
66	0.438	0.450	0.462	-2.6%	2.6%	-0.8	0.8
67	0.424	0.435	0.446	-2.6%	2.7%	-0.8	0.8

R-T TABLE

R(25℃)=2.2kohm±1%				B(25/100)=3900±1%			
Temp.	Resistance(kΩ)			resistance tol.（%）		Temp.tol.（℃）	
℃	Rmin	R(t)Normal	Rmax	MIN	MAX	MIN	MAX
68	0.409	0.420	0.432	-2.6%	2.7%	-0.8	0.8
69	0.395	0.406	0.417	-2.7%	2.7%	-0.8	0.8
70	0.382	0.393	0.404	-2.7%	2.8%	-0.8	0.8
71	0.369	0.380	0.390	-2.7%	2.8%	-0.8	0.8
72	0.357	0.367	0.378	-2.8%	2.8%	-0.8	0.9
73	0.345	0.355	0.365	-2.8%	2.9%	-0.9	0.9
74	0.334	0.344	0.353	-2.8%	2.9%	-0.9	0.9
75	0.323	0.332	0.342	-2.9%	2.9%	-0.9	0.9
76	0.312	0.322	0.331	-2.9%	3.0%	-0.9	0.9
77	0.302	0.311	0.321	-2.9%	3.0%	-0.9	0.9
78	0.292	0.301	0.310	-2.9%	3.0%	-0.9	1.0
79	0.283	0.292	0.301	-3.0%	3.1%	-0.9	1.0
80	0.274	0.283	0.291	-3.0%	3.1%	-1.0	1.0
81	0.265	0.274	0.282	-3.0%	3.1%	-1.0	1.0
82	0.257	0.265	0.274	-3.1%	3.2%	-1.0	1.0
83	0.249	0.257	0.265	-3.1%	3.2%	-1.0	1.0
84	0.241	0.249	0.257	-3.1%	3.2%	-1.0	1.0
85	0.234	0.241	0.249	-3.2%	3.3%	-1.0	1.1
86	0.227	0.234	0.242	-3.2%	3.3%	-1.0	1.1
87	0.220	0.227	0.234	-3.2%	3.3%	-1.1	1.1
88	0.213	0.220	0.228	-3.3%	3.4%	-1.1	1.1
89	0.207	0.214	0.221	-3.3%	3.4%	-1.1	1.1
90	0.200	0.207	0.214	-3.3%	3.4%	-1.1	1.1
91	0.194	0.201	0.208	-3.3%	3.4%	-1.1	1.2
92	0.189	0.195	0.202	-3.4%	3.5%	-1.1	1.2
93	0.183	0.190	0.196	-3.4%	3.5%	-1.2	1.2
94	0.178	0.184	0.191	-3.4%	3.5%	-1.2	1.2
95	0.173	0.179	0.185	-3.5%	3.6%	-1.2	1.2
96	0.168	0.174	0.180	-3.5%	3.6%	-1.2	1.2
97	0.163	0.169	0.175	-3.5%	3.6%	-1.2	1.3
98	0.158	0.164	0.170	-3.5%	3.7%	-1.2	1.3
99	0.154	0.159	0.165	-3.6%	3.7%	-1.3	1.3
100	0.149	0.155	0.161	-3.6%	3.7%	-1.3	1.3
101	0.145	0.150	0.156	-3.6%	3.7%	-1.3	1.3
102	0.141	0.146	0.152	-3.6%	3.8%	-1.3	1.3
103	0.137	0.142	0.148	-3.7%	3.8%	-1.3	1.4

R-T TABLE							
R(25℃)=2.2kohm±1%				B(25/100)=3900±1%			
Temp.	Resistance(kΩ)			resistance tol.（%）		Temp.tol.（℃）	
℃	Rmin	R(t)Normal	Rmax	MIN	MAX	MIN	MAX
104	0.133	0.138	0.144	-3.7%	3.8%	-1.3	1.4
105	0.129	0.135	0.140	-3.7%	3.9%	-1.4	1.4
106	0.126	0.131	0.136	-3.8%	3.9%	-1.4	1.4
107	0.122	0.127	0.132	-3.8%	3.9%	-1.4	1.4
108	0.119	0.124	0.129	-3.8%	3.9%	-1.4	1.5
109	0.116	0.121	0.125	-3.8%	4.0%	-1.4	1.5
110	0.113	0.117	0.122	-3.9%	4.0%	-1.4	1.5
111	0.110	0.114	0.119	-3.9%	4.0%	-1.5	1.5
112	0.107	0.111	0.116	-3.9%	4.1%	-1.5	1.5
113	0.104	0.108	0.113	-3.9%	4.1%	-1.5	1.5
114	0.101	0.105	0.110	-4.0%	4.1%	-1.5	1.6
115	0.099	0.103	0.107	-4.0%	4.1%	-1.5	1.6
116	0.096	0.100	0.104	-4.0%	4.2%	-1.5	1.6
117	0.093	0.097	0.101	-4.0%	4.2%	-1.6	1.6
118	0.091	0.095	0.099	-4.1%	4.2%	-1.6	1.6
119	0.089	0.092	0.096	-4.1%	4.3%	-1.6	1.7
120	0.086	0.090	0.094	-4.1%	4.3%	-1.6	1.7
121	0.084	0.088	0.092	-4.1%	4.3%	-1.6	1.7
122	0.082	0.086	0.089	-4.2%	4.3%	-1.6	1.7
123	0.080	0.083	0.087	-4.2%	4.4%	-1.7	1.7
124	0.078	0.081	0.085	-4.2%	4.4%	-1.7	1.8
125	0.076	0.079	0.083	-4.2%	4.4%	-1.7	1.8
126	0.074	0.077	0.081	-4.3%	4.4%	-1.7	1.8
127	0.072	0.075	0.079	-4.3%	4.5%	-1.7	1.8
128	0.070	0.074	0.077	-4.3%	4.5%	-1.8	1.8
129	0.069	0.072	0.075	-4.3%	4.5%	-1.8	1.9
130	0.067	0.070	0.073	-4.4%	4.5%	-1.8	1.9
131	0.065	0.068	0.072	-4.4%	4.6%	-1.8	1.9
132	0.064	0.067	0.070	-4.4%	4.6%	-1.8	1.9
133	0.062	0.065	0.068	-4.4%	4.6%	-1.8	1.9
134	0.061	0.064	0.067	-4.4%	4.6%	-1.9	2.0
135	0.059	0.062	0.065	-4.5%	4.7%	-1.9	2.0
136	0.058	0.061	0.064	-4.5%	4.7%	-1.9	2.0
137	0.057	0.059	0.062	-4.5%	4.7%	-1.9	2.0
138	0.055	0.058	0.061	-4.5%	4.7%	-1.9	2.0
139	0.054	0.057	0.059	-4.6%	4.8%	-2.0	2.1

R-T TABLE							
R(25℃)=2.2kohm±1%				B(25/100)=3900±1%			
Temp.	Resistance(kΩ)			resistance tol.（%）		Temp.tol.（℃）	
℃	Rmin	R(t)Normal	Rmax	MIN	MAX	MIN	MAX
140	0.053	0.055	0.058	-4.6%	4.8%	-2.0	2.1
141	0.052	0.054	0.057	-4.6%	4.8%	-2.0	2.1
142	0.050	0.053	0.055	-4.6%	4.8%	-2.0	2.1
143	0.049	0.052	0.054	-4.6%	4.9%	-2.0	2.1
144	0.048	0.050	0.053	-4.7%	4.9%	-2.1	2.2
145	0.047	0.049	0.052	-4.7%	4.9%	-2.1	2.2
146	0.046	0.048	0.051	-4.7%	4.9%	-2.1	2.2
147	0.045	0.047	0.049	-4.7%	5.0%	-2.1	2.2
148	0.044	0.046	0.048	-4.8%	5.0%	-2.1	2.2
149	0.043	0.045	0.047	-4.8%	5.0%	-2.2	2.3
150	0.042	0.044	0.046	-4.8%	5.0%	-2.2	2.3