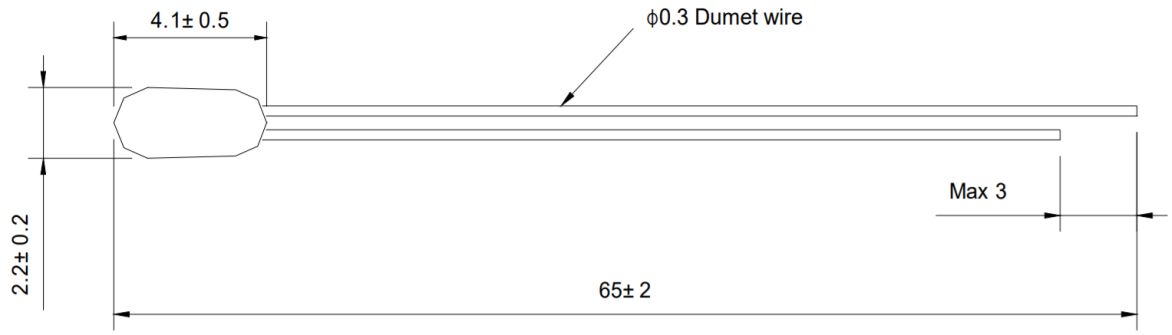
APPLICATION: TEMPERATURE MEASUREMENT, SENSING AND CONTROL IN REMOTE LOCATIONS FOR VARIOUS ENVIRONMENTAL CONDITIONS SUCH AS HVAC APPLICATIONS (TO MEASURE THE TEMPERATURE OF THE EVAPORATOR AND THE CONDITIONED INTERIOR).

Product Drawing



Electrical Specification

Sl No	Description	Value	Unit
1	Rated Zero-Power Resistance, R_{200}	**1 ± 2.5%**	kΩ
2	B- Value (100/200) °C	**4537 ± 2%**	K
3	Dissipation Constant	**1-1.5 (min, in air)**	mW/°C
4	Thermal Time Constant	**9-15 (max, in still air)**	S
5.	Insulation Resistance at 500 VDC (between glass and lead wire)	**50**	M Ω

Reliability Specification:

Operating Temperature Range: -40 to +250°C

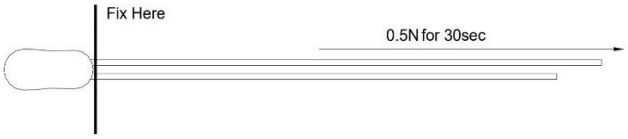
Description	Test Conditions	Characteristics Drift
Dry Heat Test	Elements are placed in a oven of temp. at 200℃± 5℃ for 1000 (+48, -0)hr. After test the elements are stored in room temperature for one hour.	△R after test are less than ± 3%. △B after test are less than ± 2%.
Cold Test	Elements are placed in an oil bath of temperature at -30℃± 5℃ for 1000 (+48, -0)hr. After test the elements are stored in room temperature for one hour.	△R after test are less than ± 3%. △B after test are less than ± 2%.
Thermal Shock Test	-30℃(Oil bath,3 minute) -> RT(Air, under 1min) -> 90℃(Oil bath,3 minute) for 1000 cycle. After test the elements are stored in room temperature for one hour.	△R after test are less than ± 3%. △B after test are less than ± 2%.
Damp Heat Test	Elements are placed in a chamber of temp. at 60℃± 2℃ and 90~95%RH for 1000 (+48, -0)hr. After test the elements are stored in room temperature for one hour.	△R after test are less than ± 3%. △B after test are less than ± 2%.

THERMOSEN TECHNOLOGIES PVT LTD.
NO 199/1, 9 TH WARD, 7TH MAIN, GARVEBHAVIPALYA,
OFF HOSUR ROAD, BANGALOR-560068, KARNATAKA, INDIA
PHONE :+91-80-41106383
EMAIL: info@thermosen.com **WEBSITE**: www.thermosen.com

Mechanical Test

1.Terminal tensile strength test

Load tensile stress of 0.5N(0.51kgf) to axial direction slowly and keep it for 30±5 sec. after the test characteristics, appearance and shape shall not change.



2.Terminal bending test

Lead wire will be fixed at 3mm from its glass part end. Apply load of 5N to lead wire so that is makes 90 degree. Then put it back to original position. After two times of this action, characteristics, appearance of glass part shall not change.

RT CHART

T (°C)	Rmin (kΩ)	Rcent (kΩ)	Rmax (kΩ)	DR (%)	DT (°C)	T (°C)	Rmin (kΩ)	Rcent (kΩ)	Rmax (kΩ)	DR (%)	DT (°C)
-40	7391.4	9097	11189.2	23.00	3.32	**110**	8.928	9.580	10.273	7.2	2.34
-35	5325.6	6510.8	7954.9	22.20	3.29	**115**	7.709	8.248	8.818	6.9	2.29
-30	3873.4	4704.8	5711	21.40	3.27	**120**	6.679	7.125	7.596	6.6	2.24
-25	2843.5	3432.1	4140	20.60	3.25	**125**	5.806	6.175	6.564	6.3	2.18
-20	2106.7	2527.2	3029.9	19.90	3.23	**130**	5.062	5.369	5.691	6.0	2.13
-15	1574.8	1877.9	2238.1	19.20	3.21	**135**	4.426	4.682	4.950	5.7	2.07
-10	1187.4	1407.8	1668.2	18.50	3.19	**140**	3.882	4.095	4.318	5.4	2.01
-5	902.77	1064.4	1254.2	17.80	3.17	**145**	3.414	3.592	3.777	5.2	1.95
0	691.92	811.41	950.93	17.20	3.15	**150**	3.010	3.159	3.314	4.9	1.88
5	534.43	623.42	726.77	16.60	3.13	**155**	2.661	2.786	2.915	4.6	1.82
10	415.84	482.6	559.74	16.00	3.1	**160**	2.359	2.463	2.571	4.4	1.75
15	325.86	376.30	434.28	15.4	3.08	**165**	2.096	2.183	2.273	4.1	1.69
20	257.09	295.45	339.33	14.9	3.05	**170**	1.866	1.939	2.014	3.9	1.62
25	204.15	233.52	266.94	14.3	3.02	**175**	1.666	1.727	1.790	3.6	1.55
30	163.13	185.74	211.35	13.8	2.99	**180**	1.490	1.542	1.594	3.4	1.48
35	131.13	148.64	168.38	13.3	2.96	**185**	1.336	1.379	1.423	3.2	1.40
40	106.01	119.65	134.96	12.8	2.93	**190**	1.200	1.236	1.273	2.9	1.33
45	86.182	96.858	108.79	12.3	2.89	**195**	1.081	1.111	1.141	2.7	1.26
50	70.435	78.834	88.181	11.9	2.86	**200**	0.9750	1.000	1.025	2.5	1.20
55	57.861	64.502	71.860	11.4	2.82	**205**	0.8778	0.9022	0.9266	2.7	1.36
60	47.768	53.042	58.863	11.0	2.78	**210**	0.7919	0.8156	0.8394	2.9	1.49
65	39.625	43.833	48.457	10.6	2.75	**215**	0.7159	0.7387	0.7618	3.1	1.63
70	33.023	36.394	40.084	10.1	2.71	**220**	0.6484	0.6704	0.6927	3.3	1.76
75	27.644	30.356	33.313	9.7	2.66	**225**	0.5885	0.6096	0.6310	3.5	1.91
80	23.243	25.433	27.811	9.4	2.62	**230**	0.5350	0.5552	0.5759	3.7	2.05
85	19.624	21.399	23.320	9.0	2.58	**235**	0.4873	0.5067	0.5264	3.9	2.20
90	16.637	18.081	19.637	8.6	2.53	**240**	0.4446	0.4631	0.4820	4.1	2.34
95	14.160	15.338	16.604	8.3	2.49	**245**	0.4063	0.4240	0.4421	4.3	2.49
100	12.098	13.062	14.095	7.9	2.44	**250**	0.3719	0.3887	0.4061	4.5	2.64
105	10.374	11.166	12.011	7.6	2.39						

THERMOSEN TECHNOLOGIES PVT LTD.
NO 199/1, 9 TH WARD, 7TH MAIN, GARVEBHAVIPALYA,
OFF HOSUR ROAD, BANGALOR-560068, KARNATAKA, INDIA
PHONE :+91-80-41106383
EMAIL: info@thermosen.com **WEBSITE**: www.thermosen.com

Special Note

1. Product comply with RoHS directive of 2015/863/EU.

Soldering

1. Soldering Temperature: 320°C Max.
2. Soldering Duration : 6.0 Second Max.
3. Preheat Temperature : 160°C for 3.0 Sec.

THERMOSEN TECHNOLOGIES PVT LTD.
NO 199/1, 9 TH WARD, 7TH MAIN, GARVEBHAVIPALYA,
OFF HOSUR ROAD, BANGALOR-560068, KARNATAKA, INDIA
PHONE :+91-80-41106383
EMAIL: info@thermosen.com **WEBSITE**: www.thermosen.com