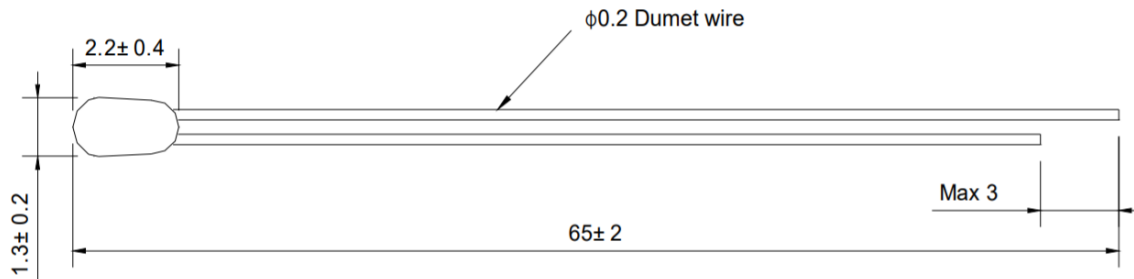


APPLICATION: TEMPERATURE MEASUREMENT, SENSING AND CONTROL IN REMOTE LOCATIONS FOR VARIOUS ENVIRONMENTAL CONDITIONS SUCH AS HVAC APPLICATIONS (TO MEASURE THE TEMPERATURE OF THE EVAPORATOR AND THE CONDITIONED INTERIOR).

Product Drawing



Electrical Specification

SI No	Description	Value	Unit
1	Rated Zero-Power Resistance, R_{100}	$100 \pm 1.5\%$	k Ω
2	B- Value (25/100) °C	$4066 \pm 2\%$	K
3	Dissipation Constant	0.7-1.2 (min, in air)	mW/°C
4	Thermal Time Constant	3.5-6.5 (max, in still air)	S
5.	Insulation Resistance at 500 VDC (between glass and lead wire)	10	M Ω

Reliability Specification:

Operating Temperature Range: -40 to +300°C

Description	Test Conditions	Characteristics Drift
Dry Heat Test	Elements are placed in a oven of temp. at 300°C ± 5°C for 1000 (+48, -0)hr. After test the elements are stored in room temperature for one hour.	ΔR after test are less than ± 4%. ΔB after test are less than ± 1.5%.
Cold Test	Elements are placed in an oil bath of temperature at -30°C ± 5°C for 1000 (+48, -0)hr. After test the elements are stored in room temperature for one hour.	ΔR after test are less than ± 2%. ΔB after test are less than ± 1%.
Thermal Shock Test	-30°C(Oil bath,3 minute) -> RT(Air, under 1min) -> 90°C(Oil bath,3 minute) for 1000 cycle. After test the elements are stored in room temperature for one hour.	ΔR after test are less than ± 2%. ΔB after test are less than ± 1.5%.
Damp Heat Test	Elements are placed in a chamber of temp. at 60°C ± 2°C and 90~95%RH for 1000 (+48, -0)hr. After test the elements are stored in room temperature for one hour.	ΔR after test are less than ± 2%. ΔB after test are less than ± 1%.

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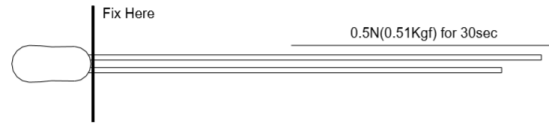
PHONE :080-41106383

EMAIL: ThermosenTech@gmail.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 it 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	2972.9	3218.9	3484.8	8.26%	1.21	85	9.629	10.181	10.763	5.72%	1.81
-35	2174.53	2339.45	2516.62	7.57%	1.15	90	8.1697	8.666	9.1914	6.06%	1.96
-30	1607.74	1719.04	1837.86	6.91%	1.09	95	6.9587	7.4046	7.8783	6.40%	2.12
-25	1200.48	1275.95	1356.04	6.28%	1.03	100	5.9494	6.3502	6.7772	6.72%	2.29
-20	904.61	955.95	1010.1	5.66%	0.96	105	5.1051	5.4653	5.8504	7.05%	2.46
-15	687.49	722.45	759.11	5.07%	0.89	110	4.3959	4.7199	5.0673	7.36%	2.63
-10	526.68	550.46	575.26	4.50%	0.82	115	3.7981	4.0897	4.4033	7.67%	2.81
-5	406.54	422.66	439.37	3.95%	0.74	120	3.2923	3.555	3.8384	7.97%	2.99
0	316.07	326.92	338.1	3.42%	0.66	125	2.8629	3.0999	3.3561	8.27%	3.18
5	247.42	254.64	262.04	2.91%	0.58	130	2.4971	2.7111	2.9431	8.56%	3.37
10	194.966	199.678	204.483	2.41%	0.5	135	2.1845	2.3779	2.5882	8.84%	3.56
15	154.605	157.594	160.625	1.92%	0.41	140	1.9166	2.0916	2.2824	9.12%	3.76
20	123.352	125.158	126.979	1.45%	0.32	145	1.6862	1.8448	2.0182	9.40%	3.96
25	99	100	101	1.00%	0.23	150	1.4875	1.6315	1.7892	9.70%	4.17
30	79.216	80.367	81.526	1.44%	0.34	155	1.3157	1.4465	1.5902	9.90%	4.38
35	63.754	64.956	66.174	1.88%	0.45	160	1.1668	1.2858	1.4168	10.20%	4.59
40	51.597	52.789	54.002	2.30%	0.57	165	1.0372	1.1457	1.2653	10.40%	4.81
45	41.987	43.13	44.3	2.71%	0.69	170	0.9243	1.0233	1.1327	10.70%	5.03
50	34.347	35.421	36.526	3.12%	0.81	175	0.8257	0.9161	1.0163	10.90%	5.26
55	28.241	29.236	30.264	3.51%	0.94	180	0.7392	0.8219	0.9138	11.20%	5.49
60	23.335	24.249	25.195	3.90%	1.08	185	0.6633	0.7391	0.8235	11.40%	5.72
65	19.375	20.207	21.072	4.28%	1.21	190	0.5965	0.666	0.7436	11.60%	5.96
70	16.161	16.915	17.702	4.65%	1.36	195	0.5375	0.6014	0.6729	11.90%	6.2
75	13.541	14.222	14.935	5.02%	1.5	200	0.4854	0.5442	0.61	12.10%	6.45
80	11.3948	12.0083	12.6536	5.37%	1.65	205	0.4392	0.4934	0.5542	12.30%	6.7

T (°C)	Rmin (kΩ)	Rcent (kΩ)	Rmax (kΩ)	DR (%)	DT (°C)	T (°C)	Rmin (kΩ)	Rcent (kΩ)	Rmax (kΩ)	DR (%)	DT (°C)
210	0.3982	0.4481	0.5043	12.50%	6.95	235	0.2505	0.2845	0.3231	13.60%	8.28
215	0.3617	0.4078	0.4598	12.70%	7.21	240	0.2294	0.261	0.2969	13.80%	8.56
220	0.3291	0.3717	0.4199	13.00%	7.47	245	0.2105	0.2399	0.2733	14.00%	8.84
225	0.3	0.3395	0.3842	13.20%	7.74	250	0.1934	0.2207	0.2519	14.10%	9.13
230	0.2739	0.3105	0.352	13.40%	8.01						

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.

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