

Approval Data Sheet

Customer :

Application : Water dispenser /Coffeemaker

Product : NTC Sensor

Model No. : CWF51-6282H4085G-5128600

Drawing No. :

Rating :

Date : MARCH 23, 2012

Version : V.10.



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SPECIFICATIONS

1) SCOPE

This specifications define ratings, dimension, insulation, climatic tests and mechanical characteristics for CWF51 type temperature sensor.

2) PART NO. : CWF51-6282H4085G-5128600

3) RATING

3-1) Rated zero-power resistance R_{100} : 6.282K Ω \pm 3% (at 100 $^{\circ}$ C)

3-2) B value. $B_{25/100}$: 4,085K \pm 2%

*The B value is calculated using the zero-power resistance values measured at 25 $^{\circ}$ C and 100 $^{\circ}$ C.

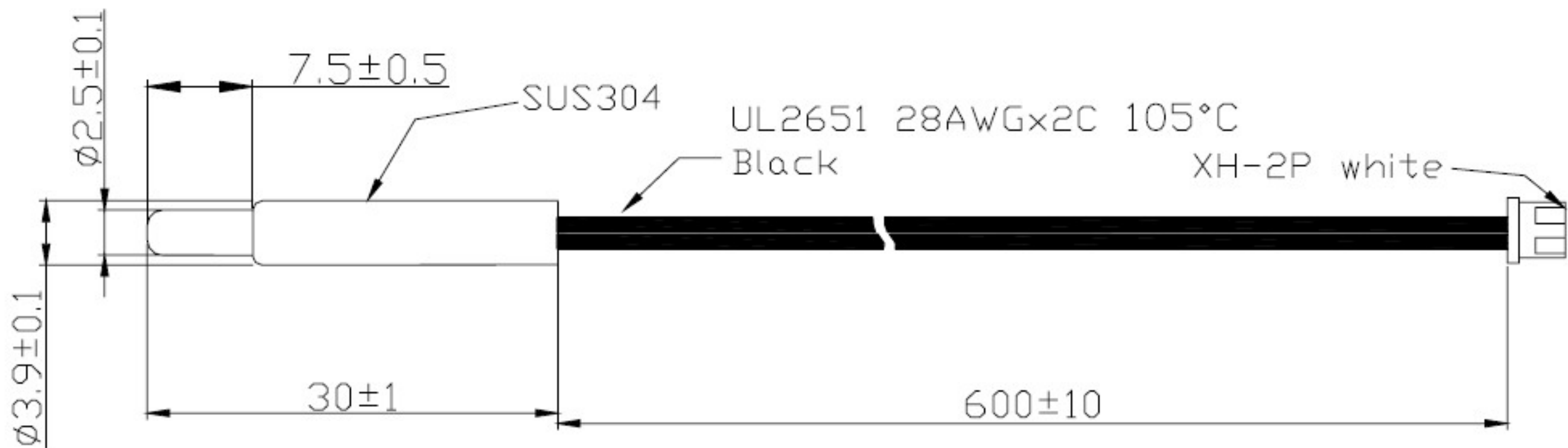
3-3) Dissipation factor. : Approx. 5 mW/ $^{\circ}$ C (in air)

3-4) Thermal time constant. : Approx. 7 s (25 $^{\circ}$ C \rightarrow 50 $^{\circ}$ C)

3-5) Maximum power rating. : 6 mW (at 25 $^{\circ}$ C)

3-6) Category temperature range : -30 to 105 $^{\circ}$ C
(=Operating temperature range)

4) DIMENSIONS UNIT: [mm]



5) Insulation (between epoxy resin and soldered terminals)

- 5-1) Dielectric withstanding voltage: AC 1500V for one second.
- 5-2) Insulation resistance : Above 100 MΩ at DC 500V.

6) Climatic tests

6-1) Damp heat (under loading)

DC 1mA current shall be applied to the test samples in the temperature of 40°C and relative humidity of 95%RH for 1,000 hours. After being stored in room temperature and humidity for one hour, the change ratio of R25 shall be within ±2% of the initial value.

6-2) Cold

Test samples shall be exposed in air at -30°C for 1,000 hours. After being stored in room temperature and humidity for one hours, the change ratio of R25 shall be within ±3% of the initial value.

6-3) Rapid change of temperature

One cycle of the change of temperature shall be proceeded in the order of the following conditions.

- . At -20°C, for 5 minutes.
- . Room ambient temperature, for one minute.
- . At + 70°C, for 5 minutes.
- . Room ambient temperature, for one minute.

100 cycles of change of temperature shall be applied to the test samples. After being stored in room temperature and humidity for one hour, the change ratio of R25 shall be within ±2% of the initial value.

7) Mechanical Characteristics

7-1) Robustness of terminations

- * Tensile to horizontal direction

Hold the thermistor body so that lead wire shall be horizontal. After 1 kg loading weight was applied to the lead wire horizontally for 10 seconds, there shall be no visible damage.

7-2) Free fall

After three times natural fall to a maple board from 75cm high, there shall be no visible damage.

8) TEMPERATURE VS RESISTANCE TABLE

$R_{100^{\circ}\text{C}}=6.282\text{K}\Omega \pm 3\%$ $B_{25/100^{\circ}\text{C}}=4085\text{K} \pm 2\%$

T(°C)	R(KΩ)	T(°C)	R(KΩ)	T(°C)	R(KΩ)	T(°C)	R(KΩ)	T(°C)	R(KΩ)
-30.0	1799.066	1.0	312.568	32.0	72.416	63.0	21.226	94.0	7.527
-29.0	1688.597	2.0	296.688	33.0	69.369	64.0	20.466	95.0	7.300
-28.0	1586.019	3.0	281.794	34.0	66.469	65.0	19.736	96.0	7.082
-27.0	1490.345	4.0	267.690	35.0	63.707	66.0	19.046	97.0	6.871
-26.0	1400.589	5.0	254.375	36.0	61.074	67.0	18.375	98.0	6.668
-25.0	1317.737	6.0	241.848	37.0	58.568	68.0	17.734	99.0	6.471
-24.0	1239.817	7.0	230.012	38.0	56.181	69.0	17.113	100.0	6.282
-23.0	1166.828	8.0	218.768	39.0	53.913	70.0	16.521	101.0	6.094
-22.0	1099.758	9.0	208.214	40.0	51.743	71.0	15.959	102.0	5.911
-21.0	1035.647	10.0	198.252	41.0	49.672	72.0	15.416	103.0	5.736
-20.0	976.763	11.0	188.784	42.0	47.699	73.0	14.884	104.0	5.566
-19.0	921.331	12.0	179.808	43.0	45.815	74.0	14.381	105.0	5.402
-18.0	869.450	13.0	171.424	44.0	44.010	75.0	13.907		
-17.0	820.922	14.0	163.435	45.0	42.294	76.0	13.434		
-16.0	775.354	15.0	155.840	46.0	40.657	77.0	12.990		
-15.0	732.745	16.0	148.640	47.0	39.088	78.0	12.566		
-14.0	692.700	17.0	141.834	48.0	37.589	79.0	12.152		
-13.0	655.120	18.0	135.423	49.0	36.159	80.0	11.757		
-12.0	619.908	19.0	129.308	50.0	34.788	81.0	11.372		
-11.0	586.768	20.0	123.489	51.0	33.446	82.0	11.007		
-10.0	555.600	21.0	117.965	52.0	32.164	83.0	10.652		
-9.0	526.404	22.0	112.738	53.0	30.931	84.0	10.307		
-8.0	498.886	23.0	107.806	54.0	29.758	85.0	9.982		
-7.0	473.044	24.0	103.071	55.0	28.633	86.0	9.669		
-6.0	448.682	25.0	98.633	56.0	27.568	87.0	9.365		
-5.0	425.700	26.0	94.293	57.0	26.532	88.0	9.072		
-4.0	404.099	27.0	90.170	58.0	25.556	89.0	8.790		
-3.0	383.781	28.0	86.245	59.0	24.609	90.0	8.519		
-2.0	364.548	29.0	82.526	60.0	23.711	91.0	8.257		
-1.0	346.498	30.0	78.985	61.0	22.843	92.0	8.005		
0.0	329.434	31.0	75.622	62.0	22.025	93.0	7.761		