Date : Apr. 16, 2014

SPECIFICATION

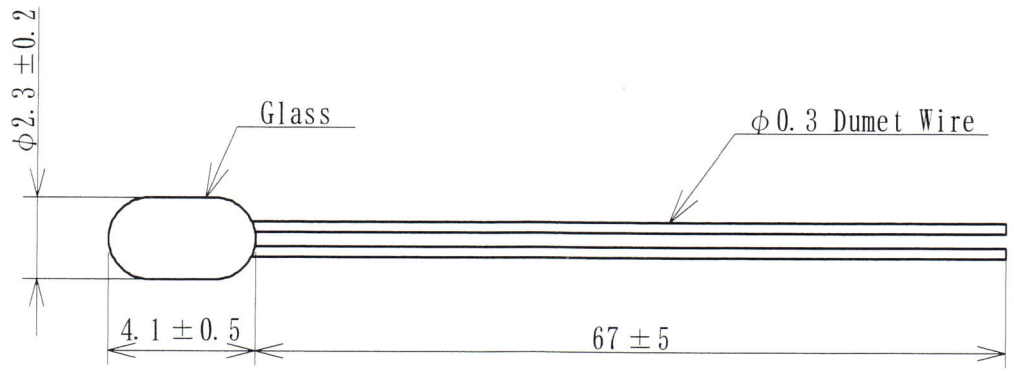
THERMISTOR, TYPE : PT-51F-M30
Customer : GuangDong Midea Electrical Heating Applicances MFG. Co. Ltd.

1. Scope

This specification sheet defines the shape, dimensions, characteristics, inspection standards and other standards of PT-51F-M30 used for IH rice cooker.

2. Specifications

2.1 Element : Thermistor, type PSB-S1
2.2 Shape and dimensions



Uni : mm

2.3 Characteristics

(1) Electrical characteristics

(a) Resistance value : R = 3.300 kΩ ± 3 % (at 100 ℃)

(b) B value : B = 3970 K ± 1 %
(calculated from resistance value at 0 ℃ and 100 ℃)

(b) Insulation resistance : 50 MΩ or over by DC.,500V megger
(between glass and lead wire)

(2) Thermal time constant (τ) : τ = 10 ~ 17 s (in still air)

(3) Thermal dissipation constant : δ = 1.1 ~ 1.6 mW/℃ (in still air)

(4) Operating temperature range : -10 ~ +300 ℃

Title: THERMISTOR TYPE	Drafter	Inspector	Approver	Dwg. No. 1 / 2 TE22813
PT-51F-M30	M. Murata	T. Sato	N. Koga	Dwg. No. 1 / 2 ver. 1

3. Outgoing Inspection

(1) The product shall be inspected at every delivery lot. The inspection items, sampling quantities and admission criteria are as follows.

Inspection Item	Admission criteria	Remarks
Resistance value	n=20, Ac=0, Re=1	2.3 (1) (a)
B-value	n=10, Ac=0, Re=1	2.3 (1) (b)
Insulation Resistance	n= 5, Ac=0, Re=1	2.3 (1) (c)
Shape & dimensions	n= 5, Ac=0, Re=1	2.2
Appearance	n= 5, Ac=0, Re=1	2.2

(2) Inspection data

Inspection data will be attached.

4. Packing

Packing shall be done to avoid any damage or soil during the delivery.

5. RoHS compliance

IMPORTANT SAFETY INFORMATION OF THERMISTORS IN USE

■WARNING

Following instructions must be followed strictly to minimize the risk of burn injury, personal injury or electric shock caused by intense heat, heat evolution or explosion. (Except when such countermeasures as explosion protection or etc are taken.)

- ✧ Do not touch thermistors by hand or human body when they are self-heated.
- ✧ Do not use thermistors in the atmosphere of flammable liquid or gas or mist when they are self-heated.

■CAUTION

Following instructions must be strictly observed to minimize the risk of malfunction or damage of equipment in-use, or destruction of NTC thermistors themselves.

- ✧ Do not use thermistors for any applications other than specified by our product specification, catalogs or instructions at the original design-in meeting, as thermistors are specifically designed for the designated application.
- ✧ Contact us and ask for instruction by our qualified engineers when you need to re-work thermistors.
- ✧ Before applying any treatment like resin molding etc around thermistors, be sure to eliminate the risk of thermistors breaking caused by expansion stress of constructional materials.
- ✧ After thermistors are installed in the equipment at design stage for equipment, be sure nothing abnormal detected in thermistors during reliability evaluation tests to be performed under operation of equipment.
- ✧ Be careful not to apply any exceeding voltage onto thermistors, which may cause functional failures of equipment due to decreasing of resistance value by self-heating.
- ✧ Be sure not to exceed the regulated specifications when the type of load generating inrush current is selected and the conditions of time and volume of inrush current is set.
- ✧ Do not use thermistors beyond the specified operating temperature range.
- ✧ Do not provide thermistors with the intensive temperature change exceeding the upper limit or lower limit of specified operating temperature range.
- ✧ Take every possible safety measure such as setting of safety circuit, parallel use of equivalent sensing devise etc to avoid any accidents, when using thermistors as a sensor.
- ✧ Take following measures under the conditions that some noise may affect.
  + Setting of protection circuit

+ Shield of thermistors (including wires)

- ✧ When any sealing is applied onto thermistors, apply it after confirming reliability of sealing material by studying kind of sealing material (physical property, chemical property, and weatherproof), applied quantity, hardening condition, adhesive property and etc.
- ✧ Do not apply any voltage over rated value of withstand voltage between insulated parts and electrodes of thermistors.
- ✧ Do not use thermistors beyond any range of rated electric power and maximum allowed electric power.
- ✧ Do not apply onto thermistors with any vibration, shock (dropping etc), pressure over specified values.
- ✧ Do not repeat bending of electric wires beyond regulations of the specification.
- ✧ Do not apply any force onto electric wires beyond regulations of the specification.
- ✧ As for thermistor sensors using PVC caps and PVC electric wires, keep material causing flexible PVC to harden, away from PVC caps and PVC electric wires. Such materials include PS, ABS, silicon, rubber and etc in which plasticizer in PVC migrates over to such PVC caps and PVC electric wires.
- ✧ Do not pull electric wires and do only pull connector housing or protecting tube portion when either connector or sensor is detached.
- ✧ Splice connecting parts of electric wires after keeping them in clean condition like contamination-free and rust-free which will cause imperfect electrical contact or loose electrical connection.
- ✧ Be careful not to melt solder and insulation material making up thermistors, when connecting thermistors with soldering.
- ✧ Be careful not to contact melted solder or soldering iron onto thermistor elements bodies and insulating parts of electric wires.
- ✧ As for thermistor sensors with threaded protecting tubes, do not squeeze them at over specified torque.
- ✧ Do not bend strongly or apply external force near neck of thermistors.
- ✧ Fix firmly electric wires connected with thermistor elements, when bending or cutting electric wires of thermistors.
- ✧ Do not use thermistors for longtime in an atmosphere at over 85% relative humidity. (except when such countermeasures as waterproof or etc are taken.)
- ✧ Enforce fully warning not to touch thermistors to consumers regarding any equipment installing thermistors in touchable condition.
- ✧ Do not use thermistors in the following atmosphere. (except when such countermeasures as chemical proof or etc are taken.)

  + corrosive gas (Cl_2, NH3, SOX, NOX)

+ high conductive atmosphere (electrolyte, water, salt water etc.)
+ acid, alkali, organic solvent
+ concentrated dusty place

■ CAUTION

When using thermisors, the following safety precautions should be taken.

✧ When installing thermistors into equipment, the following precautions should be taken to avoid possibility of malfunction of equipment caused by incorrect temperature detection.

・Install thermistor sensors into equipment in the correct position so that detecting parts of thermistors can measure surrounding temperature precisely without influence by any heating elements or any condensers when thermistor sensors detect temperature of gas, liquid and solid interior.

・When detecting surface temperature of any solid substance, be careful not to get influenced by ambient air or wind by making detecting parts and thermistors stick tightly with the use of good thermally-conductive grease or adhesive. thermistor sensors with threaded protecting tubes.

✧ Take material quality and structure into consideration to avoid creation of contact potential difference between thermistor sensors with threaded protecting tubes and fixing plates, as there is a possibility that function failure of equipment occurs due to corrosion of metal.

✧ Consult with us about installing condition such as mechanical strength in order to prevent thermistor sensors from defectiveness when fixing thermistor sensors by pressing, or squeezing or insertion.

✧ Do not fix other components near self-heating thermistors as there is a possibility to generate malfunction of other components.

✧ Store packed thermistors under condition of ambient temperature −10 ～+40℃、at under 75℃ relative humidity, avoiding atmosphere with drastic temperature change, direct sunlight, corrosive gas, dust and not to apply any load stress as there is a possibility to generate deterioration and damage to thermistors.

✧ How to handle thermistor elements after unpacking:
Reseal a minimum-lot pack after unpacking a minimum-lot pack for thermistor elements or keep unpacked minimum-lot in a sealed container with drying agent.

If you have any other question on our thermistors for your actual application and operation, please do not hesitate to contact sales staffs of Shibaura Electronics Co., Ltd.
(Telephone No.) at any time.

Date: Dec. 01, 2016

PT-51F PRT27581

RESISTANCE-TEMPERATURE CHARACTERISTICS

TEMP. °C	MINIMUM kΩ	NOMINAL kΩ	MAXIMUM kΩ	ResiAccy %
-10.0	256.1	276.1	297.3	± 7.684
-9.0	242.6	261.4	281.3	± 7.623
-8.0	229.9	247.5	266.2	± 7.562
-7.0	217.9	234.5	252.1	± 7.501
-6.0	206.7	222.2	238.8	± 7.441
-5.0	196.0	210.7	226.2	± 7.382
-4.0	186.0	199.8	214.5	± 7.323
-3.0	176.6	189.6	203.3	± 7.264
-2.0	167.7	179.9	192.9	± 7.206
-1.0	159.3	170.8	183.0	± 7.148
0.0	151.3	162.2	173.7	± 7.091
1.0	143.8	154.1	164.9	± 7.034
2.0	136.7	146.4	156.6	± 6.978
3.0	130.0	139.1	148.7	± 6.922
4.0	123.6	132.3	141.3	± 6.867
5.0	117.7	125.8	134.3	± 6.812
6.0	112.0	119.7	127.7	± 6.757
7.0	106.6	113.9	121.5	± 6.703
8.0	101.5	108.4	115.6	± 6.649
9.0	96.75	103.2	110.0	± 6.596
10.0	92.20	98.32	104.8	± 6.543
11.0	87.90	93.68	99.76	± 6.490
12.0	83.82	89.29	95.04	± 6.438
13.0	79.95	85.13	90.57	± 6.386
14.0	76.29	81.19	86.33	± 6.335
15.0	72.81	77.45	82.32	± 6.284
16.0	69.51	73.91	78.52	± 6.233
17.0	66.38	70.55	74.91	± 6.183
18.0	63.41	67.36	71.49	± 6.133
19.0	60.59	64.34	68.25	± 6.084
20.0	57.91	61.47	65.17	± 6.034
21.0	55.37	58.74	62.25	± 5.986
22.0	52.95	56.15	59.48	± 5.937
23.0	50.65	53.68	56.85	± 5.889
24.0	48.47	51.34	54.34	± 5.841
25.0	46.39	49.12	51.97	± 5.794
26.0	44.41	47.00	49.71	± 5.747
27.0	42.53	44.99	47.56	± 5.700
28.0	40.73	43.08	45.51	± 5.654
29.0	39.03	41.25	43.57	± 5.607
30.0	37.40	39.52	41.72	± 5.562

R(100°C)= 3.300 kΩ ± 3.0 %

B(0/100)= 3970 K ± 1.0 %

Title: THERMISTOR TYPE PT-51F	Drafter K.Suzuki	Appr. by T.Nakaya	Dwg. No. C	1/8

3-29 Ver.1

SHIBAURA ELECTRONICS CO., LTD.

Date: Dec. 01, 2016

PT-51F PRT27581

RESISTANCE-TEMPERATURE CHARACTERISTICS

TEMP. °C	MINIMUM kΩ	NOMINAL kΩ	MAXIMUM kΩ	ResiAccy %
30.0	37.40	39.52	41.72	± 5.562
31.0	35.85	37.86	39.95	± 5.516
32.0	34.38	36.29	38.28	± 5.471
33.0	32.97	34.79	36.68	± 5.426
34.0	31.63	33.36	35.15	± 5.382
35.0	30.35	32.00	33.70	± 5.338
36.0	29.13	30.70	32.32	± 5.294
37.0	27.96	29.46	31.00	± 5.250
38.0	26.85	28.27	29.74	± 5.207
39.0	25.79	27.14	28.54	± 5.164
40.0	24.77	26.06	27.40	± 5.121
41.0	23.80	25.04	26.31	± 5.079
42.0	22.88	24.05	25.26	± 5.037
43.0	21.99	23.11	24.27	± 4.995
44.0	21.15	22.22	23.32	± 4.953
45.0	20.34	21.36	22.41	± 4.912
46.0	19.57	20.54	21.54	± 4.871
47.0	18.83	19.75	20.71	± 4.830
48.0	18.12	19.00	19.91	± 4.790
49.0	17.44	18.29	19.15	± 4.750
50.0	16.79	17.60	18.43	± 4.710
51.0	16.17	16.94	17.73	± 4.670
52.0	15.58	16.31	17.07	± 4.630
53.0	15.01	15.71	16.43	± 4.591
54.0	14.46	15.13	15.82	± 4.552
55.0	13.94	14.58	15.24	± 4.514
56.0	13.44	14.05	14.68	± 4.475
57.0	12.95	13.54	14.14	± 4.437
58.0	12.49	13.05	13.63	± 4.399
59.0	12.05	12.59	13.14	± 4.362
60.0	11.63	12.14	12.67	± 4.324
61.0	11.22	11.71	12.21	± 4.287
62.0	10.83	11.30	11.78	± 4.250
63.0	10.45	10.90	11.36	± 4.213
64.0	10.09	10.52	10.96	± 4.177
65.0	9.746	10.16	10.58	± 4.141
66.0	9.414	9.809	10.21	± 4.104
67.0	9.094	9.473	9.858	± 4.069
68.0	8.787	9.150	9.519	± 4.033
69.0	8.492	8.840	9.193	± 3.998
70.0	8.209	8.541	8.880	± 3.963

R(100°C)= 3.300 kΩ ± 3.0 %

B(0/100)= 3970 K ± 1.0 %

Title: THERMISTOR TYPE PT-51F	Drafter K.Suzuki	Appr. by T.Nakaya	Dwg. No. C	2/8

SHIBAURA ELECTRONICS CO., LTD. 3-29 Ver.1

Date: Dec. 01, 2016

PT-51F PRT27581

RESISTANCE-TEMPERATURE CHARACTERISTICS

TEMP. °C	MINIMUM kΩ	NOMINAL kΩ	MAXIMUM kΩ	ResiAccy %
70.0	8.209	8.541	8.880	± 3.963
71.0	7.936	8.255	8.579	± 3.928
72.0	7.673	7.979	8.290	± 3.893
73.0	7.421	7.714	8.012	± 3.858
74.0	7.178	7.459	7.745	± 3.824
75.0	6.945	7.214	7.488	± 3.790
76.0	6.720	6.978	7.240	± 3.756
77.0	6.503	6.751	7.003	± 3.722
78.0	6.295	6.533	6.774	± 3.689
79.0	6.094	6.322	6.554	± 3.656
80.0	5.901	6.120	6.342	± 3.622
81.0	5.714	5.925	6.137	± 3.590
82.0	5.535	5.737	5.941	± 3.557
83.0	5.362	5.556	5.752	± 3.524
84.0	5.195	5.381	5.569	± 3.492
85.0	5.034	5.213	5.394	± 3.460
86.0	4.880	5.051	5.224	± 3.428
87.0	4.730	4.895	5.061	± 3.396
88.0	4.586	4.744	4.904	± 3.365
89.0	4.447	4.599	4.753	± 3.333
90.0	4.313	4.459	4.606	± 3.302
91.0	4.183	4.324	4.465	± 3.271
92.0	4.058	4.193	4.329	± 3.240
93.0	3.938	4.068	4.198	± 3.210
94.0	3.821	3.946	4.072	± 3.179
95.0	3.709	3.829	3.949	± 3.149
96.0	3.600	3.716	3.831	± 3.119
97.0	3.495	3.606	3.718	± 3.089
98.0	3.394	3.501	3.608	± 3.059
99.0	3.296	3.399	3.502	± 3.029
100.0	3.201	3.300	3.399	± 3.000
101.0	3.108	3.205	3.302	± 3.029
102.0	3.018	3.113	3.208	± 3.058
103.0	2.930	3.024	3.117	± 3.087
104.0	2.846	2.938	3.029	± 3.116
105.0	2.765	2.854	2.944	± 3.145
106.0	2.686	2.774	2.862	± 3.174
107.0	2.610	2.696	2.783	± 3.202
108.0	2.537	2.621	2.706	± 3.230
109.0	2.466	2.548	2.631	± 3.258
110.0	2.397	2.478	2.559	± 3.286

R(100°C)= 3.300 kΩ ± 3.0 %

B(0/100)= 3970 K ± 1.0 %

Title: THERMISTOR TYPE PT-51F	Drafter K.Suzuki	Appr. by T.Nakaya	Dwg. No. C	3/8

SHIBAURA ELECTRONICS CO., LTD. 3-29 Ver.1

Date: Dec. 01, 2016

PT-51F PRT27581

RESISTANCE-TEMPERATURE CHARACTERISTICS

TEMP. °C	MINIMUM kΩ	NOMINAL kΩ	MAXIMUM kΩ	ResiAccy %
110.0	2.397	2.478	2.559	± 3.286
111.0	2.330	2.410	2.489	± 3.314
112.0	2.266	2.344	2.422	± 3.342
113.0	2.203	2.280	2.356	± 3.370
114.0	2.143	2.218	2.293	± 3.397
115.0	2.085	2.158	2.232	± 3.424
116.0	2.028	2.100	2.172	± 3.452
117.0	1.973	2.044	2.115	± 3.479
118.0	1.920	1.989	2.059	± 3.506
119.0	1.869	1.937	2.005	± 3.532
120.0	1.819	1.886	1.953	± 3.559
121.0	1.771	1.836	1.902	± 3.586
122.0	1.724	1.788	1.853	± 3.612
123.0	1.679	1.741	1.805	± 3.638
124.0	1.635	1.696	1.759	± 3.664
125.0	1.592	1.653	1.714	± 3.690
126.0	1.551	1.610	1.670	± 3.716
127.0	1.511	1.569	1.628	± 3.742
128.0	1.472	1.529	1.587	± 3.768
129.0	1.435	1.490	1.547	± 3.793
130.0	1.398	1.453	1.508	± 3.819
131.0	1.363	1.416	1.471	± 3.844
132.0	1.328	1.381	1.435	± 3.869
133.0	1.295	1.347	1.399	± 3.894
134.0	1.263	1.313	1.365	± 3.919
135.0	1.231	1.281	1.332	± 3.944
136.0	1.201	1.250	1.299	± 3.969
137.0	1.171	1.219	1.268	± 3.993
138.0	1.143	1.189	1.237	± 4.018
139.0	1.115	1.161	1.208	± 4.042
140.0	1.087	1.133	1.179	± 4.066
141.0	1.061	1.106	1.151	± 4.091
142.0	1.036	1.079	1.124	± 4.115
143.0	1.011	1.053	1.097	± 4.139
144.0	0.9866	1.029	1.071	± 4.162
145.0	0.9631	1.004	1.046	± 4.186
146.0	0.9403	0.9807	1.022	± 4.210
147.0	0.9181	0.9578	0.9984	± 4.233
148.0	0.8965	0.9355	0.9754	± 4.257
149.0	0.8756	0.9139	0.9530	± 4.280
150.0	0.8552	0.8928	0.9312	± 4.303

R(100°C)= 3.300 kΩ ± 3.0 %

B(0/100)= 3970 K ± 1.0 %

Title: THERMISTOR TYPE PT-51F	Drafter K.Suzuki	Appr. by T.Nakaya	Dwg. No. C	4/8

SHIBAURA ELECTRONICS CO., LTD 3-29 Ver.1

Date: Dec. 01, 2016

PT-51F PRT27581

RESISTANCE-TEMPERATURE CHARACTERISTICS

TEMP. °C	MINIMUM kΩ	NOMINAL kΩ	MAXIMUM kΩ	ResiAccy %
150.0	0.8552	0.8928	0.9312	± 4.303
151.0	0.8354	0.8723	0.9100	± 4.326
152.0	0.8161	0.8523	0.8894	± 4.349
153.0	0.7973	0.8329	0.8694	± 4.372
154.0	0.7791	0.8141	0.8498	± 4.395
155.0	0.7613	0.7957	0.8308	± 4.417
156.0	0.7441	0.7778	0.8123	± 4.440
157.0	0.7273	0.7604	0.7943	± 4.462
158.0	0.7109	0.7435	0.7768	± 4.485
159.0	0.6950	0.7270	0.7597	± 4.507
160.0	0.6795	0.7109	0.7431	± 4.529
161.0	0.6644	0.6953	0.7269	± 4.551
162.0	0.6497	0.6801	0.7112	± 4.573
163.0	0.6354	0.6652	0.6958	± 4.595
164.0	0.6215	0.6508	0.6808	± 4.617
165.0	0.6079	0.6367	0.6662	± 4.639
166.0	0.5947	0.6230	0.6520	± 4.660
167.0	0.5818	0.6096	0.6382	± 4.682
168.0	0.5693	0.5966	0.6247	± 4.703
169.0	0.5571	0.5839	0.6115	± 4.724
170.0	0.5452	0.5716	0.5987	± 4.746
171.0	0.5336	0.5595	0.5862	± 4.767
172.0	0.5223	0.5477	0.5740	± 4.788
173.0	0.5112	0.5363	0.5621	± 4.809
174.0	0.5005	0.5251	0.5505	± 4.830
175.0	0.4900	0.5142	0.5392	± 4.850
176.0	0.4798	0.5036	0.5281	± 4.871
177.0	0.4698	0.4932	0.5174	± 4.892
178.0	0.4601	0.4831	0.5069	± 4.912
179.0	0.4506	0.4733	0.4966	± 4.933
180.0	0.4414	0.4637	0.4866	± 4.953
181.0	0.4324	0.4543	0.4769	± 4.973
182.0	0.4236	0.4451	0.4674	± 4.993
183.0	0.4150	0.4362	0.4581	± 5.013
184.0	0.4066	0.4275	0.4490	± 5.033
185.0	0.3985	0.4190	0.4401	± 5.053
186.0	0.3905	0.4107	0.4315	± 5.073
187.0	0.3827	0.4025	0.4230	± 5.093
188.0	0.3751	0.3946	0.4148	± 5.113
189.0	0.3677	0.3869	0.4068	± 5.132
190.0	0.3604	0.3793	0.3989	± 5.152

R(100°C)= 3.300 kΩ ± 3.0 %

B(0/100)= 3970 K ± 1.0 %

Title: THERMISTOR TYPE PT-51F	Drafter K.Suzuki	Appr. by T.Nakaya	Dwg. No. C	5/8

SHIBAURA ELECTRONICS CO., LTD 3-29 Ver.1

Date: Dec. 01, 2016

PT-51F PRT27581

RESISTANCE-TEMPERATURE CHARACTERISTICS

TEMP. °C	MINIMUM kΩ	NOMINAL kΩ	MAXIMUM kΩ	ResiAccy %
190.0	0.3604	0.3793	0.3989	± 5.152
191.0	0.3534	0.3720	0.3912	± 5.171
192.0	0.3465	0.3648	0.3837	± 5.190
193.0	0.3397	0.3577	0.3764	± 5.210
194.0	0.3331	0.3509	0.3692	± 5.229
195.0	0.3267	0.3442	0.3622	± 5.248
196.0	0.3204	0.3376	0.3554	± 5.267
197.0	0.3143	0.3312	0.3487	± 5.286
198.0	0.3083	0.3249	0.3422	± 5.305
199.0	0.3024	0.3188	0.3358	± 5.324
200.0	0.2967	0.3128	0.3296	± 5.342
201.0	0.2911	0.3070	0.3235	± 5.361
202.0	0.2857	0.3013	0.3175	± 5.379
203.0	0.2803	0.2957	0.3117	± 5.398
204.0	0.2751	0.2903	0.3060	± 5.416
205.0	0.2700	0.2849	0.3004	± 5.435
206.0	0.2650	0.2797	0.2950	± 5.453
207.0	0.2601	0.2746	0.2896	± 5.471
208.0	0.2554	0.2696	0.2844	± 5.489
209.0	0.2507	0.2647	0.2793	± 5.507
210.0	0.2461	0.2600	0.2743	± 5.525
211.0	0.2417	0.2553	0.2694	± 5.543
212.0	0.2373	0.2507	0.2647	± 5.561
213.0	0.2330	0.2463	0.2600	± 5.579
214.0	0.2289	0.2419	0.2554	± 5.597
215.0	0.2248	0.2376	0.2509	± 5.614
216.0	0.2208	0.2334	0.2466	± 5.632
217.0	0.2169	0.2293	0.2423	± 5.649
218.0	0.2130	0.2253	0.2381	± 5.667
219.0	0.2093	0.2214	0.2340	± 5.684
220.0	0.2056	0.2176	0.2300	± 5.701
221.0	0.2020	0.2138	0.2260	± 5.719
222.0	0.1985	0.2101	0.2222	± 5.736
223.0	0.1951	0.2065	0.2184	± 5.753
224.0	0.1917	0.2030	0.2147	± 5.770
225.0	0.1884	0.1995	0.2111	± 5.787
226.0	0.1852	0.1961	0.2075	± 5.804
227.0	0.1821	0.1928	0.2040	± 5.821
228.0	0.1790	0.1896	0.2006	± 5.837
229.0	0.1759	0.1864	0.1973	± 5.854
230.0	0.1730	0.1833	0.1940	± 5.871

R(100°C)= 3.300 kΩ ± 3.0 %

B(0/100)= 3970 K ± 1.0 %

Title: THERMISTOR TYPE PT-51F	Drafter K.Suzuki	Appr. by T.Nakaya	Dwg. No. C	6/8

SHIBAURA ELECTRONICS CO., LTD 3-29 Ver.1

Date: Dec. 01, 2016

PT-51F PRT27581

RESISTANCE-TEMPERATURE CHARACTERISTICS

TEMP. °C	MINIMUM kΩ	NOMINAL kΩ	MAXIMUM kΩ	ResiAccy %
230.0	0.1730	0.1833	0.1940	± 5.871
231.0	0.1701	0.1802	0.1908	± 5.887
232.0	0.1672	0.1773	0.1877	± 5.904
233.0	0.1644	0.1743	0.1846	± 5.920
234.0	0.1617	0.1715	0.1816	± 5.937
235.0	0.1590	0.1686	0.1787	± 5.953
236.0	0.1564	0.1659	0.1758	± 5.969
237.0	0.1538	0.1632	0.1730	± 5.985
238.0	0.1513	0.1605	0.1702	± 6.001
239.0	0.1489	0.1580	0.1675	± 6.017
240.0	0.1464	0.1554	0.1648	± 6.034
241.0	0.1441	0.1529	0.1622	± 6.049
242.0	0.1417	0.1505	0.1596	± 6.065
243.0	0.1395	0.1481	0.1571	± 6.081
244.0	0.1372	0.1457	0.1546	± 6.097
245.0	0.1350	0.1434	0.1522	± 6.113
246.0	0.1329	0.1412	0.1498	± 6.128
247.0	0.1308	0.1390	0.1475	± 6.144
248.0	0.1287	0.1368	0.1452	± 6.160
249.0	0.1267	0.1347	0.1430	± 6.175
250.0	0.1247	0.1326	0.1408	± 6.190
251.0	0.1228	0.1305	0.1386	± 6.206
252.0	0.1209	0.1285	0.1365	± 6.221
253.0	0.1190	0.1265	0.1344	± 6.236
254.0	0.1172	0.1246	0.1324	± 6.252
255.0	0.1154	0.1227	0.1304	± 6.267
256.0	0.1136	0.1208	0.1284	± 6.282
257.0	0.1119	0.1190	0.1265	± 6.297
258.0	0.1102	0.1172	0.1246	± 6.312
259.0	0.1085	0.1155	0.1228	± 6.327
260.0	0.1068	0.1137	0.1209	± 6.342
261.0	0.1052	0.1120	0.1192	± 6.357
262.0	0.1037	0.1104	0.1174	± 6.371
263.0	0.1021	0.1087	0.1157	± 6.386
264.0	0.1006	0.1071	0.1140	± 6.401
265.0	0.0991	0.1056	0.1123	± 6.415
266.0	0.0976	0.1040	0.1107	± 6.430
267.0	0.0962	0.1025	0.1091	± 6.444
268.0	0.0948	0.1010	0.1075	± 6.459
269.0	0.0934	0.0995	0.1060	± 6.473
270.0	0.0920	0.0981	0.1045	± 6.488

R(100°C)= 3.300 kΩ ± 3.0 %

B(0/100)= 3970 K ± 1.0 %

Title: THERMISTOR TYPE PT-51F	Drafter K.Suzuki	Appr. by T.Nakaya	Dwg. No. C	7/8

SHIBAURA ELECTRONICS CO., LTD. 3-29 Ver.1

Date: Dec. 01, 2016

PT-51F PRT27581

RESISTANCE-TEMPERATURE CHARACTERISTICS

TEMP. °C	MINIMUM kΩ	NOMINAL kΩ	MAXIMUM kΩ	ResiAccy %
270.0	0.0920	0.0981	0.1045	± 6.488
271.0	0.0907	0.0967	0.1030	± 6.502
272.0	0.0894	0.0953	0.1015	± 6.516
273.0	0.0881	0.0939	0.1001	± 6.530
274.0	0.0868	0.0926	0.0987	± 6.544
275.0	0.0856	0.0913	0.0973	± 6.559
276.0	0.0844	0.0900	0.0959	± 6.573
277.0	0.0832	0.0887	0.0946	± 6.587
278.0	0.0820	0.0875	0.0933	± 6.601
279.0	0.0808	0.0863	0.0920	± 6.615
280.0	0.0797	0.0851	0.0907	± 6.628
281.0	0.0786	0.0839	0.0894	± 6.642
282.0	0.0775	0.0827	0.0882	± 6.656
283.0	0.0764	0.0816	0.0870	± 6.670
284.0	0.0753	0.0804	0.0858	± 6.683
285.0	0.0743	0.0793	0.0847	± 6.697
286.0	0.0733	0.0783	0.0835	± 6.711
287.0	0.0723	0.0772	0.0824	± 6.724
288.0	0.0713	0.0761	0.0813	± 6.738
289.0	0.0703	0.0751	0.0802	± 6.751
290.0	0.0693	0.0741	0.0791	± 6.764
291.0	0.0684	0.0731	0.0781	± 6.778
292.0	0.0675	0.0721	0.0770	± 6.791
293.0	0.0666	0.0712	0.0760	± 6.804
294.0	0.0657	0.0702	0.0750	± 6.817
295.0	0.0648	0.0693	0.0740	± 6.831
296.0	0.0639	0.0684	0.0731	± 6.844
297.0	0.0631	0.0675	0.0721	± 6.857
298.0	0.0623	0.0666	0.0712	± 6.870
299.0	0.0614	0.0657	0.0703	± 6.883
300.0	0.0606	0.0649	0.0693	± 6.896

R(100°C)= 3.300 kΩ ± 3.0 %

B(0/100)= 3970 K ± 1.0 %

Title: THERMISTOR TYPE PT-51F	Drafter K.Suzuki	Appr. by T.Nakaya	Dwg. No. C	5/8

SHIBAURA ELECTRONICS CO., LTD. 3-29 Ver.1