



MODEL 44904

GSFC Space Qualified Thermistor

- Fully Qualified to GSFC S311-P18-04S7R6 Specification for Flight Use
- 3000 ohm Resistance @ 25°C
- Interchangeable $\pm 0.1^\circ\text{C}$, 0°C to 70°C
- Pressed Disk Ceramic Sensor
- High sensitivity
- Thermally conductive epoxy coating that meet Outgassing Requirements
- 32 AWG, 3" (7.6 cm) long Solder plated copper leads
- Serialized and Color Coded for Identification

FEATURES

- Flight Qualified
- 3000 ohm Resistance @ 25°C
- Interchangeability
- High Sensitivity
- Thermally Conductive Epoxy Coating
Exhibits <0.66% TML, <0.01% CVCM, 0.10% WVR when tested per ASTM E-595-90

APPLICATIONS

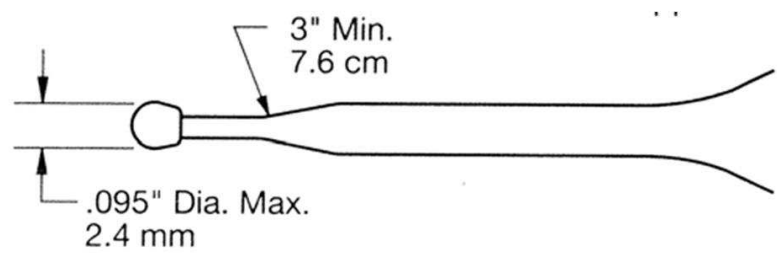
- Extended Space Applications
- Low and Mid Range Temperature Applications
- Tight Tolerance Instrumentation
- Applications Requiring Sensing Small Changes in Temperature
- Applications with Outgassing Requirements

NASA Qualified epoxy encapsulated precision interchangeable NTC thermistors for use in extended space flight applications. All parts are fully flight tested and characterized. Line re-qualified yearly per MIL-PRF-23648 requirements as specified in S311-P18 document. Resistance (Type 04) available in other lead and resistance configurations per S311-P18.

PERFORMANCE SPECS

Parameter	Units	Value
Resistance @ 25°C	Ohms	3000
Tolerance 0°C to 70°C	°C	± 0.1
Beta Value 25/85	K	3987
Tolerance on Beta Value	%	0.4
Time response in air	Seconds	< 10
Dissipation Constant in air	mW/°C	1
Insulation Resistance (Min. of 100 Mohms for 1 sec.)	Volts	500

MECHANICAL DETAILS



TYPICAL PERFORMANCE CURVES (RESISTANCE OF INDIVIDUAL THERMISTORS)

Temp °C	K-Ohms
-55	289.2
-54	268.6
-53	249.7
-52	232.2
-51	216.0
-50	201.1
-49	187.3
-48	174.5
-47	162.7
-46	151.7
-45	141.6
-44	132.2
-43	123.5
-42	115.4
-41	107.9
-40	101.0
-39	94.48
-38	88.46
-37	82.87
-36	77.66
-35	72.81
-34	68.30
-33	64.09
-32	60.17
-31	56.51
-30	53.10
-29	49.91
-28	46.94
-27	44.16
-26	41.56
-25	39.13
-24	36.86
-23	34.73
-22	32.74
-21	30.87
-20	29.13
-19	27.49
-18	25.95
-17	24.51
-16	23.16

Temp °C	K-Ohms
-15	21.89
-14	20.70
-13	19.58
-12	18.52
-11	17.53
-10	16.60
-9	15.72
-8	14.90
-7	14.12
-6	13.39
-5	12.70
-4	12.05
-3	11.44
-2	10.86
-1	10.31
0	9.796
1	9.310
2	8.851
3	8.417
4	8.006
5	7.618
6	7.252
7	6.905
8	6.576
9	6.265
10	5.971
11	5.692
12	5.427
13	5.177
14	4.939
15	4.714
16	4.500
17	4.297
18	4.105
19	3.922
20	3.748
21	3.583
22	3.426
23	3.277
24	3.135

Temp °C	K-Ohms
25	3.000
26	2.872
27	2.750
28	2.633
29	2.523
30	2.417
31	2.317
32	2.221
33	2.130
34	2.042
35	1.959
36	1.880
37	1.805
38	1.733
39	1.664
40	1.598
41	1.535
42	1.475
43	1.418
44	1.363
45	1.310
46	1.260
47	1.212
48	1.167
49	1.123
50	1.081
51	1.040
52	1.002
53	0.9650
54	0.9296
55	0.8958
56	0.8633
57	0.8322
58	0.8023
59	0.7737
60	0.7463
61	0.7199
62	0.6947
63	0.6704
64	0.6471

Temp °C	K-Ohms
65	0.6247
66	0.6033
67	0.5826
68	0.5628
69	0.5437
70	0.5254

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ORDERING INFORMATION

Part Number	Description	Ω @25°C
095803	44904 THERM GSFC 311P18-04S7R6	3000
SP44904X-xx	44904X GSFC 311P18-04, Various Lead lengths and Types	3000

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