



## MODEL 44908

### GSFC Space Qualified Thermistor

- Fully Qualified to GSFC S311-P18-08S7R6 Specification for Flight Use
- 10,000 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

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 08) available in other lead and resistance configurations per S311-P18.

#### FEATURES

- Flight Qualified
- 10,000 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

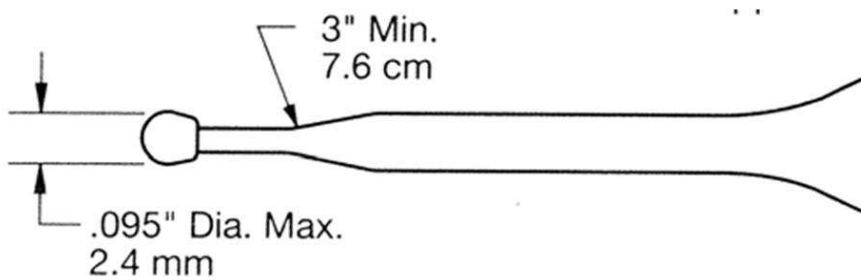
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### PERFORMANCE SPECS

| Parameter  | Units   | Value  |
|--|---------|--------|
| Resistance @ 25°C                                    | Ohms    | 10,000 |
| Tolerance 0°C to 70°C                                | °C      | ± 0.1  |
| Beta Value 25/85                                     | K       | 3694   |
| 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 | Temp °C | K-Ohms | Temp °C | K-Ohms | Temp °C | K-Ohms |
|---------|--------|---------|--------|---------|--------|---------|--------|
| -55     | 607.8  | -15     | 61.02  | 25      | 10.00  | 65      | 2.339  |
| -54     | 569.6  | -14     | 58.01  | 26      | 9.605  | 66      | 2.264  |
| -53     | 534.1  | -13     | 55.17  | 27      | 9.227  | 67      | 2.191  |
| -52     | 501.0  | -12     | 52.48  | 28      | 8.867  | 68      | 2.122  |
| -51     | 470.1  | -11     | 49.94  | 29      | 8.523  | 69      | 2.055  |
| -50     | 441.3  | -10     | 47.54  | 30      | 8.194  | 70      | 1.990  |
| -49     | 414.5  | -9      | 45.27  | 31      | 7.880  |         |        |
| -48     | 389.4  | -8      | 43.11  | 32      | 7.579  |         |        |
| -47     | 366.0  | -7      | 41.07  | 33      | 7.291  |         |        |
| -46     | 344.1  | -6      | 39.14  | 34      | 7.016  |         |        |
| -45     | 323.7  | -5      | 37.31  | 35      | 6.752  |         |        |
| -44     | 304.6  | -4      | 35.57  | 36      | 6.500  |         |        |
| -43     | 286.7  | -3      | 33.93  | 37      | 6.258  |         |        |
| -42     | 270.0  | -2      | 32.37  | 38      | 6.026  |         |        |
| -41     | 254.4  | -1      | 30.89  | 39      | 5.805  |         |        |
| -40     | 239.8  | 0       | 29.49  | 40      | 5.592  |         |        |
| -39     | 226.0  | 1       | 28.15  | 41      | 5.389  |         |        |
| -38     | 213.2  | 2       | 26.89  | 42      | 5.193  |         |        |
| -37     | 201.1  | 3       | 25.69  | 43      | 5.006  |         |        |
| -36     | 189.8  | 4       | 24.55  | 44      | 4.827  |         |        |
| -35     | 179.2  | 5       | 23.46  | 45      | 4.655  |         |        |
| -34     | 169.3  | 6       | 22.43  | 46      | 4.489  |         |        |
| -33     | 160.0  | 7       | 21.45  | 47      | 4.331  |         |        |
| -32     | 151.2  | 8       | 20.52  | 48      | 4.179  |         |        |
| -31     | 143.00 | 9       | 19.63  | 49      | 4.033  |         |        |
| -30     | 135.20 | 10      | 18.790 | 50      | 3.893  |         |        |
| -29     | 127.90 | 11      | 17.980 | 51      | 3.758  |         |        |
| -28     | 121.10 | 12      | 17.220 | 52      | 3.629  |         |        |
| -27     | 114.60 | 13      | 16.490 | 53      | 3.504  |         |        |
| -26     | 108.60 | 14      | 15.790 | 54      | 3.385  |         |        |
| -25     | 102.90 | 15      | 15.130 | 55      | 3.270  |         |        |
| -24     | 97.49  | 16      | 14.500 | 56      | 3.160  |         |        |
| -23     | 92.43  | 17      | 13.900 | 57      | 3.054  |         |        |
| -22     | 87.66  | 18      | 13.330 | 58      | 2.952  |         |        |
| -21     | 83.16  | 19      | 12.790 | 59      | 2.854  |         |        |
| -20     | 78.91  | 20      | 12.260 | 60      | 2.760  |         |        |
| -19     | 74.91  | 21      | 11.770 | 61      | 2.669  |         |        |
| -18     | 71.13  | 22      | 11.290 | 62      | 2.582  |         |        |
| -17     | 67.57  | 23      | 10.840 | 63      | 2.497  |         |        |
| -16     | 64.20  | 24      | 10.410 | 64      | 2.417  |         |        |

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### ORDERING INFORMATION

| Part Number | Description  | $\Omega$ @25°C |
|-------------|--|----------------|
| 095807      | 44908 THERM GSFC 311P18-08S7R6                           | 10,000         |
| SP44908X-xx | 44908X GSFC 311P18-08,<br>Various Lead lengths and Types | 10,000         |

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