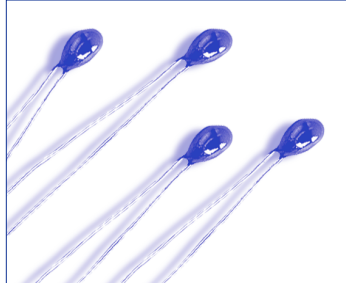




## YSI 44900 Series Thermistor Components GSFC S-311-P-18



44900 NASA Space Qualified Thermistors

The Temperature  
Standard,  
Planetwide.™

YSI Temperature (YSIT) has been in the temperature measurement business for over 50 years and offers a full line of thermistor components specifically designed for the most challenging and precise applications. YSIT has operated in the high quality, high precision segment of the market with thermistors manufactured to very close tolerance.

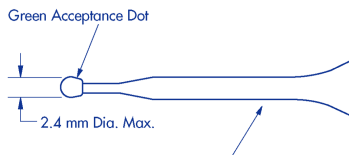
### Goddard Space Flight Center

NASA has qualified YSI epoxy-encapsulated thermistors for use in extended space flight. The Goddard Space Flight Center issued GSFC S-311-P-18 in 1974, specifying the performance requirements for these thermistors. YSI re-qualifies the product line each year and screens every thermistor before stocking.

Re-qualification includes the following tests referenced in MIL-PRF-23648:

- Short time load
- Thermal shock
- Insulation resistance
- Resistance to soldering heat
- Low temperature storage
- High temperature storage
- Dissipation constant
- Thermal time constant
- Terminal strength
- Moisture resistance
- High temperature exposure
- High frequency vibration
- Medium impact shock
- Immersion

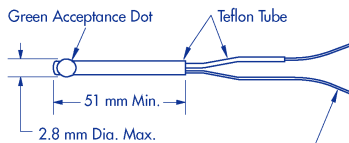
### Bare Lead Thermistors



**Type S Lead Configuration**  
32 AWG Tinned Solid Copper Wire-7.6 cm Min.

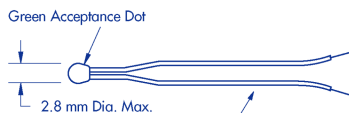
**Type N Lead Configuration**  
32 AWG Solid Nickel Wire-7.6 cm Min.

### Teflon Covered Thermistors



**Type E Lead Configuration**  
32 AWG Tinned Solid Copper Wire-7.6 cm Min.

### Insulated Lead Thermistors



**Type A Lead Configuration**  
28 AWG Stranded Tefzel-Insulated Wire-7.6 cm Min.

**Type T Lead Configuration**  
28 AWG Stranded Teflon-Insulated Wire-7.6 cm Min.

### Screening and Testing

Screening includes visual and mechanical requirements, thermal shock, high temperature storage, insulation resistance, and additional resistance versus temperature analysis, giving you confidence that the component will perform to the rigorous requirements of space flight or other high reliability applications.

Customers often submit their own specifications that use YSI's testing capabilities in combinations not included in the Goddard specification.

### Applications Engineering

YSI Temperature's seasoned Applications Engineering group partners with you to engineer and manufacture customized solutions. Whether it is an application that depends on sensor interchangeability, reliability, or high accuracy, YSIT provides state-of-the-art thermal control and best business practices to ensure your product's success.



The Temperature  
Standard,  
Planetwide.™

To order or for more information, contact your local representative or the YSI Temperature customer service team.

937 427-1231

800 747-5367 U.S. only  
937 427 1640 fax

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ISO 9001  
ISO 14001

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### YSI 44900 Specifications

<b>Standard Configuration</b>	YSI 44900 Series Thermistors are provided to the specifications shown on the drawings ( <i>front</i> ). Each unit is color-coded to indicate resistance value and marked with a green dot between the leads to indicate successful acceptance testing.
<b>Configuration Options</b>	On special order, YSI 44900 Series Thermistors are available with a wide variety of options, including leads of various lengths, special lead materials, insulated beads, and as fully-encased units. Space-qualified thermistors also may be installed in many YSI Configure-to-Order Probes.
<b>Time Constant</b>	1 second max. when suspended by its leads in a well-stirred oil bath, or 10 seconds max. in still air.
<b>Dissipation Constant</b>	8 mW/°C min. when suspended by its leads in a well-stirred oil bath, or 1 mW/°C in still air.
<b>Outgas</b>	YSI 44900 Series Thermistors, when tested per ASTM E-595-90, exhibit the following characteristics: 0.66% TML, 0.01% CVMC, 0.10% WVR.
<b>Cage Code</b>	1L9U5

### Ordering Information

	Part Number	GSFC S311P18 Number	Basic YSI Thermistor	Zero Power Resistance $\Delta$ at 25°C	Beta 0-50°C (K)	Operating & Storage Temperature*	Color Code Body	End	Mix
<b>±0.2°C Interchangeability Tolerance 0 to 70°C</b>	44901	-01S7R6	44004	2252	3891	-55 to +90°C	black	yellow	B
	44903	-03S7R6	44005	3000	3891	-55 to +90°C	black	green	B
	44905	-05S7R6	44007	5000	3891	-55 to +90°C	black	violet	B
	44907	-07S7R6	44006	10K	3574	-55 to +90°C	black	blue	H
	44909	-09S7R6	44008	30K	3810	-55 to +90°C	black	gray	H
<b>±0.1°C Interchangeability Tolerance 0 to 70°C</b>	44902	-02S7R6	44033	2252	3891	-55 to +70°C	orange	orange	B
	44904	-04S7R6	44030	3000	3891	-55 to +70°C	orange	black	B
	44906	-06S7R6	44034	5000	3891	-55 to +70°C	orange	yellow	B
	44908	-08S7R6	44031	10K	3574	-55 to +70°C	orange	brown	H
	44910	-10S7R6	44032	30K	3810	-55 to +70°C	orange	red	H

\* Thermistors with ±0.2°C interchangeability tolerance may have short-term operating temperature excursions to 150°C; thermistors with ±0.1°C interchangeability tolerance may have short-term operating temperature excursions to 100°C.