

# APPLIANCE/HVAC PROBE SERIES

## NTC Thermistor Probes (10JH/11JH)



### Applications

- Ambient air temperature sensing
- Condenser coil sensing
- Other remote sensing applications

### Lead Wire Specifications

Insulation material: 80°C PVC, 300V Min.  
 UL2468, 1.6mm pitch twin-lead (two core) seven strand,  
 0.38mm insulation thickness, 26 AWG (optional 24, 22 AWG)  
 (Optional UL1015 (11JH only): 600V Min., 105°C PVC)

### Operating Temperature Range

-40° to 80°C  
 (-20° to 105°C with 11JH only optional UL1015 lead wires)

### Thermal Time Constant

10 seconds typical (liquid)  
 25°C/50°C

### Dissipation Constant

4mW/°C

### Values Available

R25°C	R-T Curve	Tol@25°C
10KΩ	Grade 1, 5	±1, 2, 3, 4, 5, 10%
15K	5	
20K	1, 5	
30K	1	
50K	1, 5	
100K	1, 5	



10JH



11JH



## R-T Curve Information

Beta	Grade 1	Grade 5
25/50	3934.4 ref	4060 ref
25/75	3965±1%	4100±2%
25/85	3977 ref	4107 ref

### R-T Formula

$$1/T = a + b(\ln R) + c(\ln R)^3$$

$$T = ^\circ\text{K} + ^\circ\text{C} + 273.15$$

Values for 10K at 25°C:

$$a = 1.125498166 \times 10^{-3}$$

$$b = 2.346771694 \times 10^{-4}$$

$$c = 8.579674698 \times 10^{-8}$$

Values for 15K, Grade 5

$$a = 1.110535091 \times 10^{-3}$$

$$b = 2.256359405 \times 10^{-4}$$

$$c = 8.301534472 \times 10^{-8}$$

### Optional Connector Type

JST Model XHP-2

## Resistance vs. Temperature

To find the resistance value of a part at any given temperature, multiply the resistance at 25°C by the multiplier value below.

Temp. °C	Grade 1	Grade 5
-40°	33.600	37.254
-35°	24.270	26.633
-30°	17.700	19.258
-25°	13.040	14.068
-20°	9.7060	10.382
-15°	7.2940	7.7426
-10	5.5319	5.8255
-5°	4.2324	4.4229
0°	3.2654	3.3847
5°	2.5396	2.6125
10°	1.9903	2.0342
15°	1.5714	1.5947
20°	1.2493	1.2594
25°	1.0000	1.0000
30°	0.8056	0.8008
35°	0.6530	0.6448
40°	0.5327	0.5223
45°	0.4370	0.4256
50°	0.3603	0.3487
55°	0.2986	0.2872
60°	0.2488	0.2379
65°	0.2083	0.1980
70°	0.1752	0.1655
75°	0.1480	0.1389
80°	0.1255	0.1174



## Reliability Data

High temperature exposure:

1000 hours / 80°C

Typical <1%ΔR

Low temperature exposure:

1000 hours / -20°C

Typical <1%ΔR

Thermal shock testing:

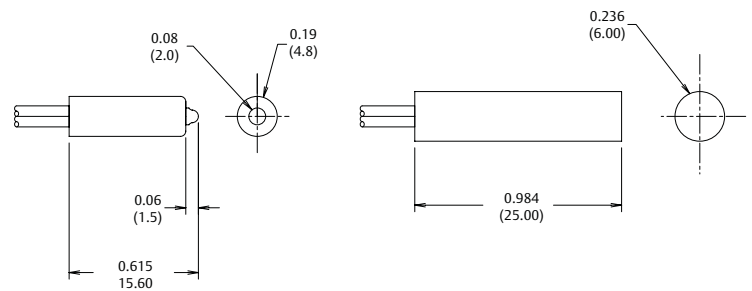
200 cycles. Each cycle consists of:

-20°C for 5 minutes

Room temp water for 30 seconds

80°C water for 5 minutes

Typical <1%ΔR



Dimensions are shown in inches and (millimeters)

## Inspection

In-process inspection –

- Resistance at 25°C measured on 100% sensors prior to probe assembly.
- Hi-pot 100% final probe

Final inspection –

- Resistance at 25°C.
- Physical dimensions.
- 0.65% AQL, C = 0 Sampling Plan.

## Product Numbering System

