

THERMISTOR SPECIFICATION

Application:	A	
	B	
Your spec.No.:	C	

This specification defines electrical requirements, ratings, dimensions and reliability for the ET type thermistor.

TYPE No. 833ET-1S87P-70370

1. Electrical requirements

1.1 Zero-power resistance $R_{37}(A \sim P) \pm 0.20\%$

A = 48.561 kohm	E = 49.268 kohm	I = 49.985 kohm	M = 50.713 kohm
B = 48.737 kohm	F = 49.446 kohm	J = 50.166 kohm	N = 50.897 kohm
C = 48.913 kohm	G = 49.625 kohm	K = 50.348 kohm	O = 51.081 kohm
D = 49.090 kohm	H = 49.805 kohm	L = 50.530 kohm	P = 51.265 kohm

1.2 B value ($B_{30/45}$)

3,953K $\pm 1\%$ (B value is determined by R_{30} and R_{45} .)

1.3 Resistance ratio vs temperature



TEMP.(T)	R_T	TEMP.(T) -	R_T
34℃	1.132	39℃	0.9218
35℃	1.086	40℃	0.8854
36℃	1.042	41℃	0.8503
37℃	1.000	42℃	0.8167
38℃	0.960		

The table is shown a resistance ratio of thermistor on each temperature.

REMARK : THE RESISTANCE VALUES MAY VARY SLIGHTLY AS THE TESTING TEMPERATURE(37℃) IS $\pm 0.03^\circ\text{C}$ IN ACCURACY.

2 Rating

2.1 Category temperature range	-40℃ ~ 100℃
2.2 Dissipation factor	0.7 mW/℃ (in air)
2.3 Thermal time constant	0.8 sec (in oil)

Customer:		Date : SEP. 11, 1997	
		Specification NO.: S97-0370	
Approved by:	Checked by:	Drawn by:	
		M.SATO	

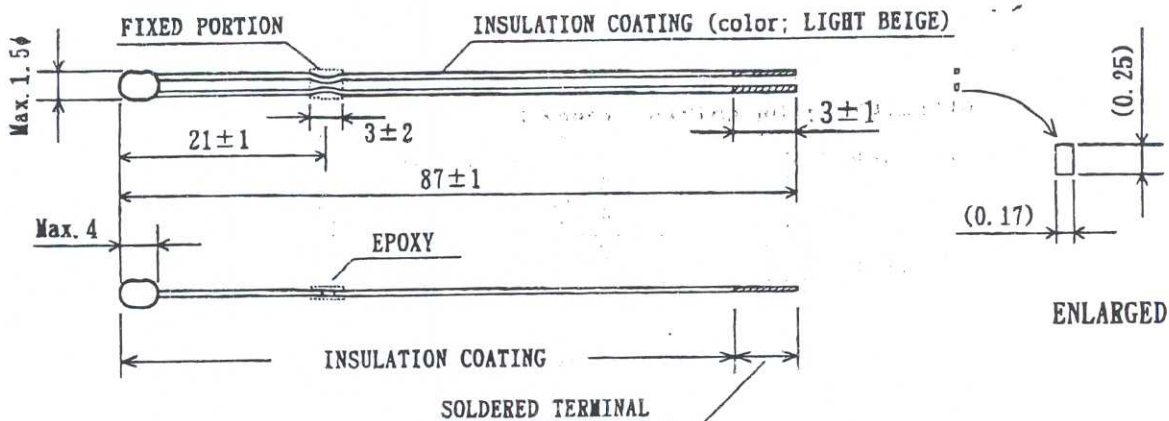
6/26

833ET-1S87P-70370

S97-0370

3 Dimension

Unit (mm)

 管制文件
Under Controlled


4 Insulation resistance

Insulation resistance of test sample should be over 100 Mohm when it is measured by DC 100V Megohmmeter between coated point area of thermistor element and lead wires.

5 Reliability

5.1 Dry heat

After test sample was left in air at 100°C for 1000 hours, the zero-power resistance change ratio should be within ±1% of initial value.

5.2 Damp heat

After test sample was exposed in air of 95% RH at 40°C for 1000 hours, the zero-power resistance change ratio should be within ±1% of initial value.

5.3 Load test at high temperature

After DC 0.1mA was flowed to test sample in air at 100°C for 1000 hours, zero-power resistance change ratio should be within ±1% of initial value.

5.4 Change of temperature

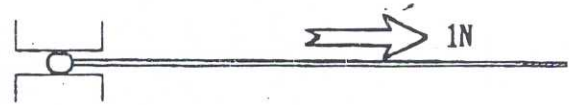
After test sample was repeated 100 times cycle in temperature cycles of 5 minutes at - 20°C ; room temperature 3 minutes ; 5 minutes at 100°C ; room temperature 1 minutes, zero-power resistance change ratio should be within ±1% of initial value.

833ET-1S87P-70370

S97-0370

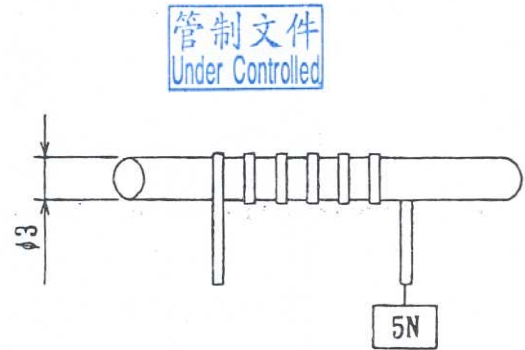
6 Mechanical performance test**6-1 Terminal strength**

After pull 1N static weight for one minute in the direction of lead axis, test sample should be no change.

**6.2 Resin coating strength**

The lead-wire shall be firmly wrapped on the cylinder with the diameter of 3mm. A downward tension shall be applied to the lead wire and increased to 5N.

After the foregoing, there shall be no visible damage on the coating of the lead-wire.

**6.3 Free fall**

After one time free fall to a maple board from 1m height, the test sample should be no change.

6.4 Resistance to soldering heat

After lead wire of test sample was one time dipped within 6.0 mm from end of lead wire in solder bath at $260^{\circ}\text{C} \pm 5^{\circ}\text{C}$ for 10 ± 1 seconds, zero-power resistance change ratio should be within $\pm 1\%$ of initial value.

833ET-1S87P-70370

S97-0370