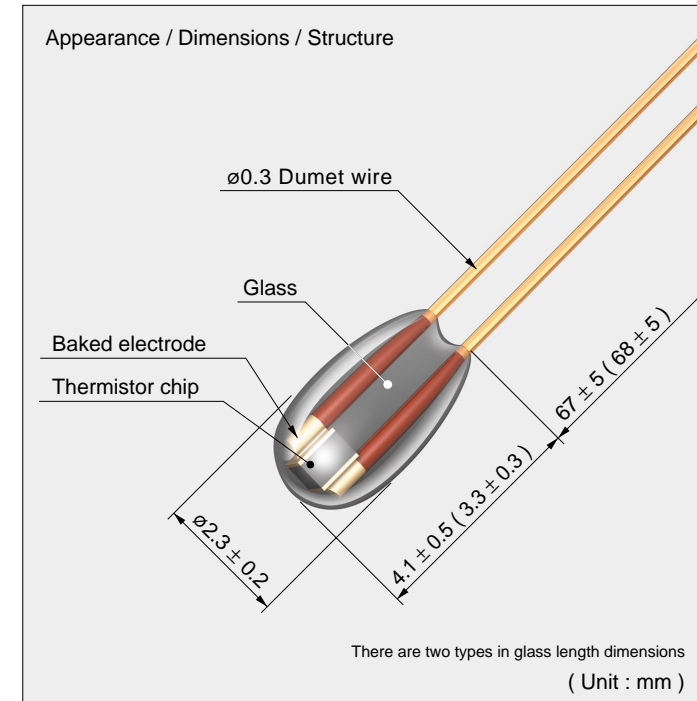


# PSB-S1 THERMISTOR

## The standard product in PSB thermistors

The PSB-S1 is the standard product in PSB thermistors. The diameter of the glass part is nominal  $\phi 2.35\text{mm}$  and even the largest is  $\phi 2.5\text{mm}$  or under. This thermistor can be used as a temperature detection element in all fields with a temperature range of  $-50^\circ\text{C} - +300^\circ\text{C}$ .



## Features

- This is a glass-sealed thermistor, so it has heat resistance and a high level of stability.
- Mass production of homogeneous thermistors is enabled by virtue of chip elements and integrated automatic production where processes from the chip attachment to the sealing and measurements are all mechanized.
- We invented our own unique PSB thermistors and have proven results with patents acquired in eight main countries around the world (Japan, the U.S., the U.K., West Germany, France, Canada, Italy and Switzerland)

## Applications

In addition to the following equipment, please use in devices that require high reliability in temperature measurement and control.

- Air conditioning equipment
- Hot water boilers
- Cellphones
- Refrigerators
- Car air conditioners
- Industrial temperature control equipment

## Rated Values

Operating temperature range :  $-50^\circ\text{C} - +300^\circ\text{C}$

Thermal time constant  $\tau$  : 12 sec. (10 - 17 sec.) (in still air)

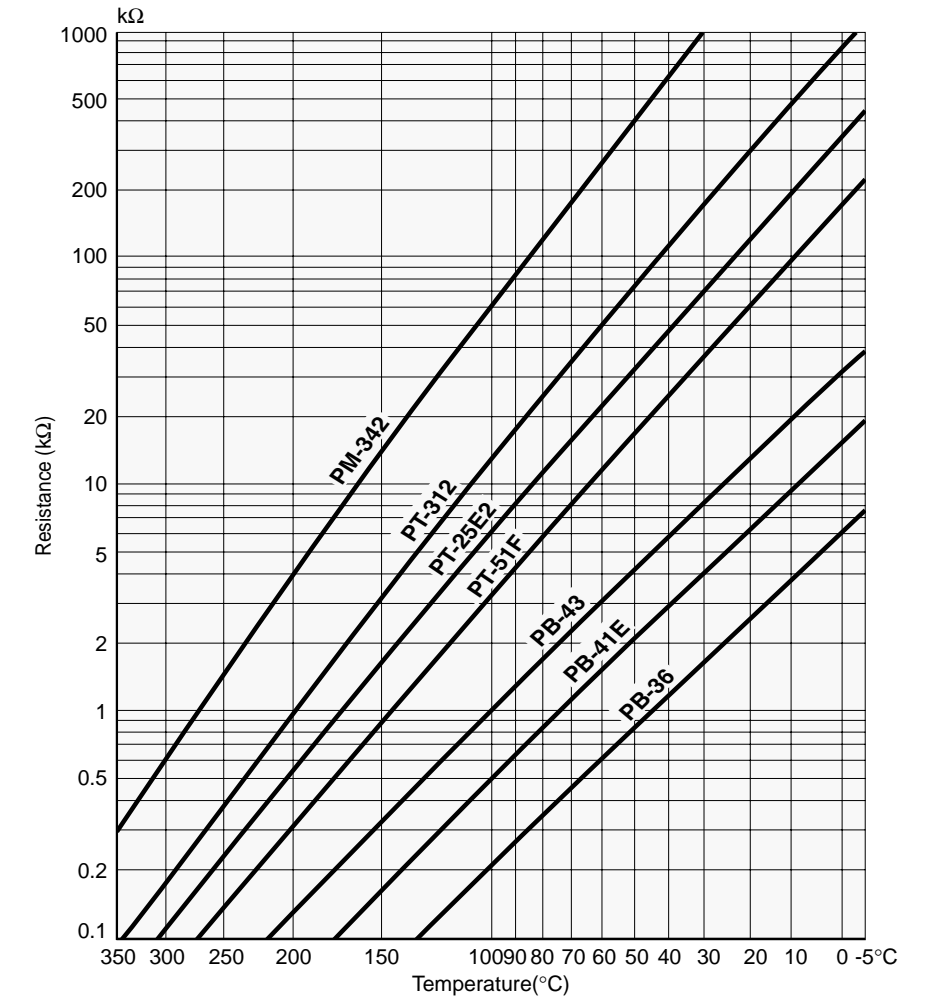
Dissipation constant  $\delta$  :  $1.3\text{mW}/^\circ\text{C}$  ( $1.1 - 1.6\text{mW}/^\circ\text{C}$ ) (in still air)

Insulation resistance : Min.  $50\text{M}\Omega$  ( $500\text{V d.c.}$ ) (between the lead wire and the glass)

Product name	Nominal resistance value note (1)		B constant note (2)		JIS equivalent product note (3)
PB-36	6 k $\Omega$ ( $0^\circ\text{C}$ )	2.186 k $\Omega$ ( $25^\circ\text{C}$ )	$3420\text{K} \pm 68\text{K}$ ( $25 \sim 85^\circ\text{C}$ )	$3390\text{K} \pm 2\%$ ( $0 \sim +100^\circ\text{C}$ )	○
PB-41E	15 k $\Omega$ ( $0^\circ\text{C}$ )	5.369 k $\Omega$ ( $25^\circ\text{C}$ )	$3480\text{K} \pm 69\text{K}$ ( $25 \sim 85^\circ\text{C}$ )	$3450\text{K} \pm 2\%$ ( $0 \sim +100^\circ\text{C}$ )	○
PB-43	30 k $\Omega$ ( $0^\circ\text{C}$ )	10.74 k $\Omega$ ( $25^\circ\text{C}$ )	$3480\text{K} \pm 69\text{K}$ ( $25 \sim 85^\circ\text{C}$ )	$3450\text{K} \pm 2\%$ ( $0 \sim +100^\circ\text{C}$ )	○
PT-51F	3.3 k $\Omega$ ( $100^\circ\text{C}$ )	49.12 k $\Omega$ ( $25^\circ\text{C}$ )	$3992\text{K} \pm 79\text{K}$ ( $25 \sim 85^\circ\text{C}$ )	$3970\text{K} \pm 2\%$ ( $0 \sim +100^\circ\text{C}$ )	
PT-25E2	0.55 k $\Omega$ ( $200^\circ\text{C}$ )	98.63 k $\Omega$ ( $25^\circ\text{C}$ )	$4066\text{K} \pm 129\text{K}$ ( $25 \sim 85^\circ\text{C}$ )	$4300\text{K} \pm 3\%$ ( $100 \sim 200^\circ\text{C}$ )	○
PT-312	1 k $\Omega$ ( $200^\circ\text{C}$ )	231.4 k $\Omega$ ( $25^\circ\text{C}$ )	$4240\text{K} \pm 136\text{K}$ ( $25 \sim 85^\circ\text{C}$ )	$4537\text{K} \pm 3\%$ ( $100 \sim 200^\circ\text{C}$ )	
PM-342	4 k $\Omega$ ( $200^\circ\text{C}$ )	1388 k $\Omega$ ( $25^\circ\text{C}$ )	$4557\text{K} \pm 154\text{K}$ ( $25 \sim 85^\circ\text{C}$ )	$5133\text{K} \pm 3\%$ ( $200 \sim 300^\circ\text{C}$ )	○

Note (1): Resistance value tolerance:  $\pm 1\%$ ,  $\pm 2.5\%$ ,  $\pm 5\%$  Note (2): There are versions of B =  $\pm 1\%$  for those with B = 3390, 3450 and 3970K, versions of B =  $\pm 1\%$  and B =  $\pm 2\%$  for those with B = 4300, 4537 and 5133K. Note (3): JIS C 1611 'Thermistor Temperature Detector'

## Resistance - Temperature Characteristics



## Voltage - Electric Current Characteristics

