

PTC Thermister

PTC Thermistor Review

- PTC (Positive Temperature Coefficient) thermistors are made of semiconductive ceramic based on barium titanate. When PTC thermistors temp. reaches Curie point. Its electrical resistance increase sharply. Curie Point can be set freely by alternating PTC composition.
- PTC materials were discovered by Haayman in 1951. The commercialization of PTC material began in the early 1960's and accelerated starting around 1965.
- With it unique characteristic, PTC thermistors are widely used as constant tem. Heater and current limiting element.

Features of PTC

When a sufficiently large voltage is used, it reaches a temp. near its Curie Point in a few second. Assume a high value of resistance at this tem. And act form then like thermostats. These heating elements thus automatically regulate the power consumption to suit the heat requirement.

For example, heater used as heat source for air heater can easily send hot air just making air pass.

Using PTC thermistor it is never overheated in spite of flow stop thus securing safety. Furthermore, as the calorific power is automatically controlled in accordance with inflow temp. voltage and air flow. The variation of hot air temp. is small thus making the equipment stable then Ni-Cr heater.

HONEYCOMB PTC THERMISTOR

Positive temperature coefficient resistance on barium titante is a top technique form new on. It is better than Ni-Cr heater and Ultra-Violet Rays heater.

Advantage of PTC

1. Automatic Temp. Control

Use 220V AC 60Hz, when PTC thermistor's temp. reaches curie point. Its electrical resistance increases sharply, able to limit current. The temp. of PTC is about $75^{\circ}\text{C}\sim 120^{\circ}\text{C}$ (measuring point is above 10mm)

2. Long Life

PTC is an oxide itself, not as bad as Ni-Cr heater is oxidized when temp. increased, not as easy broken as Ultra-Violet Rays tube.

3. Powerful & Efficient

Honeycomb PTC thermistors as soon as temp. rised it disperse heat. It is better than Flat Ceramic (not any honeycomb)

4. Exceptionally Safe

With no dangerous flames, fuels or coil, get-no-fire even touch with tissue paper because PTC has the property to self-regulate its temp. It draws only enough electrical current to

reach the temp.

5. Simplified Construction

PTC has the property to self-regulate its temp. it is not necessary to add other control temp. device, didn't need any corrugated aluminum fins of flat thermistors (not any honeycomb).

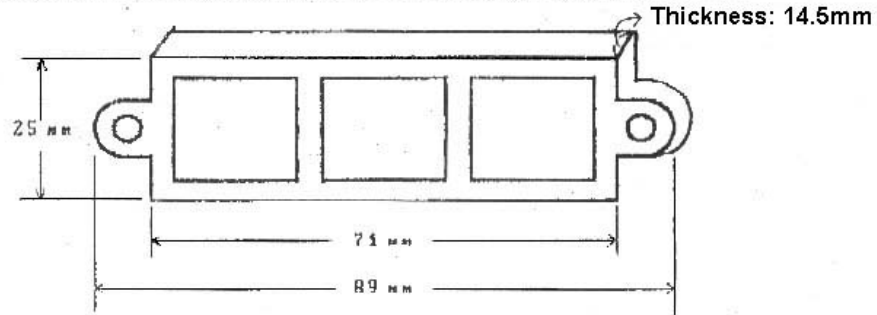
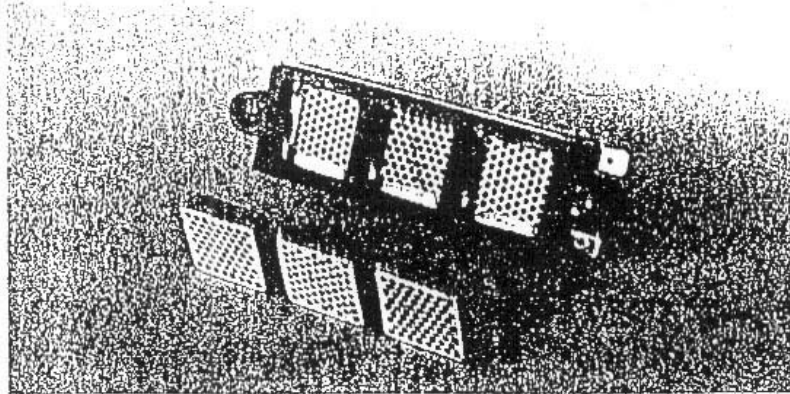
6. Low Cost

Due to PTC has the property of limit-current which is ratio energy supplied with which is economized compare with Ni-Cr heater which is parallel energy supplied with.

PTC

PTC HEAT ELEMENT (BEEHIVE TYPE)

3 PIECES MECHANICS



VOLTAGE	RESISTANCE	POWER	CURRENT
AC 220V	520 ~ 760Ω	150 ~ 200W	2A
AC 110V	260 ~ 380Ω	120 ~ 150W	3A
DC 24V	4.0 ~ 7.5Ω	100 ~ 120W	12A
DC 12V	1.8 ~ 2.5Ω	100 ~ 120W	15A

BEST NO. 532894 DC 12V CERAMIC ELEMENT

