

Presently in terms of the value, the demand is shared almost in halves between NTC thermo sensors (sintered metal oxide thermistor) and PTC thermistors mainly for fixed-temperature heat generation and contactless operation. Demand for PTC thermistors has markedly increased for its low price and high reliability; more specifically, for its large plus-temperature coefficient as well as for its somewhat switchable temperature-resistance characteristics different from ordinary thermistors, PTC thermistors have pioneered new application areas such as thermal controls, overheating prevention devices or thermal timers for home electric appliances. Such areas are expected to further expand as equipment electronization and sophistication further advance.

(b) Market Trend

Production Statistics and Recent Market Trend of Thermistor

According to the production statistics on thermistors and the statistics by MITI on the current market trend, thermistor production has changed as shown in attached table since 1980.

The statistics indicate that in 1984 the growth in volume was 135% and in value was 196%, both over 1980. Especially in 1983 and on, the industry experienced a continuous high growth. Although, 1982, the growth of consumer equipment once slowed down, demand for thermistors as thermo sensors swelled again as the sales of consumer equipment recovered in 1983. Ever since, new application areas, where thermistors were not positively utilized, have been pioneered to date.

As aforementioned, thermistors can be classified into two categories: ie., PTC thermistor (positive thermal characteristic) and NTC (negative thermal characteristic). PTC thermistor was first used for demagnetizing color TV and compressor drive, by utilizing current control function. But recently, along with its application to heat generation at constant temperature, demand for PTC thermistors has been rapidly expanding, utilized for electronic jars, pots, electronic mosquito killers, VTRs (anti-dew cylinder heater), automobiles (for gasoline carburation), oil fan heaters and soldering irons.

On the other hand, demand for NTC thermistors is also growing for the use of audio-equipment, fan heaters, microwave ovens, air conditioners, refrigerators, OA equipment (PPC, facsimile, etc.) and for automobiles (radiator, thermometer, fuel jet injection system and gasoline leveling unit).