

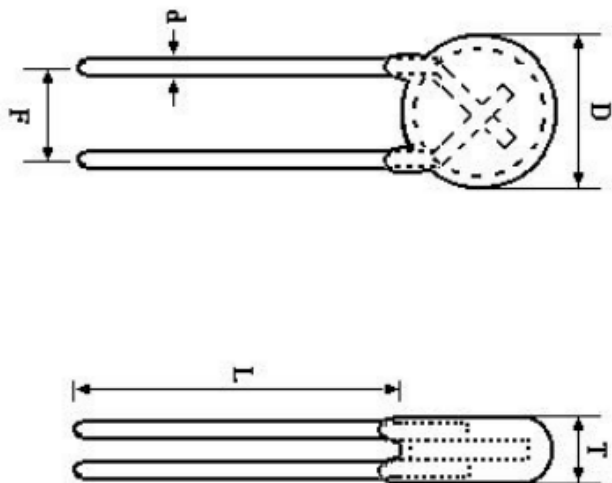
Datasheet

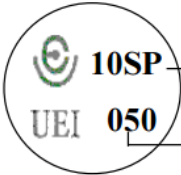
25Ω Protection NTC Thermistor

RS Stock 516-7782



Dimensions: (mm)





10SP

050

Nominal Diameter

Resistance at 25°C

0R7

1R3

003~008

010~080

120

: 0.7Ω

: 1.3Ω

: 3~8Ω

: 10~80Ω

: 120Ω

- D : Diameter with coating
- F : Forming Pitch
- T : Thickness of thermistor with coating
- L : Length of leads
- d : Diameter of leads

| 10Φ            | D    | F   | T   | L    | d    |
|----------------|------|-----|-----|------|------|
| max.           | 11.5 | 6.0 | 5.0 | -    | 0.82 |
| $\overline{X}$ | -    | 5.0 | -   | -    | 0.80 |
| min.           | -    | 4.0 | -   | 25.0 | 0.78 |

UNIT : mm

## Specification

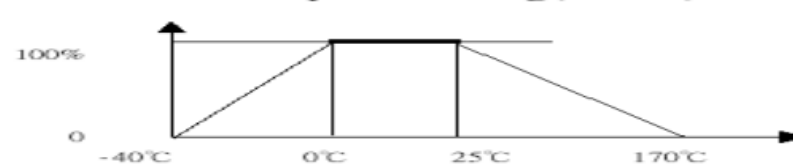
Style: Disc Type Thermistor (Negative Temperature Coefficient)

- Material coating: Silicone
- Colour Coating: Black
- Material of Lead: Cu, Fe, Sn Material

**Maximum Ratings (Ambient  $T_a=25^{\circ}\text{C}$ )**

|   | Item                             | Conditions                 | Max. Rated Value                |
|---|----------------------------------|----------------------------|---------------------------------|
| a | Rated Temperature                | in still air               | $-40 \sim +170^{\circ}\text{C}$ |
| b | Max. Permissible Working Current | $T_a : 25^{\circ}\text{C}$ | 2 Amp.                          |

### Electrical Characteristics

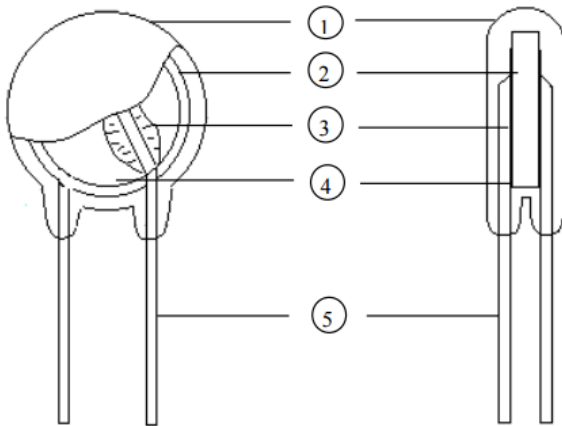
|   | Item                                                                                                                                                                                                                               | Conditions                                                    | Specification                                                                                               |
|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
| a | Zero Power Resistance                                                                                                                                                                                                              | $T_a : 25 \pm 0.2^{\circ}\text{C}$ , $I \leq 0.5\text{mA}$    | $50 \Omega \pm 20 \%$                                                                                       |
| b | Beta Value                                                                                                                                                                                                                         | $8876 * \text{Log}(R_{25}/R_{50})$                            | $3211 \pm 7 \%$                                                                                             |
| c | Thermal Dissipation Constant                                                                                                                                                                                                       | $T_a : 25^{\circ}\text{C}$                                    | 10 mW/ $^{\circ}\text{C}$ (Approx.)                                                                         |
| d | Thermal Time Constant                                                                                                                                                                                                              | $T_a : 25^{\circ}\text{C}$                                    | 58 sec. (Approx.)                                                                                           |
| e | Insulation                                                                                                                                                                                                                         | 1000 Vdc                                                      | $> 500 \text{M}\Omega$                                                                                      |
| f | V-I Test                                                                                                                                                                                                                           | Steady State Current<br>I: 0.5 Amps<br>I: 1 Amps<br>I: 2 Amps | Resistance Under Load<br>4701 m $\Omega$ (Approx.)<br>1901 m $\Omega$ (Approx.)<br>723 m $\Omega$ (Approx.) |
| g | UL APPROVAL MAX. load capacitance(uf), $\{ 240\text{Vac}/420\text{uf} \}$ , compares of the twice R-T value of Before test & After test, the variation of temperature must be within $\pm 20^{\circ}\text{C}$ .                    |                                                               |                                                                                                             |
| h | Permissible Electrolytic Capacitor suggestion to use in the safety range is under $\{ 340\text{Vdc}/100\text{uf} \}$                                                                                                               |                                                               |                                                                                                             |
| i | UL Test Temperature (min : $0^{\circ}\text{C}$ )                                                                                                                                                                                   |                                                               |                                                                                                             |
| j | VDE Test Temperature (None)                                                                                                                                                                                                        |                                                               |                                                                                                             |
| k | <p>Maximum power rating(<math>P_{\text{max.}}</math>)</p>  <p>The customer makes the test according to the actual design demand temperature</p> |                                                               |                                                                                                             |

## Mechanical Characteristics

|   | Item                   | Conditions                                        | Specification                                                       |
|---|------------------------|---------------------------------------------------|---------------------------------------------------------------------|
| a | Terminal Pull          | Load : 2.5 kg, time : 5 sec.                      | No Break Out                                                        |
| b | Terminal Bend          | Load : 1 kg<br>Bend : 0° → 90° → 0°<br>* 2 Cycles | No Break Out                                                        |
| c | Solderability          | 230±5°C , 3± 0.5 sec.                             | at Least 95% of the lead wire circumference is covered with solder. |
| d | Solder Heat Resistance | 260± 5°C , 3± 0.5 sec.                            | $\Delta R/R : \leq \pm 10\%$                                        |

## Reliability Test

|   | Item                 | Conditions                                                              | Specification<br>Variable Rate of Resistance |
|---|----------------------|-------------------------------------------------------------------------|----------------------------------------------|
| a | Thermal Shock        | -40°C *30' → +25°C *30'<br>→ +150°C *30' → + 25°C *30'<br>*8 Cycles     | Max.+15%                                     |
| b | Humidity             | 45°C, 95% R.H.*1000 Hours<br>300mA on 2 Min. off 6 Min.<br>* 5000 Times | Max.+15%                                     |
| c | Continuous Load Life | 25°C , 2 Amps *1000 Hours                                               | Max.+25%                                     |
| d | Temperature Storage  | 60°C *300 mA*1000 Hours                                                 | Max.+25%                                     |



## Material

| No. | Component      | Material              |
|-----|----------------|-----------------------|
| 1   | Coating        | Silicone              |
| 2   | NTC Thermistor | Mn,Ni,Cu,Fe,Oxide     |
| 3   | Solder         | Sn-Ag                 |
| 4   | Electrode      | Ag                    |
| 5   | Lead Wire      | ( Cu,Fe,Sn ) Material |