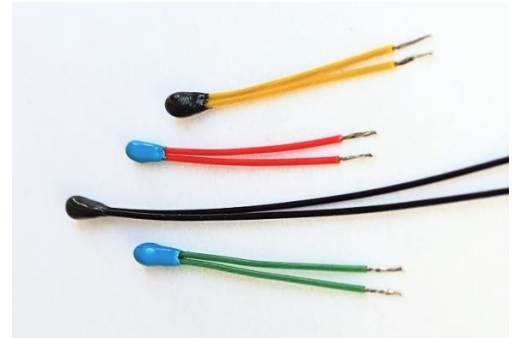
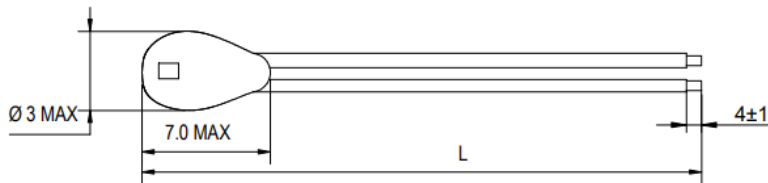


DESCRIPTION

NTC Bead Thermistor assembled with 28 AWG MULTISTRAND PFA INSULATED BLACK(Rated-UL 10503). Thermistor encapsulated with special epoxy for moisture protection.



SPECIFICATIONS

| SL NO | PARAMETER | VALUE | UNIT |
|-------|-----------------------|-------------|------|
| 1 | Resistance at 25°C | 1-100 | KΩ |
| 2 | Resistance Tolerance | ±1, ±2 | % |
| 3 | Beta Value (0/50)°C | 3300-4500 | K |
| 4 | Beta Tolerance | ±1 | % |
| 5 | Insulation Resistance | 10 | MΩ |
| 6 | Isolation Strength | 500 | Vac |
| 7 | Response Time | 3 | Sec |
| 8 | Length | 25-300 | mm |
| 9 | Storage Temperature | -40 to 85 | °C |
| 10 | Operating temperature | -40 to +135 | °C |

FEATURES

- High Stability & reliability
- Rugged construction
- Smaller in size
- Fast response
- High measuring accuracy
- Complaint to RoHS Directive 2015/863/EU.

APPLICATIONS

- HVAC applications
- Power Electronics
- Automotive
- Heating / Cooling Devices
- Battery temperature(BMS)

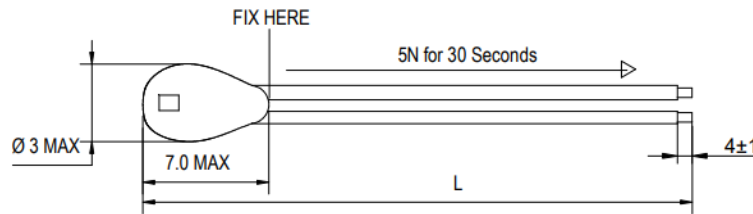
RELIABILITY SPECIFICATION

| Description | Test Conditions | Characteristics Drift |
|---------------------------|--|--|
| Dry Heat Test | Elements are placed in an oven of temp. at 150°C± 5°C for 1000 (+48, -0)hr. After test the elements are stored in room temperature for one hour. | ΔR after test are less than ± 3%. ΔB after test are less than ± 2%. |
| Cold Test | Elements are placed in an oil bath of temperature at -40°C± 5°C for 1000 (+48, -0)hr. After test the elements are stored in room temperature for one hour. | ΔR after test are less than ± 3%. ΔB after test are less than ± 2%. |
| Thermal Shock Test | -40°C Air Chamber, 3 minute -> RT (Air, under 1min) -> 150°C Air Chamber, 3 minute) for 1000 cycle. After test the elements are stored in room temperature for one hour. | ΔR after test are less than ± 3%. ΔB after test are less than ± 2%. |
| Damp Heat Test | Elements are placed in a chamber of temp. at 60°C± 2°C and 90~95%RH for 1000 (+48, -0)hr. After test the elements are stored in room temperature for one hour. | ΔR after test are less than ± 3%. ΔB after test are less than ± 2%. |

Mechanical Test

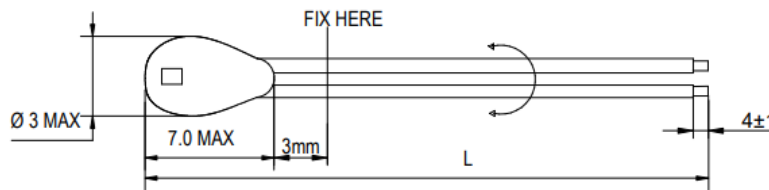
1. Terminal tensile strength test

Load tensile stress of 5N to axial direction slowly and keep it for 30±5 sec. After the test, characteristics, appearance and shape shall not change.



2. Terminal bending test

Lead wire will be fixed at 3mm from its probe end. Apply load of 5N to lead wire so that it makes 90 degree. Then put it back to original position. After two times of this action, characteristics, appearance of sensor shall not change.



PART NUMBER SYSTEM

| T | N | B | T | E- | XXX | RX | BX | LXXX |
|-----------|-----|------|------------|-------------|------------------|----------------------|------------|---|
| THERMOSEN | NTC | BEAD | THERMISTOR | SERIES CODE | RESISTANCE VALUE | RESISTANCE TOLERANCE | BETA VALUE | LENGTH (Eg: 101 for 100mm (10x10 ¹), 102 for 1000mm (10x10 ²)) |

PART LIST

| Ordering Part Number | R ₂₅ | R(TOL) | B(0/50) | B(TOL) | Curve Type |
|----------------------|-----------------|-----------------|---------|--------|------------|
| | kΩ | ± % | K | ± % | |
| TNBTE-102RXBR LXXX | 1K | 2-5 | 3934 | 1 | R |
| TNBTE-225RXBDLXXX | 2.252K | 1-5 | 3892 | 1 | D |
| TNBTE-302RXBDLXXX | 3K | 1-5 | 3892 | 1 | D |
| TNBTE-472RXBDLXXX | 4.7K | 3-5 | 3892 | 1 | D |
| TNBTE-502RXBDLXXX | 5K | 1-5 | 3892 | 1 | D |
| TNBTE-103RXBDLXXX | 10K | ±0.1°C (±0.44%) | 3892 | 1 | D |
| TNBTE-103RXBDLXXX | 10K | ±0.2°C (±0.88%) | 3892 | 1 | D |
| TNBTE-103RXB4LXXX | 10K | 1-5 | 3410 | 1 | 4 |
| TNBTE-103RXBJLXXX | 10K | 1-5 | 3883 | 1 | J |
| TNBTE-103RXBCLXXX | 10K | 2-5 | 3339 | 1 | C |
| TNBTE-123RXB5LXXX | 12K | 1-5 | 3917 | 1 | 5 |
| TNBTE-303RXBDLXXX | 30K | 1-5 | 3892 | 1 | D |
| TNBTE-473RXB2LXXX | 47K | 1-5 | 3900 | 1 | 2 |
| TNBTE-104R1BJLXXX | 100K | 1-5 | 3883 | 1 | J |
| TNBTE-103RXBPLXXX | 10K | 1-5 | 3872 | 1 | P |
| TNBTE-104RXBSLXXX | 100K | 1-5 | 3917 | 1 | S |
| TNBTE-104RXBFLXXX | 100K | 1-5 | 4148 | 1 | F |
| TNBTE-103RXBALXXX | 10K | 1-5 | 3620 | 1 | A |
| TNBTE-103RXBZLXXX | 10K | 1-5 | 3696 | 1 | Z |
| TNBTE-202RXBELXXX | 2K | 1-5 | 3450 | 1 | E |

RT CHART

Please refer to our website <https://www.thermosen.com/rt> for respective RT charts.

SOLDERING

1. Soldering Temperature: 320°C Max.
2. Soldering Duration: 6.0 Second Max.
3. Preheat Temperature: 160°C for 3.0 Sec.

CUSTOM DESIGN & SUPPORT

- Other resistance curve & tolerance are available on request
- End wire stripped and Tinned or with connector assembly.
- Part can be supplied with customised connectors

PACKING

- Bulk layer packing
- 100 in poly bag
- Custom packing solution will be provided.

Consult Thermosen Technologies Pvt. Ltd. for custom product requirement

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