



NTC Thermistor for surface Temperature measurements

NTC Thermistor assembled sensor model suitable for
surface temperature measurements



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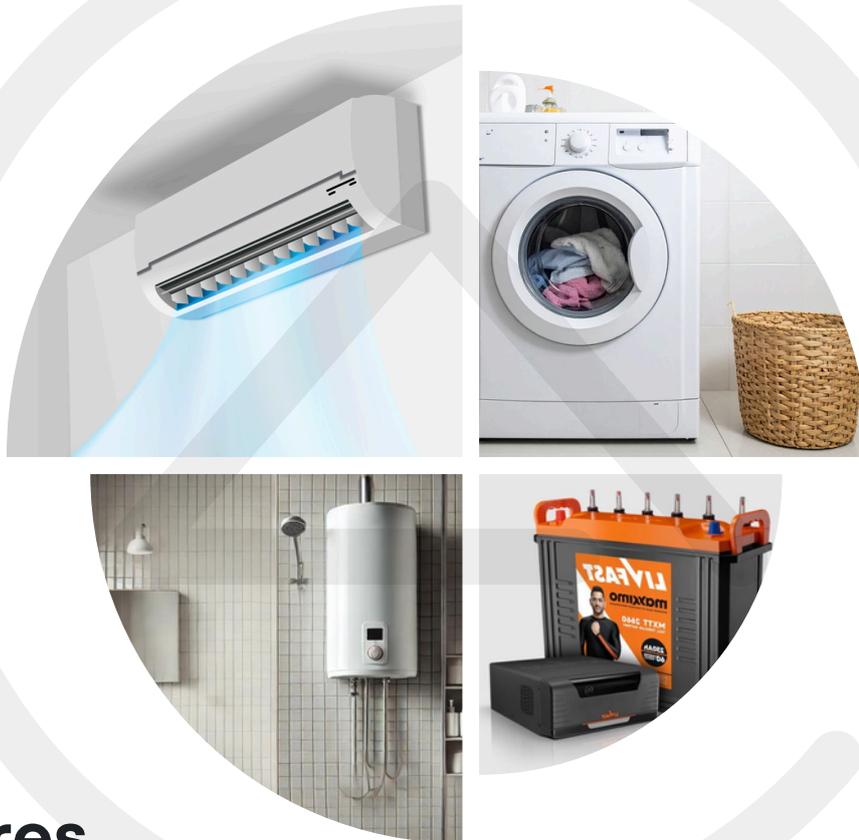
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Temperature Measurement

Thermistors serve a crucial role in temperature detection. For example, thermistor temperature detection can be used in fire alarms to detect fires based on a sudden change in temperature. Unlike photoelectric detectors or ionization alarms, thermistors only require heat to activate

Applications

- Surface temperature measurement
- Commercial housings and pipes temperature control
- Inverters, UPS, Air Conditioners heat sink
- Water Heaters, Air Warmers
- Washing Machines, Driers, Boilers, Transformers etc...



Features

- High accuracy
- Easy mounting
- Good thermal coupling through metal tag/Hexagonal Screw
- Thermistors encapsulated in metal-tag case/Hexagonal Screw Case
- Multistrand or Single core PTFE/XLPE/PVC -insulated leads of Copper wire

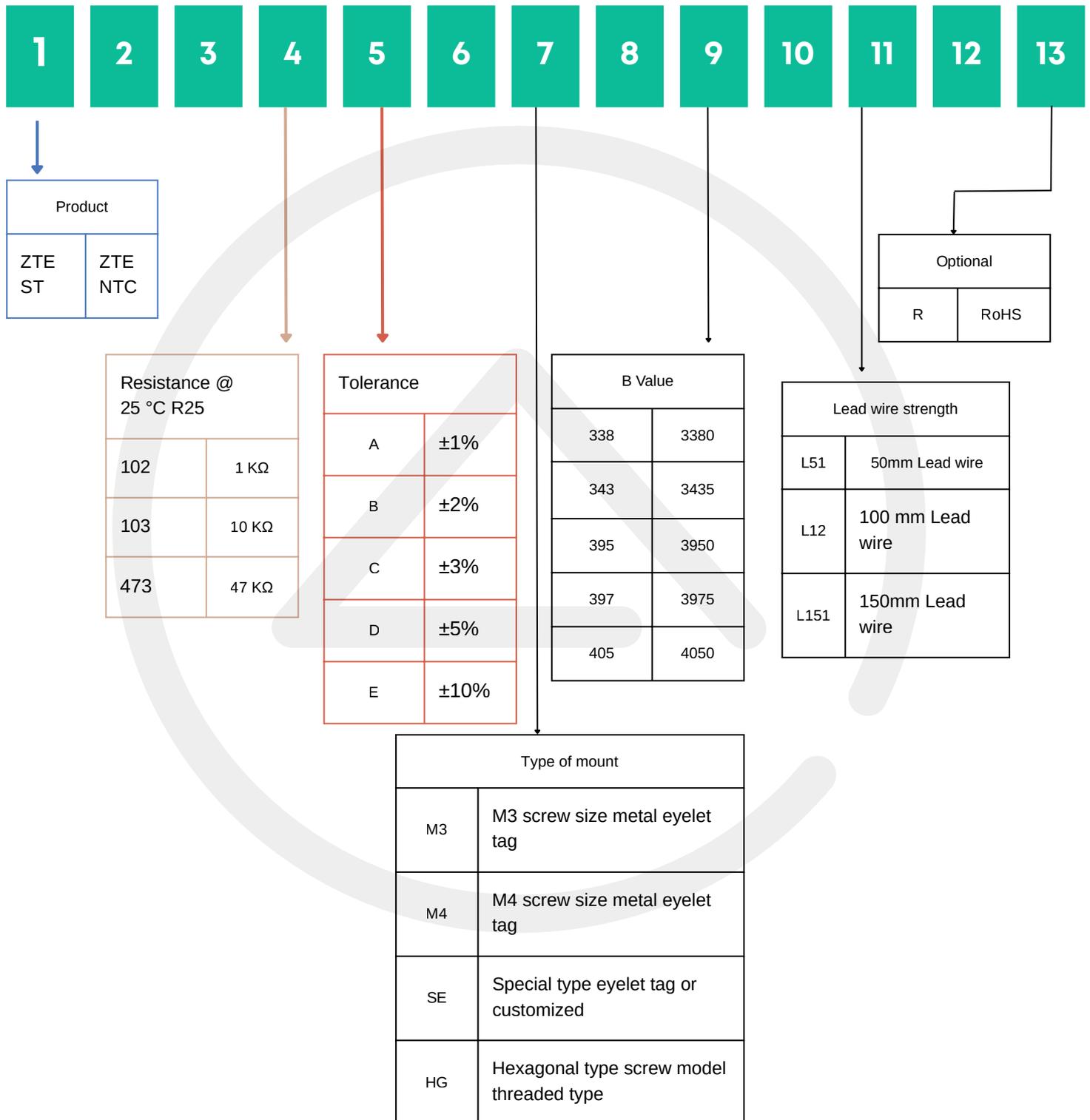
Model image



General Parameter Data

Parameters	Permissible values
Lower operating Temperature in °C	-40
Higher operating Temperature in °C	+150
Maximum permissible current at 25°C	10mA
Resistance Tolerance ($\Delta R/RN$)	$\pm 1\%$, $\pm 2\%$, $\pm 3\%$, $\pm 5\%$
Rated Temperature (TN)	25°C
Beta Tolerance ($\Delta\beta/\beta N$)	$\pm 1\%$, $\pm 2\%$, $\pm 3\%$
Dissipation factor in air (δ_{th})	~ 1.5 mW/K
Thermal cooling time constant in air (τ_c)	16 Sec
Heat capacity (C _{th})	~ 22.5 mJ/K
Thermal Response time in oil (in sec)	14 Sec

Part Numbering



Type of encapsulations available

M3 – 3mm tinned Copper / Brass ring terminal (Eyelet tag)

M4 – 4mm tinned Copper / Brass ring terminal (Eyelet tag)

M6 – 6mm tinned Copper / Brass ring terminal (Eyelet tag)

M8 –6mm tinned Copper / Brass ring terminal (Eyelet tag)

FT –Flag Type

SE –Special type eyelet tag or customized

HG --Hexagonal type screw model threaded type

Type of lead wire in use

– RED / BLUE / YELLOW PTFE Insulated tinned multistanded Copper Wire AWG 24 - 30

– Black XLPE Insulated tinned multistanded Copper Wire AWG 24 - 30

– Red/Blue/ Yellow PTFE Insulated tinned single core Copper Wire AWG 24 - 30

– Blue/ Yellow PTFE Insulated Silver Plated Multistanded Copper Wire AWG 30

– Twin Parallel Wire Black or White AWG 24 / 26

– FLRY-B Automotive grade 0.35 sq.mm cables Special cables like nickel with PTFE insulated Silicone cables

Range of Products available - Electrical Characteristics

Part No.	Zero Power Resistance at 25°C	Tolerance of R25	B Value		Tolerance of B value	Max.Power Dissipation at 25 °C	Dissipation factor	Thermal Time Constant	Operating Temperature Range	Safety Approvals	
	R25 (KΩ)	(±%)	(K)		(±%)	Pmax(mW)	Δ (mW/°C)	T (Sec.)	TL~TU (°C)	UL	cUL
ZTEST102□□□□□□	1.0	2,3,5	25/85	3420 TO 3975	2,3	45	≥1	≤16	-40 ~ +150	Y	Y
ZTEST202□□□□□□	2.0									Y	Y
ZTEST212□□□□□□	2.1			Y						Y	
ZTEST282□□□□□□	2.8			3975						Y	Y
ZTEST502□□□□□□	5.0			3975						Y	Y
ZTEST103□□□□□□	10.0			3435, 3975						Y	Y
ZTEST203□□□□□□	20.0			3975						Y	Y
ZTEST473□□□□□□	47.0			41500						Y	Y

Reliability Measurement

Item	Standard	Test conditions			Specifications
Thermal overload		Short time overload: 125 °C t: 10 h			No Visible Damage
Storage in dry heat	IEC 60068-2-2	T: 100 °C t: 500 h			No Visible Damage
Solderability	IEC 60068-2-20	245 + 3°C, 3 + 0.3 sec.			At least 95% of terminal electrode is covered by new solder
Resistance to soldering Heat	IEC 60068-2-20	260 + 3°C, 10 + 1 sec.			No Visible Damage $\Delta R_{25}/R_{25} \leq 3\%$
High Temperature Storage	IEC 60068-2-2	100 + 5°C, 1000 + 24 hrs.			No Visible Damage $\Delta R_{25}/R_{25} \leq 5\%$
Damp Heat steady state	IEC 60068-2-78	40 + 2°C, 90-95% RH, 1000 + 24 hrs.			No Visible Damage $\Delta R_{25}/R_{25} \leq 3\%$
Rapid Change of Temp.	IEC 60068-2-14	The condition shown below shall be repeated 5 cycles			No Visible Damage $\Delta R_{25}/R_{25} \leq 3\%$
		Step	Temp. °C	period (minutes)	No Visible Damage $\Delta R_{25}/R_{25} \leq 3\%$
		1	-40 + 5	30 + 3	
		2	Room Temp.	5 + 3	
		3	100 + 5	30 + 3	
		4	Room Temp.	5 + 3	
Max. Power Dissipation	IEC 60539-14.26.3	25 + 5°C Pmax, 1000 + 24hrs..			No Visible Damage $\Delta R_{25}/R_{25} \leq 5\%$



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