Sensors

Temperature Sensors
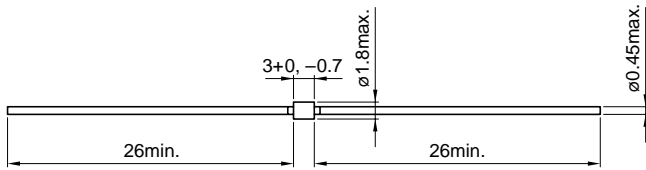## NTC Thermistors

NTCDS Series
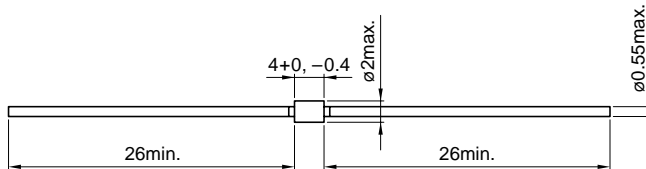
AXIAL LEAD GLASS-SEALED TYPE

FEATURES

- The NTCDS series features a glass-sealed construction identical to that of DHDs (Double Heatsink Diodes). They are thus highly reliable and resistant to high relative humidity.
- Tight tolerances are maintained in resistance vs. temperature characteristics.

- The application of semiconductor mass production techniques has resulted in considerable size reduction and improved consistency.

DIMENSION CODE 3018

3+0, −0.7 ø1.8max. ø0.45max.

26min. 26min.

DIMENSION CODE 4020

4+0, −0.4 ø2max. ø0.55max.

26min. 26min.

Dimensions in mm

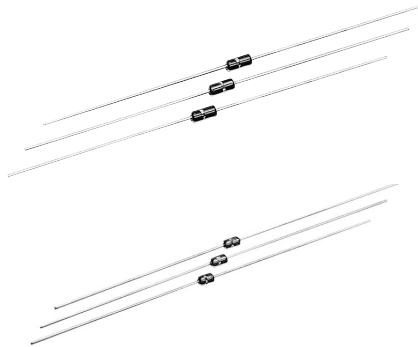**CHARACTERISTICS**

Type	NTCDS3018	NTCDS4020
Operating temperature range	−40 to +250°C	−40 to +250°C
Heat dissipation constant [in still air]	1mW/°C	2mW/°C
Thermal time constant [in still air]	10s max.	20s max.
Insulation resistance [between lead and glass]	50MΩ min. [DC.500V]	50MΩ min. [DC.500V]

Temperature coefficient

The relationship between temperature coefficient α and constant B can be expressed as follows:

$$\alpha = -\frac{B}{T^2} \times 100 (\%/°C)$$

Example: The temperature coefficient at 20°C with B=3400K can be calculated at −4%/°C.

ELECTRICAL CHARACTERISTICS

Part No.	Nominal resistance [at 25°C]	Constant B [at +25 to +85°C]
NTCDS30183E*1G*2502X*3C	5kΩ±X%	3250K±2%
NTCDS30183HG103XC	10kΩ±X%	3400K±2%
NTCDS30183KG203XC	20kΩ±X%	3500K±2%
NTCDS30183RG503XC	50kΩ±X%	3800K±2%
NTCDS30183SG104XC	100kΩ±X%	3850K±2%
NTCDS40203EG502XC	5kΩ±X%	3250K±2%
NTCDS40203HG103XC	10kΩ±X%	3400K±2%
NTCDS40203KG203XC	20kΩ±X%	3500K±2%
NTCDS40203RG503XC	50kΩ±X%	3800K±2%
NTCDS40203SG104XC	100kΩ±X%	3850K±2%

*1 Nominal constant B (Resistance temperature characteristics): This code indicates the value of constant B using a combination of one numeric character and one alphabetic character.

Numeric code	Constant B (K)
3	3000

Alphabetic code	Constant B (K)
E	201 to 250
H	351 to 400
K	451 to 500
R	751 to 800
S	801 to 850

*2 Tolerance of nominal constant B: ±2%(G)

*3 Nominal resistance tolerance X: Select either ±2%(G), ±3%(H), ±5%(J), or ±10%(K).

△TDK