

**Temperature Measurement** 

B57869

**Miniature Sensors** 

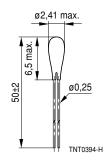
S 869

## **Applications**

- Heating and air conditioning systems
- Industrial electronics
- Automotive electronics

#### **Features**

- Uni curve sensor
- Fast response
- High temperature accuracy between 0 °C and 70 °C
- Excellent long-term stability
- Epoxy resin encapsulation
- Silver-plated nickel leads



Dimensions in mm Approx. weight 60 mg

### **Delivery mode**

Bulk

| Climatic category (IEC 60068-1)        |               | 55/155/56            |      |
|--|---------------|----------------------|------|
| Max. power at 25 °C                    | $P_{25}$      | 60                   | mW   |
| Temperature tolerance (0 70 °C)        | $\Delta T$    | $\pm$ 0,2, $\pm$ 0,5 | K    |
| Rated temperature                      | $T_{N}$       | 25                   | °C   |
| Dissipation factor (in air)            | $\delta_{th}$ | approx. 1,5          | mW/K |
| Thermal cooling time constant (in air) | $\tau_{ m c}$ | approx. 12           | S    |
| Heat capacity                          | $C_{th}$      | approx. 18           | mJ/K |

| R <sub>25</sub> | No. of <i>R/T</i> characteristic | B <sub>25/100</sub> | Ordering code   |
|-----------------|----------------------------------|---------------------|-----------------|
| Ω               |                                  | K                   |                 |
| 3 k             | 8016                             | 3988                | B57869S0302+140 |
| 5 k             | 8016                             | 3988                | B57869S0502+140 |
| 10 k            | 8016                             | 3988                | B57869S0103+140 |
| 30 k            | 8018                             | 3964                | B57869S0303+140 |

+: F for 
$$\Delta T = 0.2 \text{ K}$$
  
G for  $\Delta T = 0.5 \text{ K}$ 

For calculation of the R/T characteristics refer to our special tool "NTC R/T calculation". You may download this tool either from Internet (http://www.epcos.com  $\rightarrow$  Design Tools  $\rightarrow$  NTC Thermistors  $\rightarrow$  NTC R/T Calculation) or from the CD-ROM "Data Book Library" (Please order via Internet: Publications  $\rightarrow$  General Publications).



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|-------------------------|--------|
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# Reliability data

| Test                                     | Standard          | Test conditions  | $\Delta R_{25}/R_{25}$ (typical) | Remarks           |
|--|-------------------|--|----------------------------------|-------------------|
| Storage in dry heat                      | IEC<br>60068-2-2  | Storage at upper category temperature T: 155 °C t: 1000 h                                  | < 1 %<br>< 2 % <sup>1)</sup>     | No visible damage |
| Storage in damp<br>heat, steady state    | IEC<br>60068-2-3  | Temperature of air: 40 °C<br>Relative humidity of air: 93 %<br>Duration: 56 days           | < 1 %                            | No visible damage |
| Rapid temperature cycling                | IEC<br>60068-2-14 | Lower test temperature: - 55 °C<br>Upper test temperature: 155 °C<br>Number of cycles: 100 | < 1 %                            | No visible damage |
| Long-term stability<br>(empirical value) |                   | Temperature: 70 °C<br>t: 10 000 h  | < 2 %                            | No visible damage |

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