

EPCOS Sample Kit 2012

SMD NTC Thermistors

for Temperature Measurement and
Compensation in Automotive Applications



What are SMD NTC thermistors?

- As defined by IEC 60539, NTC (Negative Temperature Coefficient) thermistors are thermally sensitive semiconductor resistors which show a decrease in resistance as temperature increases.
- SMD NTCs are designed for temperature measurement and compensation.

Benefits for customer applications

- Qualification based on AEC-Q200, Rev. D
- Available case sizes 0402, 0603 and 0805
- Resistance values 4.7 up to 100 k Ω
- Operating temperature range: -40 ... +150 °C
- Excellent long-term aging stability in high-temperature and high humidity environment
- Nickel barrier termination and lead-free solderability



Important information: Some parts of this publication contain statements about the suitability of our products for certain areas of application. These statements are based on our knowledge of typical requirements that are often placed on our products. We expressly point out that these statements cannot be regarded as binding statements about the suitability of our products for a particular customer application. It is incumbent on the customer to check and decide whether a product is suitable for use in a particular application. This publication is only a brief product survey which may be changed from time to time. Our products are described in detail in our data sheets. The *Important notes* (www.epcos.com/ImportantNotes) and the product-specific *Cautions and warnings* must be observed. All relevant information is available through our sales offices.

Components

B57251 V5472J060	B57232 V5103F360	B57251 V5103J060		B57332 V5103F360	B57351 V5103J060	B57352 V5103J060	B57351 V5223J060	B57352 V5223J060
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B57352 V5473J060	B57352 V5104J060		B57452 V5472J062	B57451 V5103J062	B57452 V5103J062	B57451 V5333J062	B57452 V5104J062	
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Product range

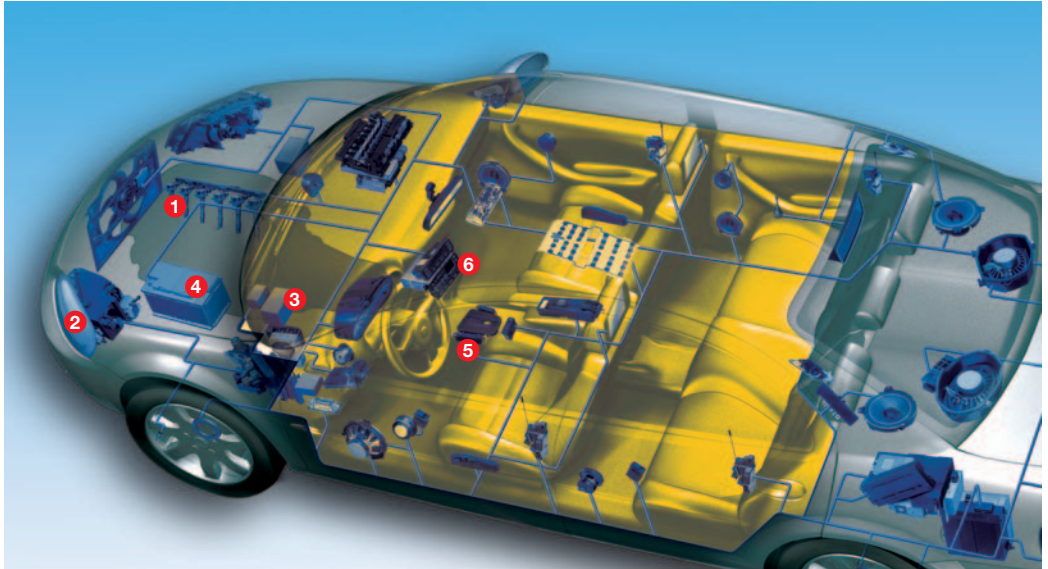


Electrical specifications and ordering codes						
EIA case size	R ₂₅ [kΩ]	ΔR _R %	B _{25/50} [K]	B _{25/85} [K]	B _{25/100} [K]	Ordering code
Case size 0402						
0402	4.7	±5	3940	3980	4000 ±3%	B57251V5472J060
0402	10	±1	3380	3435	3455 ±1%	B57232V5103F360 NEW
0402	10	±5	3940	3980	4000 ±3%	B57251V5103J060
Case size 0603						
0603	10	±1	3380	3435	3455 ±1%	B57332V5103F360 NEW
0603	10	±3, ±5	3940	3980	4000 ±3%	B57351V5103+060
0603	10	±3, ±5	4386	4455	4480 ±3%	B57352V5103+060
0603	22	±3, ±5	3940	3980	4000 ±3%	B57351V5223+060
0603	22	±3, ±5	4386	4455	4480 ±3%	B57352V5223+060
0603	47	±3, ±5	4386	4455	4480 ±3%	B57352V5473+060
0603	100	±3, ±5	4386	4455	4480 ±3%	B57352V5104+060
Case size 0805						
0805	4.7	±3, ±5	4386	4455	4480 ±3%	B57452V5472+062
0805	10	±3, ±5	3940	3980	4000 ±3%	B57451V5103+062
0805	10	±3, ±5	4386	4455	4480 ±3%	B57452V5103+062
0805	33	±3, ±5	3940	3980	4000 ±3%	B57451V5333+062
0805	100	±3, ±5	4386	4455	4480 ±3%	B57452V5104+062

See enclosed CD-ROM for data sheets and further details.

+ = Resistance tolerance: H = ±3%, J = ±5%

Application examples for SMD NTC thermistors in automotive



- 1 Electronic control unit (ECU),
e.g. tire air pressure, motor management, airbag
- 2 LED temperature control (Head and rear light)
- 3 Gear box control
- 4 Temperature control for the battery pack in conventional, hybrid electric and full-electric vehicles
- 5 Sensor system,
e.g. temperature sensors for air conditioning
- 6 Display,
e.g. dash board, car radio, navigation

