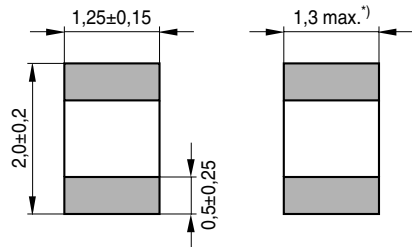



Applications

- Temperature measurement and compensation in
 - mobile phone applications (e.g. battery pack, TCXO, LCD)
 - data systems
 - automotive electronics

Features

- Multilayer SMD NTC with inner electrodes
- Ni barrier termination (AgNiSn)
- High accuracy: $\pm 5\%$ in resistance, B value tolerance down to $\pm 1,5\%$ available on request
- Excellent long-term ageing stability in high-temperature and high-humidity environment
- Superior resistance stability during soldering (change $< 1\%$)



■ Termination

TNT0421-1-E

* Slimline version 0,9 max. available upon request

 Dimensions in mm
Approx. weight 13 mg

Options

 Alternative resistance ratings, resistance tol. $< 5\%$ and B value tol. $< 3\%$ available on request

Delivery mode

Blister tape, 180-mm reel, PU: 3000 pcs (standard); 330-mm reel, PU: 12000 pcs (on request)

| | | | |
|--|--------------------|---------------------|------|
| Climatic category (IEC 60068-1) | | 55/125/56 | |
| Max. power at 25 °C (on PCB) | $P_{25}^{1)}$ | 210 | mW |
| Resistance tolerance | $\Delta R_N/R_N$ | $\pm 5\%, \pm 10\%$ | |
| Rated temperature | T_N | 25 | °C |
| B value tolerance | $\Delta B/B$ | $\pm 3\%$ | |
| Dissipation factor (on PCB) | $\delta_{th}^{1)}$ | approx. 3,5 | mW/K |
| Thermal cooling time constant (on PCB) | $\tau_c^{1)}$ | approx. 10,0 | s |
| Heat capacity | $C_{th}^{1)}$ | approx. 35,0 | mJ/K |

| R_{25} | No. of R/T characteristic | $B_{25/50}$ | $B_{25/85}$ | $B_{25/100}$ | Ordering code |
|----------|-----------------------------|-------------|-------------|--------------|-----------------|
| Ω | | K | K | K | |
| 47 | 8501 | 3470 | 3540 | 3550 | B57411V2470+062 |
| 100 | 8501 | 3470 | 3540 | 3550 | B57411V2101+062 |
| 150 | 8501 | 3470 | 3540 | 3550 | B57411V2151+062 |
| 220 | 8501 | 3470 | 3540 | 3550 | B57411V2221+062 |
| 330 | 8501 | 3470 | 3540 | 3550 | B57411V2331+062 |

1) Depends on mounting situation



| R_{25} | No. of R/T characteristic | $B_{25/50}$ | $B_{25/85}$ | $B_{25/100}$ | Ordering code |
|----------|-----------------------------|-------------|-------------|--------------|-----------------|
| Ω | | K | K | K | |
| 470 | 8502 | 3940 | 3980 | 4000 | B57421V2471+062 |
| 680 | 8502 | 3940 | 3980 | 4000 | B57421V2681+062 |
| 1,0 k | 8502 | 3940 | 3980 | 4000 | B57421V2102+062 |
| 1,5 k | 8502 | 3940 | 3980 | 4000 | B57421V2152+062 |
| 10 k | 8502 | 3940 | 3980 | 4000 | B57421V2103+062 |
| 2,2 k | 8503 | 4390 | 4470 | 4500 | B57431V2222+062 |
| 3,3 k | 8503 | 4390 | 4470 | 4500 | B57431V2332+062 |
| 4,7 k | 8503 | 4390 | 4470 | 4500 | B57431V2472+062 |
| 6,8 k | 8503 | 4390 | 4470 | 4500 | B57431V2682+062 |
| 10 k | 8503 | 4390 | 4470 | 4500 | B57431V2103+062 |
| 15 k | 8503 | 4390 | 4470 | 4500 | B57431V2153+062 |
| 22 k | 8503 | 4390 | 4470 | 4500 | B57431V2223+062 |
| 33 k | 8503 | 4390 | 4470 | 4500 | B57431V2333+062 |
| 47 k | 8503 | 4390 | 4470 | 4500 | B57431V2473+062 |
| 68 k | 8503 | 4390 | 4470 | 4500 | B57431V2683+062 |
| 100 k | 8503 | 4390 | 4470 | 4500 | B57431V2104+062 |

+: J for $\Delta R_N/R_N = \pm 5\%$

K for $\Delta R_N/R_N = \pm 10\%$


Reliability data

SMD NTC thermistors are tested in accordance with IEC 60068. The parts are mounted on a standardized PCB in accordance with IEC 60539-1.

| Test | Standard | Test conditions | $\Delta R_{25}/R_{25}$ (typical) | Remarks |
|------------------------------------|---------------------------------|--|-------------------------------------|-----------------------------|
| Storage in dry heat | IEC 60068-2-2 JIS C 0021 | Storage at upper category temperature $T: (125 \pm 2) ^\circ\text{C}$ $t: 1000 \text{ h}$ | < 2 % | |
| Storage in damp heat, steady state | IEC 60068-2-3 JIS C 0022 | Temperature of air: $(40 \pm 2) ^\circ\text{C}$ Relative humidity of air: $(93 +2/-3) \%$ Duration: 56 days | < 2 % | |
| Rapid temperature cycling | IEC 60068-2-14 JIS C 0025 | Lower test temperature: $-55 ^\circ\text{C}$ Upper test temperature: $125 ^\circ\text{C}$ Number of cycles: 100 | < 2 % | |
| Endurance | | P_{max} : 210 mW $T: (65 \pm 2) ^\circ\text{C}$ $t: 1000 \text{ h}$ | < 2 % | |
| Solderability | IEC 60068-2-58 JIS C 0054 | Solderability: $(215 \pm 3) ^\circ\text{C} / (3 \pm 0,3) \text{ s}$ $(235 \pm 5) ^\circ\text{C} / (2 \pm 0,2) \text{ s}$ Resistance to soldering heat: $(260 \pm 5) ^\circ\text{C} / (10 \pm 1) \text{ s}$ | | 95 % of terminations wetted |
| Resistance drift after soldering | | Reflow soldering profile Wave soldering profile | < 1 % | |

Herausgegeben von EPCOS AG

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