

NTC SMD Thermistors



With Nickel Barrier Termination NB 21 - NB 23

Chip thermistors are high quality and low cost devices especially developed for surface mounting applications. They are widely used for temperature compensation but can also achieve temperature control of printed circuits.

A nickel barrier metallization provides outstanding qualities of solderability and enables this chip to meet the requirements of the most severe soldering processes.

| Types | NB 21 IEC SIZE : 0603 | NB 23 IEC SIZE : 0402 |
|--------------------------------------------|--------------------------|--------------------------|
| DIMENSIONS: millimeters (inches) | | |
| Terminations | Nickel Barrier | |
| Marking | On packaging only | |
| Climatic category | 40/125/56 | |
| Operating temperature | -55°C to +150°C | |
| Tolerance on Rn (25°C) | ±5%, ±10%, ±20% | |
| Maximum dissipation at 25°C | 0.07 W | 0.06 W |
| Thermal dissipation factor | 1 mW/°C | 0.8 mW/°C |
| Thermal time constant | 4 s | 3 s |

Resistance - Temperature characteristics: pages 36 to 40.

APPLICATIONS

- LCD compensation
- Battery packs
- Mobile phones
- CD players
- Heating systems
- Air-conditioning systems
- Temperature control of Switch Mode Power Supplies
- Compensation of pressure sensors
- Protection of power transistors in various electronic circuits

HOW TO ORDER

NB 21

Type

K 0

Material Code
K
(See tables page 15)

0103

Resistance
10,000 Ω

M

Tolerance
M (±20%)
J (±5%)
K (±10%)

BB

Suffix: Packaging
--: Bulk
BB: Cardboard tape
(180mm diam. reel)
BF: Cardboard tape (1/2 reel)
BD: Cardboard tape
(330mm diam. reel)

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TABLE OF VALUES

| NB 21 IEC SIZE : 0603 | | | | |
|----------------------------------------------------|--------------------|------------------|-----------------------------------------------------------------------------|----------------------------|
| Types | Rn at 25°C (Ω) | Material Code | B (K) ($\frac{\Delta B}{B}$ ⁽¹⁾ ± 5% ₍₂₎ ± 3%) | α at 25°C (%/°C) |
| NB 21 KC 0 470 NB 21 KC 0 101 NB 21 KC 0 471 | 47 100 470 | KC | 3470 ± 5% | - 3.9 |
| NB 21 MC 0 102 | 1,000 | MC | 3910 ± 3% | - 4.4 |
| NB 21 J 0 0472 | 4,700 | J | 3480 ± 3% | - 3.9 |
| NB 21 J 5 0682 NB 21 J 5 0103 | 6,800 10,000 | J5 | 3480 ± 3% 3480 ± 3% | - 3.9 - 3.9 |
| NB 21 K 0 0103 NB 21 K 0 0153 | 10,000 15,000 | K | 3630 ± 3% | - 4.0 |
| NB 21 L 0 0223 | 22,000 | L | 3790 ± 3% | - 4.2 |
| NB 21 M 0 0333 NB 21 M 0 0473 | 33,000 47,000 | M | 3950 ± 3% | - 4.4 |
| NB 21 L 2 0683 | 68,000 | L2 | 3805 ± 3% | - 4.1 |
| NB 21 N 0 0683 | 68,000 | N | 4080 ± 3% | - 4.6 |
| NB 21 N 5 0104 | 100,000 | N5 | 4160 ± 3% | - 4.7 |
| NB 21 P 0 0154 | 150,000 | P | 4220 ± 3% | - 4.7 |
| NB 21 Q 0 0334 NB 21 Q 0 0474 | 330,000 470,000 | Q | 4300 ± 3% | - 4.7 |

| NB 23 IEC SIZE : 0402 | | | | |
|----------------------------------------------------|-----------------------------|------------------|-----------------------------------------------------------------------------|----------------------------|
| Types | Rn at 25°C (Ω) | Material Code | B (K) ($\frac{\Delta B}{B}$ ⁽¹⁾ ± 5% ₍₂₎ ± 3%) | α at 25°C (%/°C) |
| NB 23 NC 0 103 | 10,000 | NC | 4080 ± 3% | - 4.6 |
| NB 23 RC 0 103 | 10,000 | RC | 4340 ± 3% | - 4.7 |
| NB 23 NC 0 153 NB 23 NC 0 223 | 15,000 22,000 | NC | 4080 ± 3% | - 4.6 |
| NB 23 RC 0 223 NB 23 RC 0 333 | 22,000 33,000 | RC | 4340 ± 3% | - 4.7 |
| NB 23 NE 0 473 | 47,000 | NE | 4100 ± 3% | - 4.6 |
| NB 23 RC 0 473 NB 23 RC 0 683 NB 23 RC 0 104 | 47,000 68,000 100,000 | RC | 4340 ± 3% | - 4.7 |