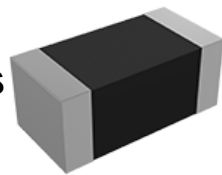


Chip Temp. Sensing NTC Thermistor – SDNT Series

Operating Temp. : -55°C~+125°C



FEATURES

- SMD type suitable for high density mounting
- Series of B constant for various applications
- Excellent solder ability

APPLICATIONS

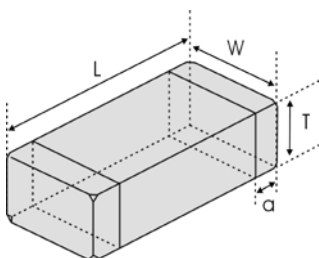
- Telecommunication equipments such as cellular phone, automobile phone, etc.
- Office automation such as printer, facsimile, word processor, etc.
- Battery, CPU temperature protection.

PRODUCT IDENTIFICATION

| <u>SDNT</u> ① | <u>1005</u> ② | <u>X</u> ③ | <u>103</u> ④ | <u>F</u> ⑤ | <u>3380</u> ⑥ | <u>F</u> ⑦ | <u>T</u> ⑧ | <u>F</u> ⑨ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---------------------|---------------|-----------------|---------------------|---|--------------------------------|---------------|---------------|---------|-------------|---------|-------------|---------|-------------|----------|---|---------------|--|---|--|---|--|--|-----------------------|--|---------|---------------|-----|-------|-----|------|--|-------------------------|--|---|-----|---|-----|---|-----|---|------|--|----------------------|--|---------|---------------|------|-------|------|-------|---|-------------------------|--|---|-----|---|-----|---|---------|--|---|-------------|--|-----------------------------------|--|---|--|
| ① | ② | ③ | ④ | ⑤ | ⑥ | ⑦ | ⑧ | ⑨ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <tr><th colspan="2">Type</th></tr> <tr><td>SDNT</td><td>Chip NTC Thermistor</td></tr> </table> | Type | | SDNT | Chip NTC Thermistor | <table border="1"> <tr><th colspan="2">External Dimensions (LxW) (mm)</th></tr> <tr><td>0603 [0201]</td><td>0.6×0.3</td></tr> <tr><td>1005 [0402]</td><td>1.0×0.5</td></tr> <tr><td>1608 [0603]</td><td>1.6×0.8</td></tr> <tr><td>2012 [0805]</td><td>2.0×1.25</td></tr> </table> | External Dimensions (LxW) (mm) | | 0603 [0201] | 0.6×0.3 | 1005 [0402] | 1.0×0.5 | 1608 [0603] | 1.6×0.8 | 2012 [0805] | 2.0×1.25 | <table border="1"> <tr><th colspan="2">Internal Code</th></tr> <tr><td>X</td><td></td></tr> <tr><td>C</td><td></td></tr> </table> | Internal Code | | X | | C | | <table border="1"> <tr><th colspan="2">Zero-power Resistance</th></tr> <tr><th>Example</th><th>Nominal Value</th></tr> <tr><td>472</td><td>4.7kΩ</td></tr> <tr><td>103</td><td>10kΩ</td></tr> </table> | Zero-power Resistance | | Example | Nominal Value | 472 | 4.7kΩ | 103 | 10kΩ | <table border="1"> <tr><th colspan="2">Tolerance of Resistance</th></tr> <tr><td>F</td><td>±1%</td></tr> <tr><td>H</td><td>±3%</td></tr> <tr><td>J</td><td>±5%</td></tr> <tr><td>K</td><td>±10%</td></tr> </table> | Tolerance of Resistance | | F | ±1% | H | ±3% | J | ±5% | K | ±10% | <table border="1"> <tr><th colspan="2">B Constant (25-50°C)</th></tr> <tr><th>Example</th><th>Nominal Value</th></tr> <tr><td>3380</td><td>3380K</td></tr> <tr><td>4250</td><td>4250K</td></tr> </table> | B Constant (25-50°C) | | Example | Nominal Value | 3380 | 3380K | 4250 | 4250K | <table border="1"> <tr><th colspan="2">Tolerance of B Constant</th></tr> <tr><td>F</td><td>±1%</td></tr> <tr><td>H</td><td>±3%</td></tr> </table> | Tolerance of B Constant | | F | ±1% | H | ±3% | <table border="1"> <tr><th colspan="2">Packing</th></tr> <tr><td>T</td><td>Tape & Reel</td></tr> </table> | Packing | | T | Tape & Reel | <table border="1"> <tr><th colspan="2">Hazardous Substance Free Products</th></tr> <tr><td>F</td><td></td></tr> </table> | Hazardous Substance Free Products | | F | |
| Type | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SDNT | Chip NTC Thermistor | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| External Dimensions (LxW) (mm) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0603 [0201] | 0.6×0.3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1005 [0402] | 1.0×0.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1608 [0603] | 1.6×0.8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 [0805] | 2.0×1.25 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Internal Code | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Zero-power Resistance | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Example | Nominal Value | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 472 | 4.7kΩ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 103 | 10kΩ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Tolerance of Resistance | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| F | ±1% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| H | ±3% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| J | ±5% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| K | ±10% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| B Constant (25-50°C) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Example | Nominal Value | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3380 | 3380K | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4250 | 4250K | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Tolerance of B Constant | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| F | ±1% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| H | ±3% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Packing | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T | Tape & Reel | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hazardous Substance Free Products | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| F | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

SHAPE AND DIMENSIONS

Unit: mm [inch]



| Type | L | W | T | a |
|--------------------|-------------------------|-------------------------|-------------------------|--------------------------|
| SDNT0603 [0201] | 0.6±0.05 [.024±.002] | 0.3±0.05 [.012±.002] | 0.3±0.05 [.012±.002] | 0.15±0.05 [.006±.002] |
| SDNT1005 [0402] | 1.0±0.15 [.039±.006] | 0.5±0.15 [.020±.006] | 0.5±0.15 [.020±.006] | 0.25±0.1 [.010±.004] |
| SDNT1608 [0603] | 1.6±0.15 [.063±.006] | 0.8±0.15 [.031±.006] | 0.8±0.15 [.031±.006] | 0.3±0.2 [.012±.008] |
| SDNT2012 [0805] | 2.0±0.2 [.079±.008] | 1.25±0.2 [.049±.008] | 0.85±0.2 [.033±.008] | 0.5±0.3 [.020±.012] |

SPECIFICATIONS

SDNT0603 TYPE

| Part Number | Resistance at 25 °C | B Constant (25-50 °C) | Max. Permissive Operating Current (25 °C) | Thermal Time Constant | Dissipation Factor | Rated Electric Power |
|----------------------|---------------------|-----------------------|---|-----------------------|--------------------|----------------------|
| Units | kΩ | K | mA | sec | mW/°C | mW |
| Symbol | R25 | B25/50 | I _{max} | t | C | P |
| SDNT0603C103□3380◎TF | 10 | 3380 | 0.31 | <3 sec. | 1.0 | 100 |
| SDNT0603C223□3380◎TF | 22 | 3380 | 0.21 | | | |
| SDNT0603C473□4050◎TF | 47 | 4050 | 0.14 | | | |
| SDNT0603C683□4250◎TF | 68 | 4250 | 0.12 | | | |
| SDNT0603C104□4250◎TF | 100 | 4250 | 0.10 | | | |

SDNT1005 TYPE

| Part Number | Resistance at 25 °C | B Constant (25-50 °C) | Max. Permissive Operating Current (25 °C) | Thermal Time Constant | Dissipation Factor | Rated Electric Power |
|----------------------|---------------------|-----------------------|---|-----------------------|--------------------|----------------------|
| Units | kΩ | K | mA | sec | mW/°C | mW |
| Symbol | R25 | B25/50 | I _{max} | t | C | P |
| SDNT1005X682□3950◎TF | 6.8 | 3950 | 0.38 | <3 sec. | 1.0 | 100 |
| SDNT1005X103□3380◎TF | 10 | 3380 | 0.31 | | | |
| SDNT1005X103□3950◎TF | 10 | 3950 | 0.33 | | | |
| SDNT1005X103□4050◎TF | 10 | 4050 | 0.33 | | | |
| SDNT1005X153□3450◎TF | 15 | 3450 | 0.25 | | | |
| SDNT1005X223□3950◎TF | 22 | 3950 | 0.23 | | | |
| SDNT1005X303□3950◎TF | 30 | 3950 | 0.15 | | | |
| SDNT1005X333□3950◎TF | 33 | 3950 | 0.15 | | | |
| SDNT1005X473□4050◎TF | 47 | 4050 | 0.12 | | | |
| SDNT1005X473□4100◎TF | 47 | 4100 | 0.12 | | | |
| SDNT1005X503□4100◎TF | 50 | 4100 | 0.12 | | | |
| SDNT1005X683□4150◎TF | 68 | 4150 | 0.11 | | | |
| SDNT1005X104□4150◎TF | 100 | 4150 | 0.1 | | | |
| SDNT1005X104□4250◎TF | 100 | 4250 | 0.1 | | | |
| SDNT1005X154□4150◎TF | 150 | 4150 | 0.08 | | | |
| SDNT1005X224□4250◎TF | 220 | 4250 | 0.06 | | | |

SDNT1608 TYPE

| Part Number | Resistance at 25 °C | B Constant (25-50 °C) | Max. Permissive Operating Current (25 °C) | Thermal Time Constant | Dissipation Factor | Rated Electric Power |
|----------------------|---------------------|-----------------------|---|-----------------------|--------------------|----------------------|
| Units | kΩ | K | mA | sec | mW/°C | mW |
| Symbol | R25 | B25/50 | I _{max} | t | C | P |
| SDNT1608X222□3450◎TF | 2.2 | 3450 | 0.67 | <5 sec. | 1.0 | 100 |
| SDNT1608X472□3950◎TF | 4.7 | 3950 | 0.46 | | | |
| SDNT1608X502□3950◎TF | 5 | 3950 | 0.44 | | | |
| SDNT1608X103□3380◎TF | 10 | 3380 | 0.31 | | | |
| SDNT1608X103□3450◎TF | 10 | 3450 | 0.31 | | | |
| SDNT1608X103□3950◎TF | 10 | 3950 | 0.33 | | | |
| SDNT1608X153□3950◎TF | 15 | 3950 | 0.25 | | | |
| SDNT1608X223□3950◎TF | 22 | 3950 | 0.21 | | | |
| SDNT1608X223□4050◎TF | 22 | 4050 | 0.21 | | | |

SPECIFICATIONS

SDNT1608 TYPE

| Part Number | Resistance at 25°C | B Constant (25-50°C) | Max. Permissible Operating Current (25°C) | Thermal Time Constant | Dissipation Factor | Rated Electric Power |
|----------------------|--------------------|----------------------|---|-----------------------|--------------------|----------------------|
| Units | kΩ | K | mA | sec | mW/°C | mW |
| Symbol | R25 | B25/50 | I _{max} | t | C | P |
| SDNT1608X333□4050◎TF | 33 | 4050 | 0.17 | <5 sec. | 1.0 | 100 |
| SDNT1608X473□4050◎TF | 47 | 4050 | 0.14 | | | |
| SDNT1608X473□4150◎TF | 47 | 4150 | 0.14 | | | |
| SDNT1608X503□4150◎TF | 50 | 4150 | 0.13 | | | |
| SDNT1608X683□4150◎TF | 68 | 4150 | 0.12 | | | |
| SDNT1608X104□3950◎TF | 100 | 3950 | 0.1 | | | |
| SDNT1608X104□4250◎TF | 100 | 4250 | 0.1 | | | |
| SDNT1608X124□4250◎TF | 120 | 4250 | 0.1 | | | |
| SDNT1608X154□4250◎TF | 150 | 4250 | 0.08 | | | |
| SDNT1608X224□4300◎TF | 220 | 4300 | 0.06 | | | |

SDNT2012 TYPE

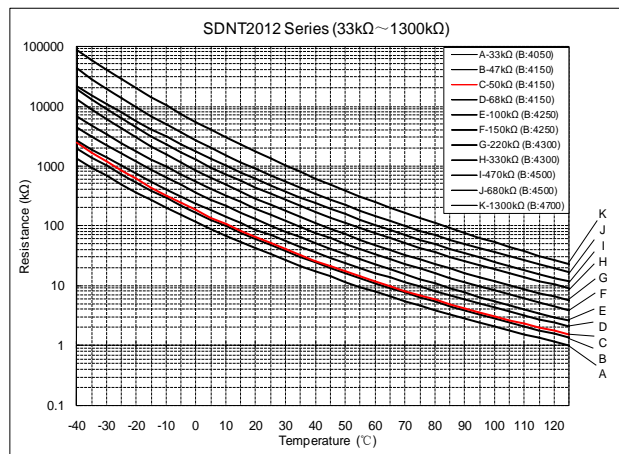
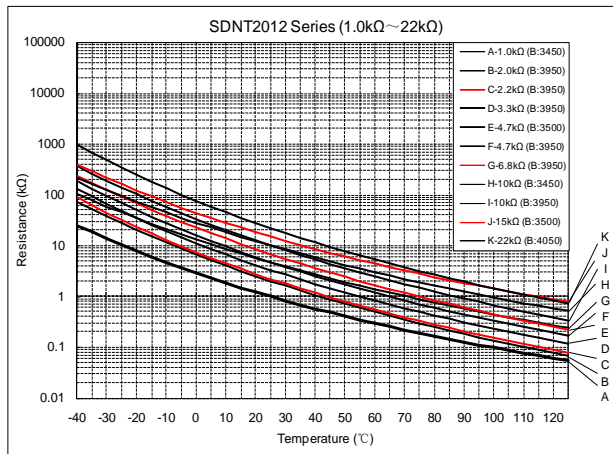
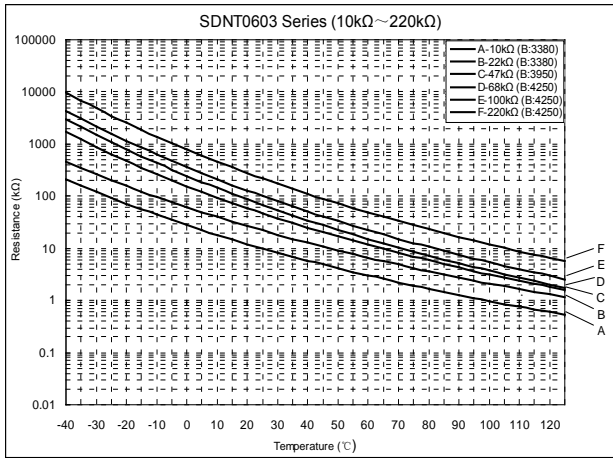
| Part Number | Resistance at 25°C | B Constant (25-50°C) | Max. Permissible Operating Current (25°C) | Thermal Time Constant | Dissipation Factor | Rated Electric Power |
|----------------------|--------------------|----------------------|---|-----------------------|--------------------|----------------------|
| Units | kΩ | K | mA | sec | mW/°C | mW |
| Symbol | R25 | B25/50 | I _{max} | t | C | P |
| SDNT2012X472□3950◎TF | 4.7 | 3950 | 0.65 | <5 sec. | 2.0 | 200 |
| SDNT2012X502□3950◎TF | 5 | 3950 | 0.6 | | | |
| SDNT2012X103□3450◎TF | 10 | 3450 | 0.4 | | | |
| SDNT2012X103□3950◎TF | 10 | 3950 | 0.44 | | | |
| SDNT2012X223□4050◎TF | 22 | 4050 | 0.31 | | | |
| SDNT2012X333□4050◎TF | 33 | 4050 | 0.24 | | | |
| SDNT2012X473□4050◎TF | 47 | 4050 | 0.2 | | | |
| SDNT2012X473□4150◎TF | 47 | 4150 | 0.2 | | | |
| SDNT2012X503□4150◎TF | 50 | 4150 | 0.18 | | | |
| SDNT2012X104□3950◎TF | 100 | 3950 | 0.14 | | | |
| SDNT2012X104□4250◎TF | 100 | 4250 | 0.14 | | | |
| SDNT2012X154□4250◎TF | 150 | 4250 | 0.11 | | | |
| SDNT2012X224□4300◎TF | 220 | 4300 | 0.08 | | | |

※□: Please specify the resistance tolerance code (F=±1%, H=±3%, J=±5%, K=±10%).

※◎: Please specify the B value tolerance code (F=±1%, H=±3%).

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TYPICAL ELECTRICAL CHARACTERISTICS



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[GA100K6D234](#) [USUR1000-502G-06](#) [GA10K3MR1I](#) [USUR1000-203G-06](#) [NTCS0603E3333HHT](#) [NTCLE100E3473JB0A](#)