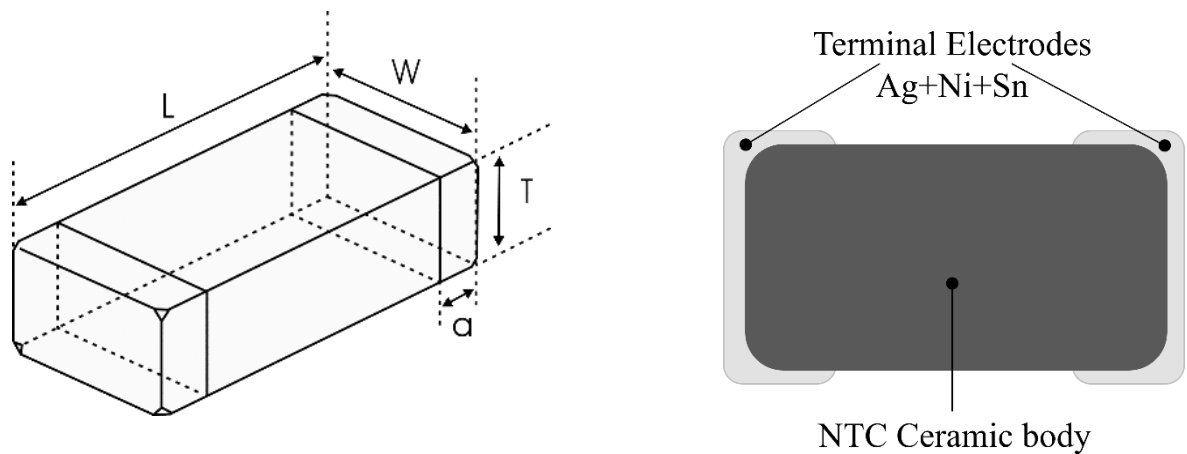


1. Shape & Dimensions & Components



Unit: mm

| Type | L        | W        | T        | a        |
|------|----------|----------|----------|----------|
| 0402 | 1.0±0.05 | 0.5±0.05 | 0.5±0.05 | 0.25±0.1 |

2. Identification (Part Number)

|            |             |          |            |          |             |          |          |
|------------|-------------|----------|------------|----------|-------------|----------|----------|
| <u>MCN</u> | <u>0402</u> | <u>X</u> | <u>103</u> | <u>F</u> | <u>3950</u> | <u>F</u> | <u>B</u> |
| ①          | ②           | ③        | ④          | ⑤        | ⑥           | ⑦        | ⑧        |

| ① Type |                          |
|--------|--------------------------|
| MCN    | Minci SMD NTC thermistor |

| ② Chip dimension code (mm)<br>(L×W×T) |                |
|---------------------------------------|----------------|
| 0402[1005]                            | 1.00×0.50×0.50 |

| ③ Delimiter |  |
|-------------|--|
| X           |  |

| ④ Nominal Zero-Power Resistance at 25°C |       |
|-----------------------------------------|-------|
| 103                                     | 10kΩ  |
| 104                                     | 100kΩ |

| ⑤ Tolerance of Resistance |     |
|---------------------------|-----|
| F                         | ±1% |
| G                         | ±2% |
| H                         | ±3% |
| J                         | ±5% |

| ⑥ B Constant |       |
|--------------|-------|
| 3435         | 3435K |
| 3950         | 3950K |
| 4250         | 4250K |

| ⑦ Tolerance of B Constant |     |
|---------------------------|-----|
| F                         | ±1% |
| H                         | ±3% |

| ⑧ B constant calculation method |           |
|---------------------------------|-----------|
| A                               | 25°C&85°C |
| B                               | 25°C&50°C |

3. Electrical properties (In static air)

| Part No.           | R25<br>(kΩ) | B constant<br>(25/50℃)<br>(K) | B constant<br>(25/85℃)<br>(K) | Permissible<br>Operating<br>Current<br>( 25℃)<br>(mA) | Rated<br>Electric<br>Power(25℃)<br>(mW) | Dissipation<br>Factor<br>(mW/℃) | Thermal<br>Time<br>Constant<br>(s) |
|--------------------|-------------|-------------------------------|-------------------------------|-------------------------------------------------------|-----------------------------------------|---------------------------------|------------------------------------|
| MCN0402X202□3300FB | 2.0         | 3300                          | 3350                          | 0.70                                                  | 100                                     | 1.0                             | <3                                 |
| MCN0402X472□3380FB | 4.7         | 3380±1%                       | 3435                          | 0.46                                                  |                                         |                                 |                                    |
| MCN0402X472□3500FB | 4.7         | 3500±1%                       | 3545                          | 0.46                                                  |                                         |                                 |                                    |
| MCN0402X502□3380FB | 5.0         | 3380±1%                       | 3435                          | 0.44                                                  |                                         |                                 |                                    |
| MCN0402X502□3500FB | 5.0         | 3500±1%                       | 3545                          | 0.44                                                  |                                         |                                 |                                    |
| MCN0402X682□3600FB | 6.8         | 3600±1%                       | 3660                          | 0.38                                                  |                                         |                                 |                                    |
| MCN0402X812□3750FB | 8.1         | 3750±1%                       | 3780                          | 0.35                                                  |                                         |                                 |                                    |
| MCN0402X103D3380EB | 10±0.5%     | 3380±0.7%                     | 3435                          | 0.31                                                  |                                         |                                 |                                    |
| MCN0402X103D3380FB | 10±0.5%     | 3380±1%                       | 3435                          | 0.31                                                  |                                         |                                 |                                    |
| MCN0402X103□3380FB | 10          | 3380±1%                       | 3435                          | 0.31                                                  |                                         |                                 |                                    |
| MCN0402X103D3435EA | 10±0.5%     | 3380                          | 3435±0.7%                     | 0.31                                                  |                                         |                                 |                                    |
| MCN0402X103D3435FA | 10±0.5%     | 3380                          | 3435±1%                       | 0.31                                                  |                                         |                                 |                                    |
| MCN0402X103□3435FA | 10          | 3380                          | 3435±1%                       | 0.31                                                  |                                         |                                 |                                    |
| MCN0402X103□3450FB | 10          | 3450±1%                       | 3500                          | 0.31                                                  |                                         |                                 |                                    |
| MCN0402X103□3900FB | 10          | 3900±1%                       | 3935                          | 0.31                                                  |                                         |                                 |                                    |
| MCN0402X103□3950FB | 10          | 3950±1%                       | 3990                          | 0.31                                                  |                                         |                                 |                                    |
| MCN0402X103□4050FB | 10          | 4050±1%                       | 4110                          | 0.31                                                  |                                         |                                 |                                    |
| MCN0402X153□3950FB | 15          | 3950±1%                       | 3990                          | 0.25                                                  |                                         |                                 |                                    |
| MCN0402X203□3950FB | 20          | 3950±1%                       | 3990                          | 0.21                                                  |                                         |                                 |                                    |
| MCN0402X223□3950FB | 22          | 3950±1%                       | 3990                          | 0.21                                                  |                                         |                                 |                                    |
| MCN0402X223□4050FB | 22          | 4050±1%                       | 4110                          | 0.21                                                  |                                         |                                 |                                    |
| MCN0402X303□3950FB | 30          | 3950±1%                       | 3990                          | 0.17                                                  |                                         |                                 |                                    |

| Part No.           | R25<br>(kΩ) | B constant<br>(25/50°C)<br>(K) | B constant<br>(25/85°C)<br>(K) | Permissible<br>Operating<br>Current<br>( 25°C)<br>(mA) | Rated<br>Electric<br>Power(25°C)<br>(mW) | Dissipation<br>Factor<br>(mW/°C) | Thermal<br>Time<br>Constant<br>(s) |
|--------------------|-------------|--------------------------------|--------------------------------|--------------------------------------------------------|------------------------------------------|----------------------------------|------------------------------------|
| MCN0402X303□4050FB | 30          | 4050±1%                        | 4110                           | 0.17                                                   | 100                                      | 1.0                              | <3                                 |
| MCN0402X333□3950FB | 33          | 3950±1%                        | 3990                           | 0.17                                                   |                                          |                                  |                                    |
| MCN0402X333□4050FB | 33          | 4050±1%                        | 4110                           | 0.17                                                   |                                          |                                  |                                    |
| MCN0402X473□3380FB | 47          | 3380±1%                        | 3435                           | 0.14                                                   |                                          |                                  |                                    |
| MCN0402X473□3950FB | 47          | 3950±1%                        | 3990                           | 0.14                                                   |                                          |                                  |                                    |
| MCN0402X473D4050DB | 47±0.5%     | 4050±0.5%                      | 4110                           | 0.14                                                   |                                          |                                  |                                    |
| MCN0402X473D4050FB | 47±0.5%     | 4050±1%                        | 4110                           | 0.14                                                   |                                          |                                  |                                    |
| MCN0402X473□4050FB | 47          | 4050±1%                        | 4110                           | 0.14                                                   |                                          |                                  |                                    |
| MCN0402X473□4108FA | 47          | 4050                           | 4110±1%                        | 0.14                                                   |                                          |                                  |                                    |
| MCN0402X493□3380FB | 49          | 3380±1%                        | 3435                           | 0.14                                                   |                                          |                                  |                                    |
| MCN0402X493□3937FB | 49          | 3937±1%                        | 3980                           | 0.14                                                   |                                          |                                  |                                    |
| MCN0402X493□3950FB | 49          | 3950±1%                        | 3990                           | 0.14                                                   |                                          |                                  |                                    |
| MCN0402X503□3380FB | 50          | 3380±1%                        | 3435                           | 0.14                                                   |                                          |                                  |                                    |
| MCN0402X503□3937FB | 50          | 3937±1%                        | 3980                           | 0.14                                                   |                                          |                                  |                                    |
| MCN0402X503□3950FB | 50          | 3950±1%                        | 3990                           | 0.14                                                   |                                          |                                  |                                    |
| MCN0402X503□4050FB | 50          | 4050±1%                        | 4110                           | 0.14                                                   |                                          |                                  |                                    |
| MCN0402X563□3380FB | 56          | 3380±1%                        | 3435                           | 0.13                                                   |                                          |                                  |                                    |
| MCN0402X563□3450FB | 56          | 3450±1%                        | 3500                           | 0.13                                                   |                                          |                                  |                                    |
| MCN0402X683□3380FB | 68          | 3380±1%                        | 3435                           | 0.12                                                   |                                          |                                  |                                    |
| MCN0402X683□3450FB | 68          | 3450±1%                        | 3500                           | 0.12                                                   |                                          |                                  |                                    |
| MCN0402X683□4000FB | 68          | 4000±1%                        | 4060                           | 0.12                                                   |                                          |                                  |                                    |
| MCN0402X683□4150FB | 68          | 4150±1%                        | 4210                           | 0.12                                                   |                                          |                                  |                                    |
| MCN0402X104□3380FB | 100         | 3380±1%                        | 3435                           | 0.10                                                   |                                          |                                  |                                    |

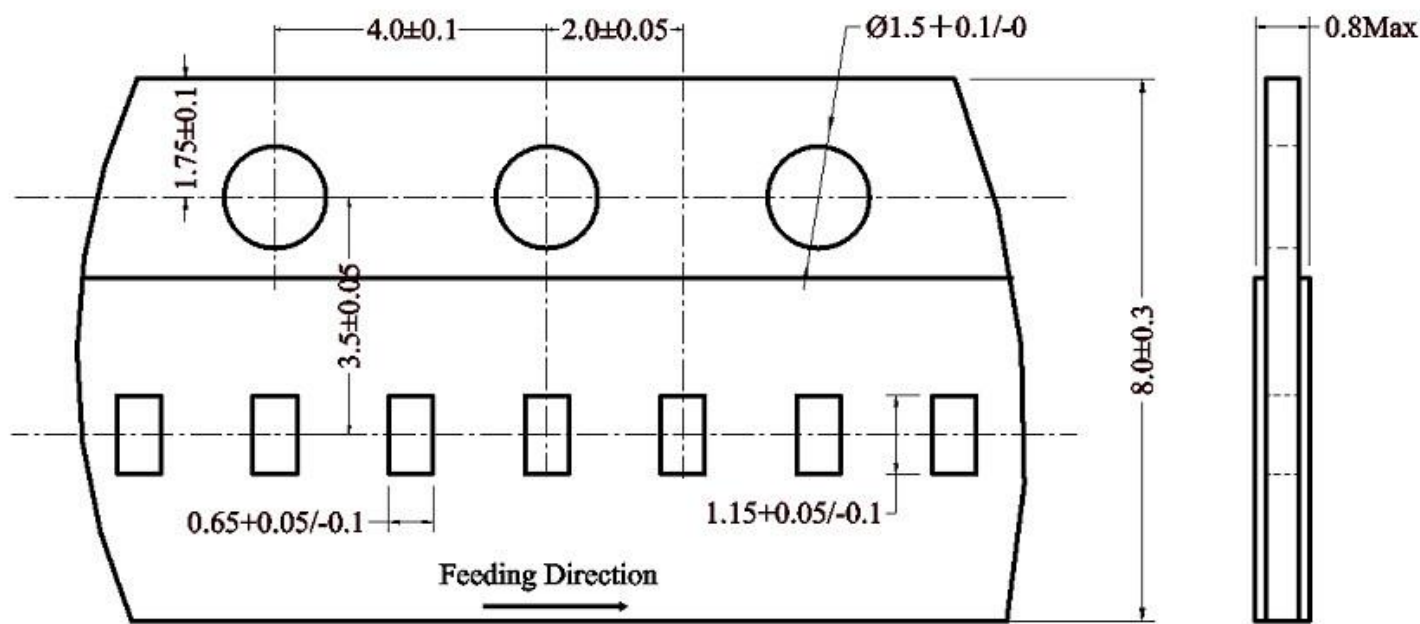
| Part No.           | R25<br>(kΩ) | B constant<br>(25/50°C)<br>(K) | B constant<br>(25/85°C)<br>(K) | Permissible<br>Operating<br>Current<br>( 25°C)<br>(mA) | Rated<br>Electric<br>Power(25°C)<br>(mW) | Dissipation<br>Factor<br>(mW/°C) | Thermal<br>Time<br>Constant<br>(s) |
|--------------------|-------------|--------------------------------|--------------------------------|--------------------------------------------------------|------------------------------------------|----------------------------------|------------------------------------|
| MCN0402X104□3950FB | 100         | 3950±1%                        | 4010                           | 0.10                                                   | 100                                      | 1.0                              | <3                                 |
| MCN0402X104□3975FA | 100         | 3935                           | 3975±1%                        | 0.10                                                   |                                          |                                  |                                    |
| MCN0402X104□4050FB | 100         | 4050±1%                        | 4110                           | 0.10                                                   |                                          |                                  |                                    |
| MCN0402X104□4100FB | 100         | 4100±1%                        | 4160                           | 0.10                                                   |                                          |                                  |                                    |
| MCN0402X104□4150FB | 100         | 4150±1%                        | 4210                           | 0.10                                                   |                                          |                                  |                                    |
| MCN0402X104D4250DB | 100±0.5%    | 4250±0.5%                      | 4310                           | 0.10                                                   |                                          |                                  |                                    |
| MCN0402X104D4250FB | 100±0.5%    | 4250±1%                        | 4310                           | 0.10                                                   |                                          |                                  |                                    |
| MCN0402X104□4250FB | 100         | 4250±1%                        | 4310                           | 0.10                                                   |                                          |                                  |                                    |
| MCN0402X104□4310FA | 100         | 4250                           | 4310±1%                        | 0.10                                                   |                                          |                                  |                                    |
| MCN0402X104□4360FB | 100         | 4360±1%                        | 4375                           | 0.10                                                   |                                          |                                  |                                    |
| MCN0402X104□4485FB | 100         | 4485±1%                        | 4500                           | 0.10                                                   |                                          |                                  |                                    |
| MCN0402X154□3950FB | 150         | 3950±1%                        | 4010                           | 0.08                                                   |                                          |                                  |                                    |
| MCN0402X154□4250FB | 150         | 4250±1%                        | 4310                           | 0.08                                                   |                                          |                                  |                                    |
| MCN0402X154□4500FB | 150         | 4500±1%                        | 4510                           | 0.08                                                   |                                          |                                  |                                    |
| MCN0402X204□3950FB | 200         | 3950±1%                        | 4010                           | 0.07                                                   |                                          |                                  |                                    |
| MCN0402X204□4250FB | 200         | 4250±1%                        | 4310                           | 0.07                                                   |                                          |                                  |                                    |
| MCN0402X224□3950FB | 220         | 3950±1%                        | 4010                           | 0.06                                                   |                                          |                                  |                                    |
| MCN0402X224□4250FB | 220         | 4250±1%                        | 4310                           | 0.06                                                   |                                          |                                  |                                    |
| MCN0402X224□4500FB | 220         | 4500±1%                        | 4510                           | 0.06                                                   |                                          |                                  |                                    |
| MCN0402X224□4700FB | 220         | 4700±1%                        | 4715                           | 0.06                                                   |                                          |                                  |                                    |
| MCN0402X334□3950FB | 330         | 3950±1%                        | 4010                           | 0.05                                                   |                                          |                                  |                                    |
| MCN0402X334□4500FB | 330         | 4500±1%                        | 4510                           | 0.05                                                   |                                          |                                  |                                    |
| MCN0402X474□3950FB | 470         | 3950±1%                        | 4010                           | 0.04                                                   |                                          |                                  |                                    |

| Part No.           | R25<br>(kΩ) | B constant<br>(25/50°C)<br>(K) | B constant<br>(25/85°C)<br>(K) | Permissible<br>Operating<br>Current<br>( 25°C)<br>(mA) | Rated<br>Electric<br>Power(25°C)<br>(mW) | Dissipation<br>Factor<br>(mW/°C) | Thermal<br>Time<br>Constant<br>(s) |
|--------------------|-------------|--------------------------------|--------------------------------|--------------------------------------------------------|------------------------------------------|----------------------------------|------------------------------------|
| MCN0402X474□4050FA | 470         | 3990                           | 4050±1%                        | 0.04                                                   | 100                                      | 1.0                              | <3                                 |
| MCN0402X474□4100FB | 470         | 4100±1%                        | 4160                           | 0.04                                                   |                                          |                                  |                                    |
| MCN0402X474□4500FB | 470         | 4500±1%                        | 4510                           | 0.04                                                   |                                          |                                  |                                    |
| MCN0402X474□4700FA | 470         | 4685                           | 4700±1%                        | 0.04                                                   |                                          |                                  |                                    |
| MCN0402X684□4050FA | 680         | 3990                           | 4050±1%                        | 0.03                                                   |                                          |                                  |                                    |
| MCN0402X684□4500FB | 680         | 4500±1%                        | 4510                           | 0.03                                                   |                                          |                                  |                                    |
| MCN0402X135□4500FB | 1300        | 4500±1%                        | 4510                           | 0.02                                                   |                                          |                                  |                                    |

\* □ Please specify the tolerance of resistance (F=±1%, G=±2%, H=±3%, J=±5%)

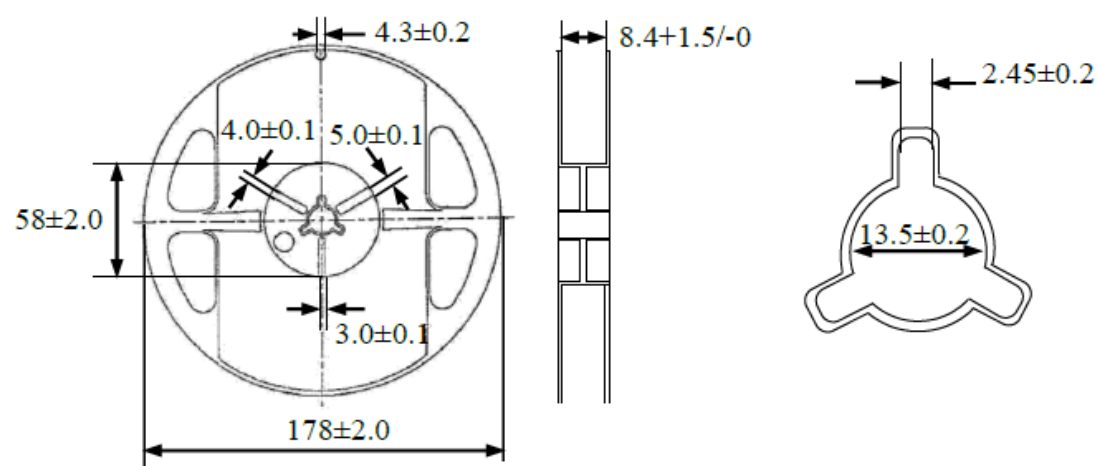
## 4. Taping and Packaging

### 4.1 Paper tape Dimensions



Unit: mm

4.2 Reel Dimensions



Unit: mm

| Size（EIA） | Quantity       |
|-----------|----------------|
| 0402      | 10000pcs/ Reel |