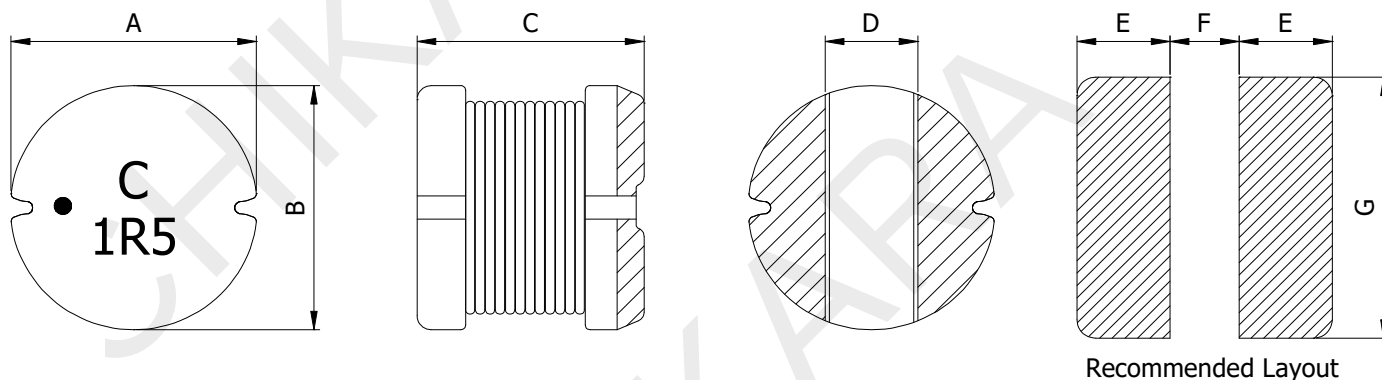


### Features

- High energy storage and very low resistance
- Storage temperature range:-40°C to + 125°C
- Operating temperature range:-40°C to + 125°C  
(including coil's self-temperature rise)
- Moisture sensitivity level:1
- Packaging:1000pcs. Per 13-inch reel
- RoHs&Halogen-free compliant



### Mechanical Dimension(Unit:mm)



| A        | B        | C       | D       | E   | F   | G   |
|----------|----------|---------|---------|-----|-----|-----|
| Ø7.8Max. | Ø7.8Max. | 5.3Max. | 2.6Typ. | 2.7 | 2.4 | 8.0 |

### Part Number Description

SP03 - 0805 1R5 M

①      ②      ③      ④

|   |                  |
|---|------------------|
| ① | Type             |
| ② | Dimensions       |
| ③ | Inductance value |
| ④ | Tolerance code   |

### Electrical Schematic



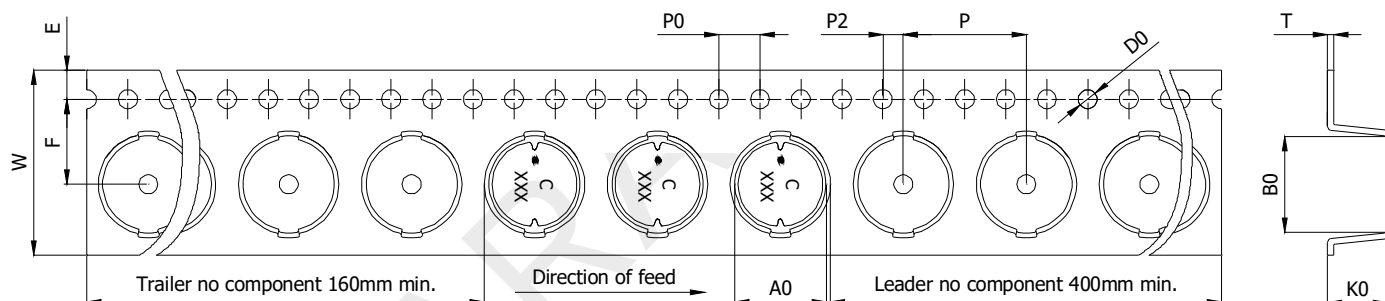
### Electrical Characteristic

| Part Number   | Inductance<br>L0(uH) | Q<br>Typ. | Q<br>Freq.(MHz) | SRF<br>(MHz)Typ. | DCR<br>(Ω)Max. | Isat<br>(A)Typ. | Irms<br>(A)Max. |
|---------------|----------------------|-----------|-----------------|------------------|----------------|-----------------|-----------------|
| SP03-08051R5M | 1.5±20%              | 32        | 7.96            | 120              | 0.02           | 9.10            | 6.00            |
| SP03-08052R5M | 2.5±20%              | 32        | 7.96            | 70               | 0.02           | 7.20            | 5.00            |
| SP03-08053R3M | 3.3±20%              | 32        | 7.96            | 55               | 0.02           | 6.30            | 4.50            |
| SP03-08053R9M | 3.9±20%              | 32        | 7.96            | 45               | 0.02           | 5.70            | 4.40            |
| SP03-08054R7M | 4.7±20%              | 31        | 7.96            | 38               | 0.03           | 5.00            | 3.70            |
| SP03-08055R6M | 5.6±20%              | 31        | 7.96            | 34               | 0.04           | 4.60            | 3.50            |
| SP03-08056R8M | 6.8±20%              | 30        | 7.96            | 33               | 0.04           | 4.10            | 3.20            |
| SP03-08057R5M | 7.5±20%              | 29        | 7.96            | 30               | 0.05           | 3.70            | 2.80            |
| SP03-08058R2M | 8.2±20%              | 29        | 7.96            | 30               | 0.05           | 3.70            | 2.80            |
| SP03-0805100M | 10±20%               | 25        | 2.52            | 22               | 0.07           | 3.20            | 2.30            |
| SP03-0805120M | 12±20%               | 25        | 2.52            | 20               | 0.08           | 3.00            | 2.00            |
| SP03-0805150M | 15±20%               | 25        | 2.52            | 16               | 0.09           | 2.70            | 1.80            |
| SP03-0805180M | 18±20%               | 20        | 2.52            | 15               | 0.10           | 2.60            | 1.60            |
| SP03-0805220M | 22±20%               | 20        | 2.52            | 13               | 0.11           | 2.30            | 1.50            |
| SP03-0805270M | 27±20%               | 20        | 2.52            | 12               | 0.12           | 2.10            | 1.30            |
| SP03-0805330K | 33±10%               | 15        | 2.52            | 10               | 0.14           | 1.90            | 1.20            |
| SP03-0805390K | 39±10%               | 15        | 2.52            | 10               | 0.16           | 1.70            | 1.10            |
| SP03-0805470K | 47±10%               | 15        | 2.52            | 9                | 0.20           | 1.60            | 1.00            |
| SP03-0805560K | 56±10%               | 15        | 2.52            | 9                | 0.24           | 1.50            | 0.94            |
| SP03-0805680K | 68±10%               | 15        | 2.52            | 8                | 0.30           | 1.30            | 0.85            |
| SP03-0805820K | 82±10%               | 12        | 2.52            | 7                | 0.37           | 1.20            | 0.78            |
| SP03-0805101K | 100±10%              | 12        | 0.796           | 7                | 0.45           | 1.10            | 0.72            |
| SP03-0805121K | 120±10%              | 12        | 0.796           | 6                | 0.48           | 1.00            | 0.66            |
| SP03-0805151K | 150±10%              | 12        | 0.796           | 6                | 0.68           | 0.85            | 0.58            |
| SP03-0805181K | 180±10%              | 12        | 0.796           | 5                | 0.77           | 0.80            | 0.51            |
| SP03-0805221K | 220±10%              | 12        | 0.796           | 5                | 0.96           | 0.80            | 0.49            |
| SP03-0805271K | 270±10%              | 12        | 0.796           | 5                | 1.11           | 0.66            | 0.42            |
| SP03-0805331K | 330±10%              | 12        | 0.796           | 4                | 1.26           | 0.58            | 0.40            |
| SP03-0805391K | 390±10%              | 12        | 0.796           | 4                | 1.77           | 0.55            | 0.36            |
| SP03-0805471K | 470±10%              | 12        | 0.796           | 4                | 1.96           | 0.50            | 0.34            |
| SP03-0805561K | 560±10%              | 30        | 0.796           | 4                | 2.50           | 0.46            | 0.30            |
| SP03-0805681K | 680±10%              | 29        | 0.796           | 3                | 2.80           | 0.42            | 0.28            |
| SP03-0805821K | 820±10%              | 28        | 0.796           | 3                | 4.00           | 0.35            | 0.23            |
| SP03-0805102K | 1000±10%             | 27        | 0.252           | 3                | 4.50           | 0.34            | 0.21            |
| SP03-0805122K | 1200±10%             | 28        | 0.252           | 2                | 6.80           | 0.28            | 0.17            |
| SP03-0805152K | 1500±10%             | 27        | 0.252           | 2                | 8.00           | 0.26            | 0.15            |
| SP03-0805222K | 2200±10%             | 29        | 0.252           | 2                | 10.0           | 0.20            | 0.13            |
| SP03-0805332K | 3300±10%             | 28        | 0.252           | 1                | 16.5           | 0.17            | 0.10            |
| SP03-0805472K | 4700±10%             | 30        | 0.252           | 1                | 21.0           | 0.15            | 0.08            |

- Test frequency and voltage:1KHz,1Vrms.
- All test data referenced to 25°C ambient.
- Saturation current(Isat) will cause L0 to drop approximately 10%.
- Heat rated current(Irms) will cause the coil temperature rise approximately Δt of 40°C.

## Packaging Specification

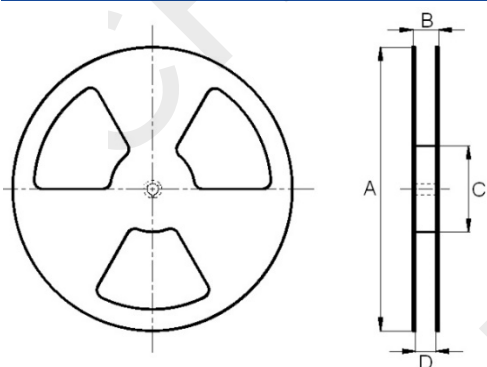
- Carrier Tape (Unit:mm)



| W      | P      | A0       | B0      | K0      | E        | F       | P0      | P2      | D0       | T        |
|--------|--------|----------|---------|---------|----------|---------|---------|---------|----------|----------|
| 16±0.3 | 12±0.1 | Ø8.2±0.1 | 9.6±0.1 | 5.5±0.1 | 1.75±0.1 | 7.5±0.1 | 4.0±0.1 | 2.0±0.1 | Φ1.5±0.1 | 0.4±0.05 |

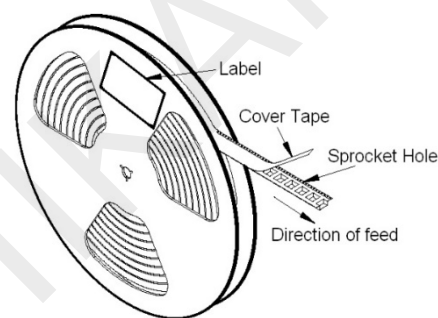
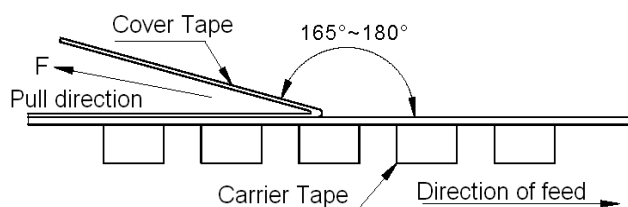
- Reel (Unit:mm)

| A        | B        | C        | D        |
|----------|----------|----------|----------|
| Φ330±1.0 | 22.1Max. | Φ100±1.0 | 16.5±0.5 |



- Taping Method

| Peel-off strength | Peel-off angle | Peel-off speed |
|-------------------|----------------|----------------|
| F=0.1N~1.3N       | 165°~180°      | 300mm/min.     |



✖ Packing is referred to the international standard IEC 60286-3.

- Package Quantity

Parts per reel

1000Pcs

### Soldering Specification

- Reflow profile for SMT components



- Classification of peak package body temperature (Tp)

|                  | Package Thickness | Package Volume      |                         |                      |
|------------------|-------------------|---------------------|-------------------------|----------------------|
|                  |                   | <350mm <sup>3</sup> | 350~2000mm <sup>3</sup> | >2000mm <sup>3</sup> |
| PB-Free Assembly | <1.6mm            | 260°C               | 260°C                   | 260°C                |
|                  | 1.6~2.5mm         | 260°C               | 250°C                   | 245°C                |
|                  | ≥2.5mm            | 250°C               | 245°C                   | 245°C                |

※ Reflow is referred to standard IPC/JEDEC J-STD-020D.