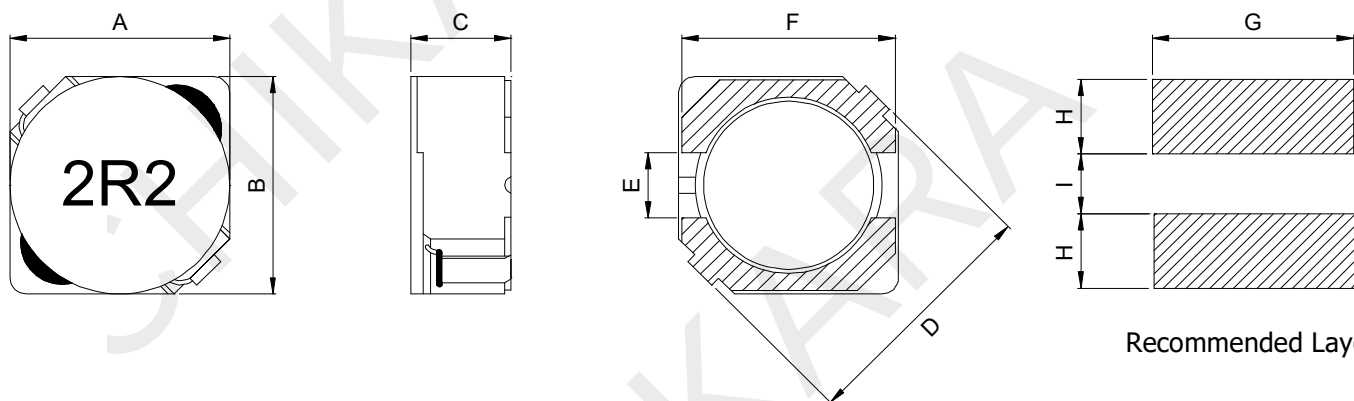


### Features

- Magnetically shielded construction
- 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:2000pcs. Per 13-inch reel
- RoHs&Halogen-free compliant



### Mechanical Dimension(Unit:mm)



Recommended Layout

| A       | B       | C       | D       | E       | F       | G   | H   | I   |
|---------|---------|---------|---------|---------|---------|-----|-----|-----|
| 4.7±0.3 | 4.7±0.3 | 3.1Max. | 6.9Max. | 1.5±0.3 | 4.5±0.3 | 5.3 | 1.9 | 1.5 |

### Part Number Description

SP18 - 0503 2R2 M  
① ② ③ ④

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

### Electrical Schematic

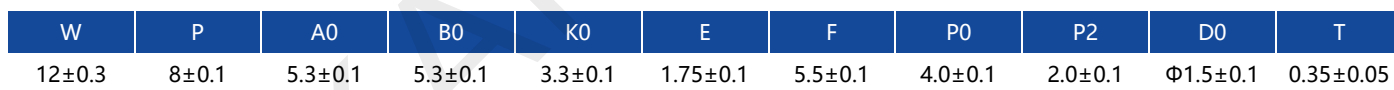


### Electrical Characteristic

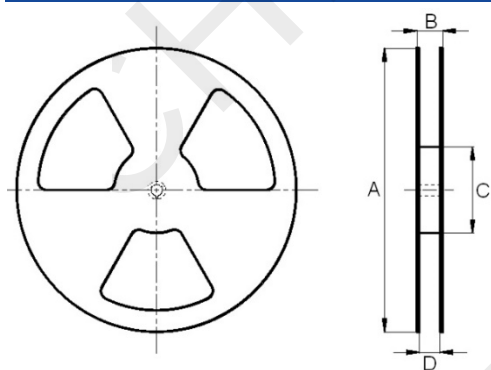
| Part Number   | Inductance<br>L0(μH) | DCR<br>(mΩ)Max. | SRF<br>(MHz)Typ. | Isat<br>(A)Typ. | Irms<br>(A)Typ. |
|---------------|----------------------|-----------------|------------------|-----------------|-----------------|
| SP18-05032R2M | 2.2±20%              | 20              | 65.0             | 2.30            | 3.30            |
| SP18-05033R3M | 3.3±20%              | 28              | 60.0             | 1.73            | 2.90            |
| SP18-05034R7M | 4.7±20%              | 38              | 48.0             | 1.42            | 2.50            |
| SP18-05035R6M | 5.6±20%              | 42              | 44.0             | 1.30            | 2.30            |
| SP18-05036R8M | 6.8±20%              | 50              | 42.0             | 1.24            | 2.16            |
| SP18-05038R2M | 8.2±20%              | 58              | 40.0             | 1.18            | 2.00            |
| SP18-0503100M | 10±20%               | 70              | 38.0             | 1.13            | 1.90            |
| SP18-0503120M | 12±20%               | 80              | 35.0             | 0.94            | 1.60            |
| SP18-0503150M | 15±20%               | 100             | 32.0             | 0.86            | 1.50            |
| SP18-0503180M | 18±20%               | 120             | 26.0             | 0.79            | 1.40            |
| SP18-0503220M | 22±20%               | 145             | 22.0             | 0.70            | 1.30            |
| SP18-0503270M | 27±20%               | 161             | 19.0             | 0.62            | 1.20            |
| SP18-0503330M | 33±20%               | 200             | 18.0             | 0.58            | 1.10            |
| SP18-0503390M | 39±20%               | 215             | 17.0             | 0.55            | 1.00            |
| SP18-0503470M | 47±20%               | 270             | 16.0             | 0.51            | 0.95            |
| SP18-0503560M | 56±20%               | 280             | 15.0             | 0.47            | 0.90            |
| SP18-0503680M | 68±20%               | 368             | 12.5             | 0.42            | 0.85            |
| SP18-0503820M | 82±20%               | 420             | 12.0             | 0.35            | 0.80            |
| SP18-0503101M | 100±20%              | 580             | 11.5             | 0.33            | 0.69            |
| SP18-0503121M | 120±20%              | 610             | 11.0             | 0.30            | 0.62            |
| SP18-0503151M | 150±20%              | 820             | 10.0             | 0.28            | 0.58            |
| SP18-0503181M | 180±20%              | 1000            | 9.0              | 0.25            | 0.54            |
| SP18-0503221M | 220±20%              | 1100            | 8.0              | 0.23            | 0.50            |
| SP18-0503271M | 270±20%              | 1430            | 7.5              | 0.20            | 0.45            |
| SP18-0503331M | 330±20%              | 1580            | 6.8              | 0.19            | 0.42            |

- Test frequency and voltage:100KHz,0.1Vrms.
- All test data referenced to 25°C ambient.
- Saturation current(Isat) will cause L0 to drop approximately 30%.
- Heat rated current(Irms) will cause the coil temperature rise approximately Δt of 40°C.

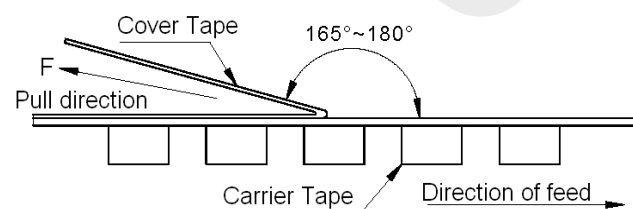
- Carrier Tape (Unit:mm)



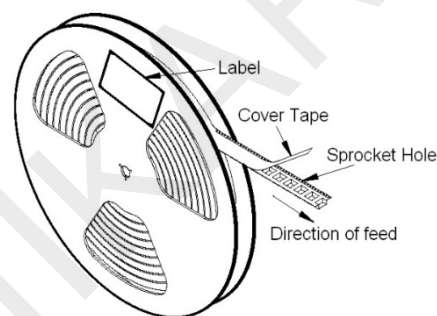
| A                  | B        | C                  | D              |
|--------------------|----------|--------------------|----------------|
| $\Phi 330 \pm 1.0$ | 18.4Max. | $\Phi 100 \pm 1.0$ | $13.0 \pm 0.5$ |



| 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.



Parts per reel  
2000Pcs

### 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.