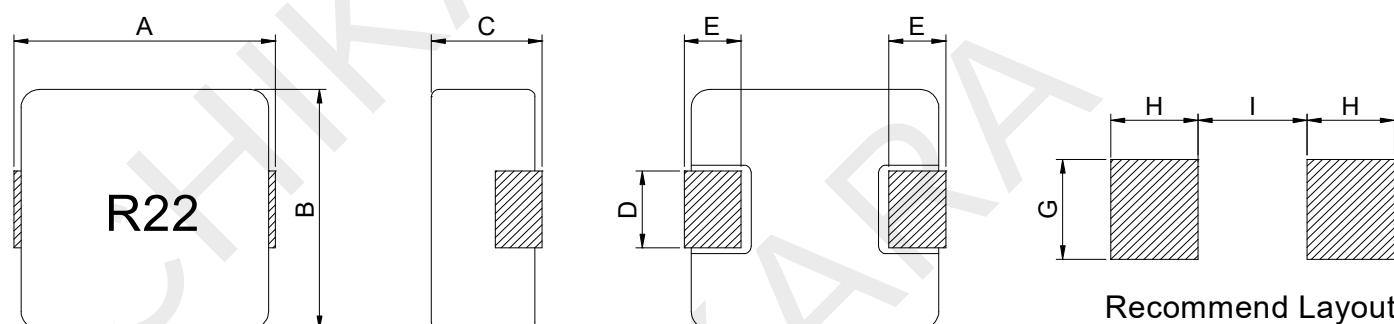


### Features

- High energy storage and very low resistance
- Storage temperature range:-55°C to +125°C
- Operating temperature range:-55°C to +125°C  
(including coil's self-temperature rise)
- Moisture sensitivity level:1
- Packaging:3000pcs. Per 13-inch reel
- RoHs&Halogen-free compliant



### Mechanical Dimension(Unit:mm)



| A       | B       | C       | D       | E       | G   | H   | I   |
|---------|---------|---------|---------|---------|-----|-----|-----|
| 5.6±0.4 | 5.2±0.3 | 2.0Max. | 2.2±0.3 | 1.2±0.3 | 2.5 | 1.9 | 2.2 |

### Part Number Description

SP15 - 057020 R22 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) | DCR<br>(mΩ)Typ. | DCR<br>(mΩ)Max. | SRF<br>(MHz)Typ. | Isat<br>(A)Typ. | Irms<br>(A)Typ. |
|-----------------|----------------------|-----------------|-----------------|------------------|-----------------|-----------------|
| SP15-057020R22M | 0.22±20%             | 4.00            | 5.50            | 120              | 25.0            | 15.0            |
| SP15-057020R33M | 0.33±20%             | 6.30            | 7.50            | 100              | 21.3            | 12.4            |
| SP15-057020R47M | 0.47±20%             | 7.30            | 8.60            | 95               | 18.0            | 11.5            |
| SP15-057020R68M | 0.68±20%             | 11.0            | 12.5            | 87               | 17.8            | 10.0            |
| SP15-0570201R0M | 1.0±20%              | 17.5            | 20.0            | 68               | 13.7            | 7.40            |
| SP15-0570201R5M | 1.5±20%              | 26.5            | 30.5            | 53               | 9.80            | 6.00            |
| SP15-0570202R2M | 2.2±20%              | 42.0            | 50.0            | 47               | 9.00            | 4.75            |
| SP15-0570203R3M | 3.3±20%              | 66.0            | 75.0            | 35               | 7.30            | 3.50            |
| SP15-0570204R7M | 4.7±20%              | 103             | 116             | 27               | 5.00            | 3.00            |
| SP15-0570205R6M | 5.6±20%              | 112             | 125             | 22               | 4.00            | 2.65            |
| SP15-0570206R8M | 6.8±20%              | 130             | 150             | 20               | 3.80            | 2.50            |
| SP15-0570208R2M | 8.2±20%              | 150             | 175             | 19               | 3.50            | 2.40            |
| SP15-057020100M | 10±20%               | 180             | 199             | 16               | 3.40            | 2.30            |
| SP15-057020150M | 15±20%               | 240             | 270             | 12               | 2.80            | 1.90            |
| SP15-057020220M | 22±20%               | 350             | 390             | 9.5              | 1.80            | 1.50            |

- Test frequency and voltage:100KHz,1Vrms.
- All test data referenced to 25°C ambient.
- Absolute maximum voltage: 30Vdc.
- 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.
- Heat rated current (Irms) is tested on a typical PCB and apply a constant current in still air. The temperature rise is dependent on the application system condition including PCB PAD pattern, trace width and thickness and adjacent components etc. It's suggested to verify the temperature rise of the component under the real operation application conditions.



### 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.