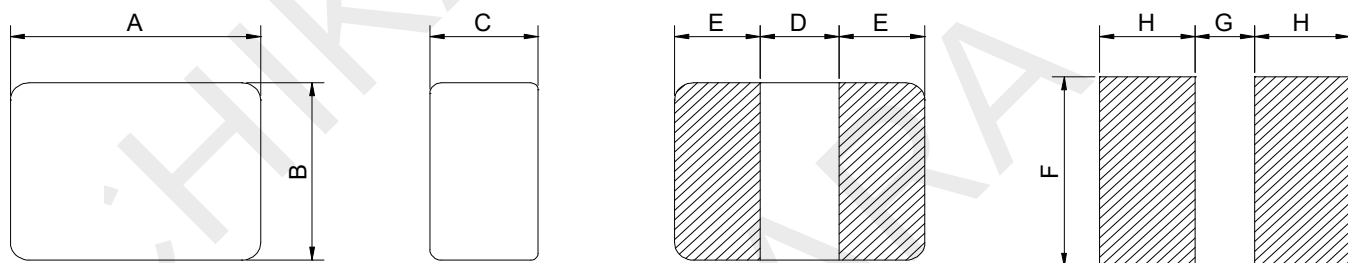


### Features

- Compact design, Flat wire
- 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:2000pcs. Per 7-inch reel
- RoHs&Halogen-free compliant



### Mechanical Dimension(Unit:mm)



Recommended Layout

| A       | B       | C       | D       | E       | F   | G   | H    |
|---------|---------|---------|---------|---------|-----|-----|------|
| 3.2±0.2 | 2.5±0.2 | 2.0Max. | 1.2±0.2 | 1.0±0.2 | 2.7 | 1.1 | 1.15 |

### Part Number Description

SP16 - 322520 R27 M  
① ② ③ ④

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

### Electrical Schematic



### Electrical Characteristic

| Part Number     | Inductance<br>L0( $\mu$ H) | DCR               |                   | Isat    |         | Irms    |         |
|-----------------|----------------------------|-------------------|-------------------|---------|---------|---------|---------|
|                 |                            | (m $\Omega$ )Max. | (m $\Omega$ )Typ. | (A)Max. | (A)Typ. | (A)Max. | (A)Typ. |
| SP16-322520R27M | 0.27 $\pm$ 20%             | 6.5               | 5.5               | 15.0    | 16.0    | 15.0    | 16.0    |
| SP16-322520R33M | 0.33 $\pm$ 20%             | 9.0               | 7.5               | 14.0    | 15.5    | 9.0     | 9.5     |
| SP16-322520R47M | 0.47 $\pm$ 20%             | 10.5              | 9.0               | 13.0    | 15.0    | 8.5     | 9.0     |
| SP16-322520R68M | 0.68 $\pm$ 20%             | 14.5              | 12.5              | 11.0    | 13.0    | 8.0     | 8.7     |
| SP16-3225201R0M | 1.0 $\pm$ 20%              | 17.5              | 15.0              | 8.3     | 9.0     | 7.5     | 8.2     |
| SP16-3225201R5M | 1.5 $\pm$ 20%              | 25                | 22                | 6.0     | 6.8     | 6.0     | 6.5     |
| SP16-3225202R2M | 2.2 $\pm$ 20%              | 43                | 36                | 5.5     | 6.5     | 4.8     | 5.4     |
| SP16-3225203R3M | 3.3 $\pm$ 20%              | 60                | 55                | 3.5     | 4.5     | 4.0     | 4.5     |
| SP16-3225204R7M | 4.7 $\pm$ 20%              | 94                | 81                | 3.0     | 4.0     | 3.0     | 3.5     |
| SP16-3225206R8M | 6.8 $\pm$ 20%              | 125               | 101               | 2.9     | 3.8     | 2.3     | 2.8     |

- Test frequency and voltage:1MHz,1Vrms.
- All test data referenced to 25°C ambient.
- Absolute maximum voltage: 20Vdc.
- Saturation current(Isat) will cause L0 to drop approximately 30%.
- Heat rated current(Irms) will cause the coil temperature rise approximately  $\Delta t$  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.