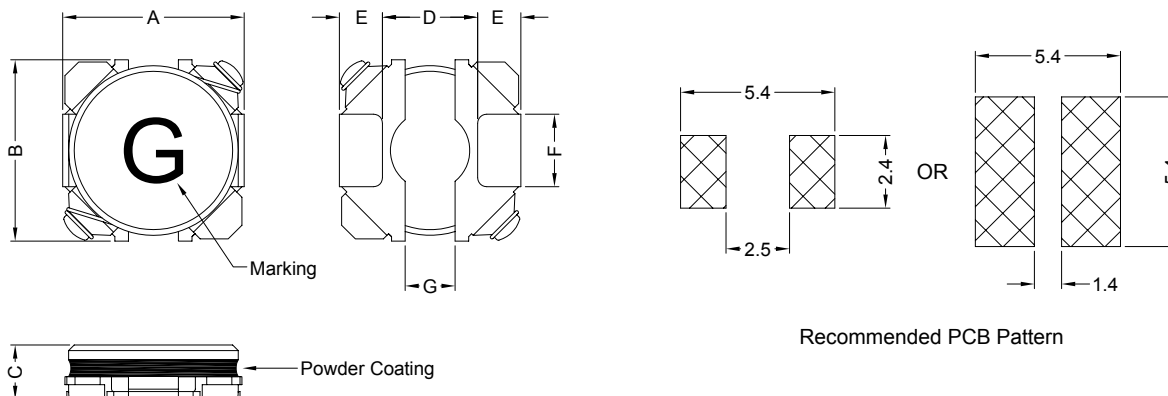


### 1. PART NO. EXPRESSION :

SPC5010FT-1R0NZF  
 (a) (b) (c)(d) (e) (f)(g)(h)

- (a) Series code
- (b) Dimension code
- (c) Powder coating type
- (d) Taping package
- (e) Inductance code : 1R0 = 1.0uH
- (f) Tolerance code : M = ±20%, N = ±30%
- (g) Z : Standard part
- (h) F : RoHS Compliant

### 2. CONFIGURATION & DIMENSIONS :



Unit:m/m

| A       | B       | C        | D       | E        | F       | G       |
|---------|---------|----------|---------|----------|---------|---------|
| 5.0±0.2 | 4.9±0.2 | 1.0 Max. | 2.7 Typ | 1.16 Typ | 2.0 Typ | 1.5 Typ |

### 3. MATERIALS :

- (a) Core : Ferrite
- (b) Wire : Polyurethane Enamelled Copper Wire
- (c) Terminal Clip : C5191
- (d) Adhesive : Epoxy
- (e) Coating : Powder Coating
- (f) Ink : 70000-00101



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#### 4. GENERAL SPECIFICATION :

- a) IDC1 : Based on inductance change ( $\Delta L/L_0: \leq 30\%$ ) @ ambient temp. 25°C
- b) IDC2 : Based on temperature rise ( $\Delta T: 40^\circ\text{C Typ.}$ )
- c) Rated Current : IDC1 or IDC2, whichever value is lower
- d) Storage temp. : -40°C to +105°C
- e) Operating temp. : -40°C to +105°C ( include self-temp. rise )
- f) Resistance to solder heat : 260°C 10secs

#### 5. ELECTRICAL CHARACTERISTICS :

| Part No.         | Inductance<br>( uH ) | Test<br>Frequency<br>( Hz ) | RDC<br>( mΩ )<br>±20% | IDC1<br>( A ) | IDC2<br>( A ) | Marking |
|------------------|----------------------|-----------------------------|-----------------------|---------------|---------------|---------|
| SPC5010FT-1R0NZF | 1.0±30%              | 0.1V/100K                   | 59                    | 1.80          | 1.90          | A       |
| SPC5010FT-1R5NZF | 1.5±30%              | 0.1V/100K                   | 75                    | 1.50          | 1.70          | C       |
| SPC5010FT-2R2NZF | 2.2±30%              | 0.1V/100K                   | 90                    | 1.20          | 1.60          | E       |
| SPC5010FT-3R3NZF | 3.3±30%              | 0.1V/100K                   | 120                   | 1.05          | 1.45          | G       |
| SPC5010FT-4R7MZF | 4.7±20%              | 0.1V/100K                   | 140                   | 0.80          | 1.35          | I       |
| SPC5010FT-6R8MZF | 6.8±20%              | 0.1V/100K                   | 180                   | 0.70          | 1.20          | K       |
| SPC5010FT-100MZF | 10±20%               | 0.1V/100K                   | 220                   | 0.65          | 1.10          | M       |
| SPC5010FT-150MZF | 15±20%               | 0.1V/100K                   | 310                   | 0.53          | 0.93          | O       |
| SPC5010FT-220MZF | 22±20%               | 0.1V/100K                   | 450                   | 0.47          | 0.75          | Q       |
| SPC5010FT-330MZF | 33±20%               | 0.1V/100K                   | 680                   | 0.35          | 0.57          | S       |
| SPC5010FT-470MZF | 47±20%               | 0.1V/100K                   | 1100                  | 0.30          | 0.45          | U       |



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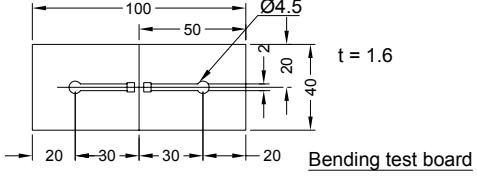
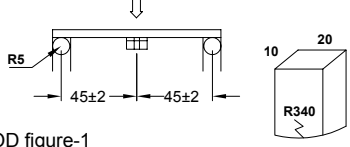
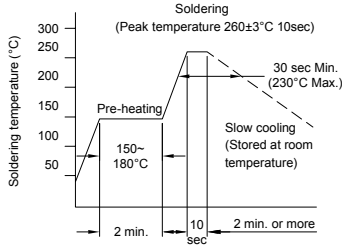
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## 6. RELIABILITY & TEST CONDITION :

| ITEM                                            | PERFORMANCE                                                                                   | TEST CONDITION                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-------------------------------------------------|-----------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Mechanical                                      |                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Substrate bending                               | $\Delta L/L_0 \leq \pm 10\%$<br><br>There shall be no mechanical damage or electrical damage. | The sample shall be soldered onto the printed circuit board in figure 1 and a load applied until the figure in the arrow direction is made approximately 3mm.(keep time 30 secs)<br><br><br><br>Bending test board<br><br>PRESSURE ROD figure-1                                                    |
| Vibration                                       | $\Delta L/L_0 \leq \pm 10\%$<br><br>There shall be no mechanical damage.                      | The sample shall be soldered onto the printed circuit board and when a vibration having an amplitude of 1.52mm and a frequency of from 10 to 55Hz/1 minute repeated should be applied to the 3 directions (X,Y,Z) for 2 hours each. (A total of 6 hours)                                                                                                                                                                                                                |
| Solderability                                   | New solder<br>More than 90%                                                                   | Flux (rosin, isopropyl alcohol{JIS-K-1522}) shall be coated over the whole of the sample before hard, the sample shall then be preheated for about 2 minutes in a temperature of 130~150°C and after it has been immersed to a depth 0.5mm below for 3±0.2 seconds fully in molten solder M705 with a temperature of 245±5°C.<br><br>More than 90% of the electrode sections shall be covered with new solder smoothly when the sample is taken out of the solder bath. |
| Resistance to Soldering heat (reflow soldering) | There shall be no damage or problems.                                                         | <br><br>The specimen shall be passed through the reflow oven with the condition shown in the above profile for 1 time.<br>The specimen shall be stored at standard atmospheric conditions for 1 hour, after which the measurement shall be made.                                                                                                                                    |

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## 6. RELIABILITY & TEST CONDITION :

| ITEM                            | PERFORMANCE                                                                    | TEST CONDITION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |             |          |   |                                                     |         |   |                      |                                           |   |                                                    |         |   |                      |                                           |
|---------------------------------|--------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------|----------|---|-----------------------------------------------------|---------|---|----------------------|-------------------------------------------|---|----------------------------------------------------|---------|---|----------------------|-------------------------------------------|
| Electrical Characteristics Test |                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |             |          |   |                                                     |         |   |                      |                                           |   |                                                    |         |   |                      |                                           |
| Dielectric withstand voltage    | There shall be no damage or problems.                                          | AC 100V voltage shall be applied for 1 minute across the top surface and the terminal of this sample                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |             |          |   |                                                     |         |   |                      |                                           |   |                                                    |         |   |                      |                                           |
| Temperature characteristics     | $\Delta L/L20^{\circ}\text{C} \leq \pm 10\%$<br>0~2000 ppm/ $^{\circ}\text{C}$ | The test shall be performed after the sample has stabilized in an ambient temperature of -20 to +85 $^{\circ}\text{C}$ , and the value calculated based on the value applicable in a normal temperature and normal humidity shall be $\Delta L/L20^{\circ}\text{C} \leq \pm 10\%$ .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |             |          |   |                                                     |         |   |                      |                                           |   |                                                    |         |   |                      |                                           |
| High temperature storage        | $\Delta L/L_0 \leq \pm 10\%$<br>There shall be no mechanical damage.           | The sample shall be left for 96 $\pm$ 4 hours in an atmosphere with a temperature of 85 $\pm$ 2 $^{\circ}\text{C}$ and a normal humidity. Upon completion of the measurement shall be made after the sample has been left in a normal temperature and normal humidity for 1 hour.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |             |          |   |                                                     |         |   |                      |                                           |   |                                                    |         |   |                      |                                           |
| Low temperature storage         | $\Delta L/L_0 \leq \pm 10\%$<br>There shall be no mechanical damage.           | The sample shall be left for 96 $\pm$ 4 hours in an atmosphere with a temperature of -25 $\pm$ 3 $^{\circ}\text{C}$ . Upon completion of the test, the measurement shall be made after the sample has been left in a normal temperature and normal humidity for 1 hour.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |             |          |   |                                                     |         |   |                      |                                           |   |                                                    |         |   |                      |                                           |
| Change of temperature           | $\Delta L/L_0 \leq \pm 10\%$<br>There shall be no other damage of problems     | The sample shall be subject to 5 continuous cycles, such as shown in the table 2 below and then it shall be subjected to standard atmospheric conditions for 1 hour, after which measurement shall be made. <table border="1" data-bbox="975 1178 1355 1451"> <thead> <tr> <th></th> <th>Temperature</th> <th>Duration</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>-25<math>\pm</math>3<math>^{\circ}\text{C}</math><br/>(Thermostat No.1)</td> <td>30 min.</td> </tr> <tr> <td>2</td> <td>Standard atmospheric</td> <td>5 sec. or less<br/>No.1<math>\rightarrow</math>No.2</td> </tr> <tr> <td>3</td> <td>85<math>\pm</math>2<math>^{\circ}\text{C}</math><br/>(Thermostat No.2)</td> <td>30 min.</td> </tr> <tr> <td>4</td> <td>Standard atmospheric</td> <td>5 sec. or less<br/>No.2<math>\rightarrow</math>No.1</td> </tr> </tbody> </table> |  | Temperature | Duration | 1 | -25 $\pm$ 3 $^{\circ}\text{C}$<br>(Thermostat No.1) | 30 min. | 2 | Standard atmospheric | 5 sec. or less<br>No.1 $\rightarrow$ No.2 | 3 | 85 $\pm$ 2 $^{\circ}\text{C}$<br>(Thermostat No.2) | 30 min. | 4 | Standard atmospheric | 5 sec. or less<br>No.2 $\rightarrow$ No.1 |
|                                 | Temperature                                                                    | Duration                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |             |          |   |                                                     |         |   |                      |                                           |   |                                                    |         |   |                      |                                           |
| 1                               | -25 $\pm$ 3 $^{\circ}\text{C}$<br>(Thermostat No.1)                            | 30 min.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |             |          |   |                                                     |         |   |                      |                                           |   |                                                    |         |   |                      |                                           |
| 2                               | Standard atmospheric                                                           | 5 sec. or less<br>No.1 $\rightarrow$ No.2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |             |          |   |                                                     |         |   |                      |                                           |   |                                                    |         |   |                      |                                           |
| 3                               | 85 $\pm$ 2 $^{\circ}\text{C}$<br>(Thermostat No.2)                             | 30 min.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |             |          |   |                                                     |         |   |                      |                                           |   |                                                    |         |   |                      |                                           |
| 4                               | Standard atmospheric                                                           | 5 sec. or less<br>No.2 $\rightarrow$ No.1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |             |          |   |                                                     |         |   |                      |                                           |   |                                                    |         |   |                      |                                           |
| Moisture storage                | $\Delta L/L_0 \leq \pm 10\%$<br>There shall be no mechanical damage.           | The sample shall be left for 96 $\pm$ 4 hours in a temperature of 40 $\pm$ 2 $^{\circ}\text{C}$ and a humidity(RH) of 90~95%. Upon completion of the test, the measurement shall be made after the sample has been left in a normal temperature and normal humidity more than 1 hour.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |             |          |   |                                                     |         |   |                      |                                           |   |                                                    |         |   |                      |                                           |



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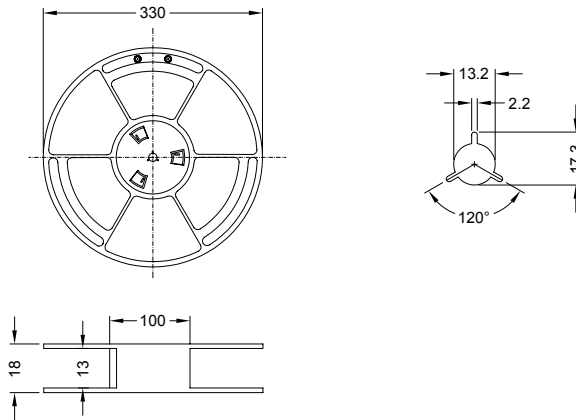


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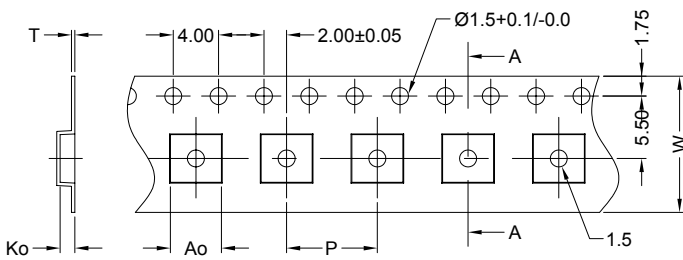
PG. 4

## 7. PACKAGING INFORMATION :

### 7-1. Reel Dimension (mm)

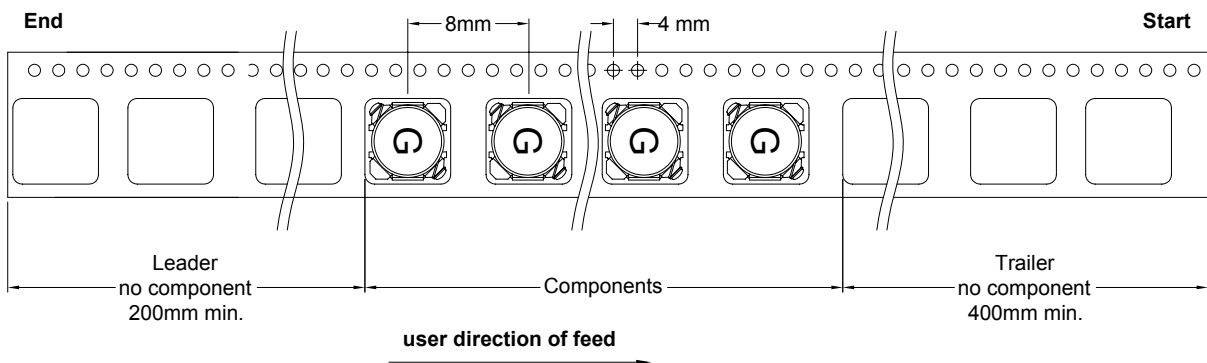


### 7-2 CARRIER TAPE DIMENSIONS (mm)



| Ao    | Bo    | Ko     | W    | P     | T     |
|-------|-------|--------|------|-------|-------|
| 5.5mm | 5.2mm | 1.55mm | 12mm | 8.0mm | 0.3mm |

### 7-3 TAPING DIMENSIONS (mm)



### 7-4 QUANTITY

3000pcs/Reel

The products are packaged so that no damage will be sustained.



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