

1. PART NO. EXPRESSION :

SCI0805HQ-2N5JF

(a) (b) (c) (d) (e)(f)

(a) Series code

(b) Dimension code

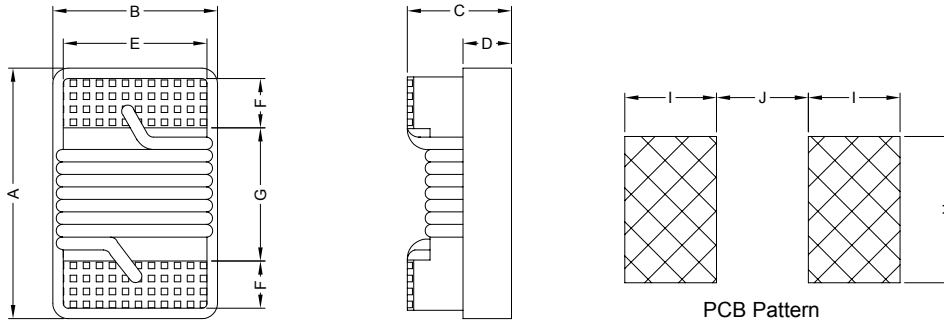
(c) Type code : HQ (High Q factor)

(d) Inductance code : 2N5 = 2.5nH

(e) Tolerance code : G = ±2%, J = ±5%, K = ±10%

(f) F : RoHS Compliant

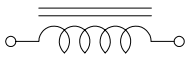
2. CONFIGURATION & DIMENSIONS :



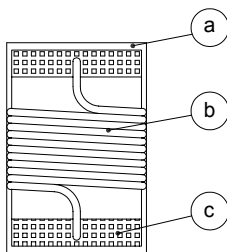
Unit:m/m

| A | B | C | D | E | F | G | H | I | J |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 2.29 Max. | 1.73 Max. | 1.52 Max. | 0.51 Ref. | 1.27 Ref. | 0.44 Ref. | 1.02 Ref. | 1.78 Ref. | 1.02 Ref. | 0.76 Ref. |

3. SCHEMATIC :



4. MATERIALS :



(a) Core : Ceramic U core

(b) Wire : Enamelled Copper Wire

(c) Terminal Metallization : Ag + Ni + Au



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5. GENERAL SPECIFICATION :

- a) Storage temp. : -25°C to +80°C
- b) Operating temp. : -40°C to +125°C
- c) Temperature rise : 40°C Max.
- d) Rated current : Base on temp. rise & $\Delta L/L0A=10\%$ Max.
- e) Resistance to solder heat : 260°C.10sec

6. ELECTRICAL CHARACTERISTICS :

| Part No. | Tolerance Available | L (nH) | Test Freq (MHz) | Q Min. | Q Test Freq (MHz) | SRF (MHz) Min. | DCR (Ω) Max. | IDC (mA) Max. |
|-----------------|---------------------|--------|-----------------|--------|-------------------|----------------|-----------------------|---------------|
| SCI0805HQ-2N5□F | K, J | 2.5 | 250 | 80 | 1500 | 6000 | 0.020 | 1600 |
| SCI0805HQ-5N6□F | K, J | 5.6 | 250 | 98 | 1500 | 6000 | 0.035 | 1600 |
| SCI0805HQ-6N2□F | K, J | 6.2 | 250 | 88 | 1000 | 4750 | 0.035 | 1600 |
| SCI0805HQ-6N8□F | K, J | 6.8 | 250 | 80 | 1000 | 4400 | 0.035 | 1600 |
| SCI0805HQ-8N2□F | K, J | 8.2 | 250 | 75 | 1000 | 3000 | 0.075 | 1000 |
| SCI0805HQ-12N□F | K, J | 12 | 250 | 80 | 1000 | 3000 | 0.045 | 1600 |
| SCI0805HQ-16N□F | K, J, G | 16 | 250 | 72 | 500 | 2950 | 0.060 | 1500 |
| SCI0805HQ-18N□F | K, J, G | 18 | 250 | 75 | 500 | 2550 | 0.060 | 1400 |
| SCI0805HQ-20N□F | K, J, G | 20 | 250 | 70 | 500 | 2050 | 0.055 | 1400 |
| SCI0805HQ-27N□F | K, J, G | 27 | 250 | 75 | 500 | 2000 | 0.070 | 1300 |
| SCI0805HQ-30N□F | K, J, G | 30 | 250 | 65 | 500 | 1950 | 0.095 | 1200 |
| SCI0805HQ-39N□F | K, J, G | 39 | 250 | 65 | 500 | 1600 | 0.110 | 1100 |
| SCI0805HQ-48N□F | K, J, G | 48 | 200 | 65 | 500 | 1400 | 0.095 | 1200 |
| SCI0805HQ-51N□F | K, J, G | 51 | 200 | 65 | 500 | 1400 | 0.120 | 1000 |

Inductance tolerance :

- : G : $\pm 2\%$
- J : $\pm 5\%$
- K : $\pm 10\%$



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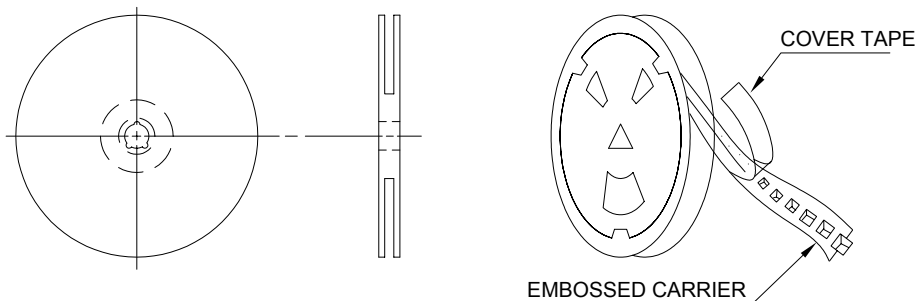
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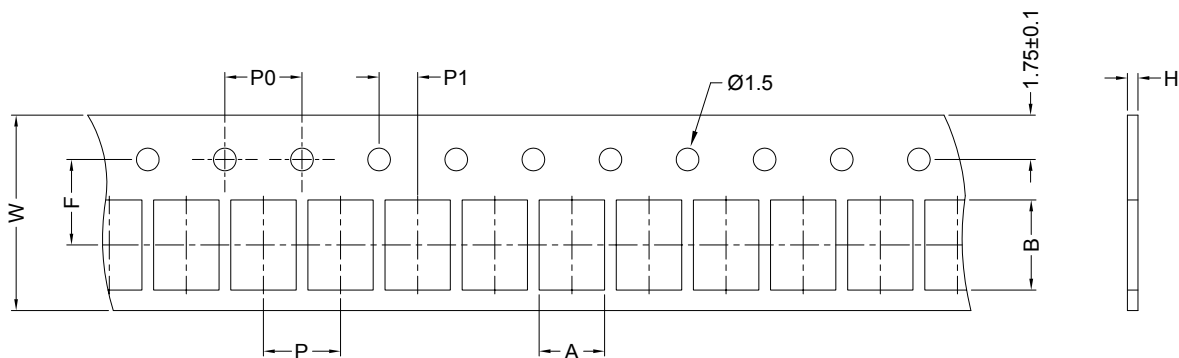
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7. PACKAGING INFORMATION :

Reel Configuration :



Paper Tape :



Dimension (unit: mm)

| Series | A | B | H | F | P | P0 | P1 | W | Qty |
|----------|------|------|------|------|------|------|------|------|----------------|
| SCI0402S | 0.72 | 1.19 | 0.60 | 3.50 | 4.00 | 4.00 | 2.00 | 8.00 | 4000pcs / reel |
| SCI0603S | 1.35 | 1.95 | 0.95 | 3.50 | 4.00 | 4.00 | 2.00 | 8.00 | 4000pcs / reel |



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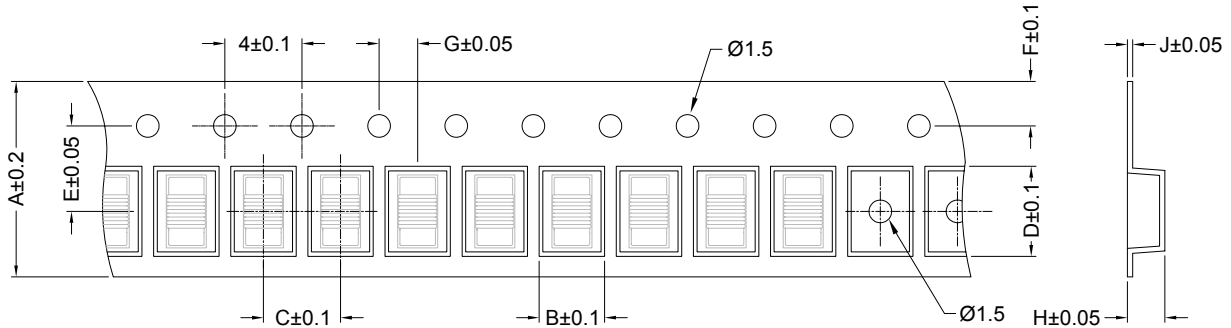
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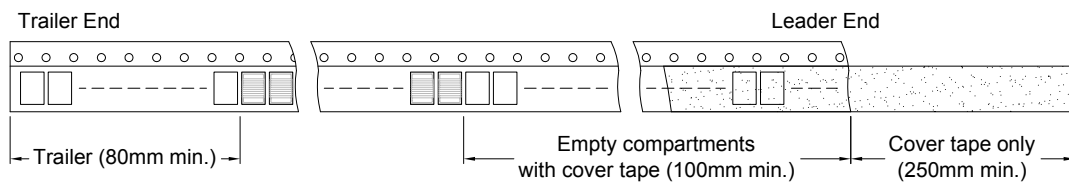
Embossed Carrier Tape :



Dimension (unit: mm)

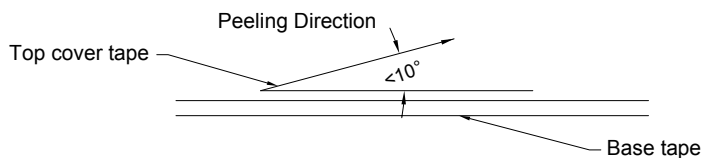
| Series | A | B | C | D | E | F | G | H | J | Qty |
|-----------|---|------|---|------|-----|------|---|------|------|----------------|
| SCI0805S | 8 | 1.85 | 4 | 2.30 | 3.5 | 1.75 | 2 | 1.45 | 0.23 | 2000pcs / reel |
| SCI0805LP | 8 | 1.80 | 4 | 2.30 | 3.5 | 1.75 | 2 | 0.90 | 0.23 | 2000pcs / reel |
| SCI0805HQ | 8 | 1.85 | 4 | 2.30 | 3.5 | 1.75 | 2 | 1.45 | 0.23 | 2000pcs / reel |
| SCI1008S | 8 | 2.70 | 4 | 2.80 | 3.5 | 1.75 | 2 | 2.00 | 0.23 | 2000pcs / reel |
| SCI1008LP | 8 | 2.70 | 4 | 2.80 | 3.5 | 1.75 | 2 | 1.50 | 0.23 | 2000pcs / reel |
| SCI1008HQ | 8 | 2.70 | 4 | 2.80 | 3.5 | 1.75 | 2 | 2.00 | 0.23 | 2000pcs / reel |

Leader/Trailer Tape :



Peel-off Force :

Peel-off force should be in the range of 0.1N~0.7N at a peel-off speed of 300±10mm/min.



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8. ENVIRONMENTAL CHARACTERISTICS :

Electrical Performance Test :

| ITEM | | SPECIFICATION | TEST CONDITIONS / TEST METHODS |
|------|----------------------------|--|---|
| 1 | Inductance | Refer to Electrical Characteristics List | HP4291B |
| 2 | Q | | HP4291B |
| 3 | SRF | | HP8753D |
| 4 | DC Resistance Rdc | | Mico-Ohmmeter (GOM-801G) |
| 5 | Rated Current IDC | | The device should be REFLOW soldered (230±5°C for 10 seconds) to a tinned copper subs rate. A dynamiter |
| 6 | Over Load Test | After test, inductors shall have no evidence of electrical and mechanical damage | Applied 2 times of rated allowed DC current to inductor for a period of 5 minute. |
| 7 | Withstanding Voltage Test | After test, inductors shall have no evidence of electrical and mechanical damage | AC voltage of 500VAC applied between inductors terminal and case for 1 minute. |
| 8 | Insulation Resistance Test | 1000 MOhm min. | 100VDC applied between inductor terminal and case |



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Mechanical Performance Test :

| ITEM | | SPECIFICATION | TEST CONDITIONS / TEST METHODS |
|------|--------------------------------|---|--|
| 1 | Vibration | Appearance : No damage L change : within $\pm 5\%$ Q change : within $\pm 10\%$ | Test device shall be soldered on the substrate Oscillation Frequency : 10 to 55 to 10Hz for 1 min. Amplitude : 1.5mm Time : 2hrs for each axis (X, Y, Z), total 6hrs. |
| 2 | Resistance to Soldering Heat | Appearance : No damage L change : within $\pm 5\%$ Q change : within $\pm 10\%$ | Pre-heating : 150°C, 1 min Solder Composition : Sn/Pb=63/67 Solder Temperature : 230 \pm 5°C Immersion Time : 20 \pm 2sec Solder Temperature : 260 \pm 5°C Immersion Time : 5 \pm 2sec |
| 3 | Component Adhesion (Push Test) | 1 lbs. For 0402 2 lbs. For 0603 3 lbs. For the rest | The device should be REFLOW soldered (230 \pm 5°C for 10 seconds) to a tinned copper subs rate. A dynamiter force gauge should be applied to the side of the component. The device must withstand a minimum force of 2 or 4 pounds without a failure of the termination attached to component. |
| 3 | Component Adhesion (Push Test) | The electrodes shall be at least 90% covered with new solder coating. | Pre-heating : 150°C, 1min Solder Composition : Sn/Pb=63/67 Solder Temperature : 230 \pm 5°C Immersion Time : 4 \pm 1sec |
| 4 | Drop Test | After test, the chip inductor don't fell of broke on the P.C.Board | Drop 1 time for each face and 1 time for each corner. Total drop 10 times. Drop Height : 100cm Drop Weight : 125g |
| 5 | Solderability Test | The terminal should at least be 90% covered with solder | after fluxing (alpha 100 or equiv), inductor shall be dipped in a melted solder bath at 232 \pm 5°C for 5 seconds. |
| 6 | Resistance to solvent test | There shall be no case of deformation change in appearance of obliteration of marking | MIL-STD202F, METHOD 215D |



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Climatic Test :

| ITEM | | SPECIFICATION | TEST CONDITIONS / TEST METHODS | | | | | | | | | | | | | | | |
|------|---------------------------------|--|---|------|------------------|------------|---|-------------|----|---|------------|----|---|------------|----|---|------------|----|
| 1 | Temperature Characteristics | Appearance : No damage L change : within $\pm 10\%$ Q change : within $\pm 20\%$ | -40°C ~ +125°C | | | | | | | | | | | | | | | |
| 2 | Humidity Resistance | | Temperature : 40 \pm 2°C Relative Humidity : 90~95% Time : 96hrs \pm 2hrs Measured after exposure in the room condition for 2hrs | | | | | | | | | | | | | | | |
| 3 | Low Temperature Storage Test | | Temperature : -40 \pm 2°C Time : 48 \pm 2hrs Inductors are to be tested after 1 hour at room temperature. | | | | | | | | | | | | | | | |
| 4 | Thermal Shock Test | | One cycle : <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>Step</th> <th>Temperature (°C)</th> <th>Time (min)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>-25\pm3</td> <td>30</td> </tr> <tr> <td>2</td> <td>25\pm2</td> <td>15</td> </tr> <tr> <td>3</td> <td>85\pm3</td> <td>30</td> </tr> <tr> <td>4</td> <td>25\pm2</td> <td>15</td> </tr> </tbody> </table> Total : 5 cycles | Step | Temperature (°C) | Time (min) | 1 | -25 \pm 3 | 30 | 2 | 25 \pm 2 | 15 | 3 | 85 \pm 3 | 30 | 4 | 25 \pm 2 | 15 |
| Step | Temperature (°C) | | Time (min) | | | | | | | | | | | | | | | |
| 1 | -25 \pm 3 | | 30 | | | | | | | | | | | | | | | |
| 2 | 25 \pm 2 | | 15 | | | | | | | | | | | | | | | |
| 3 | 85 \pm 3 | 30 | | | | | | | | | | | | | | | | |
| 4 | 25 \pm 2 | 15 | | | | | | | | | | | | | | | | |
| 5 | High Temperature Storage Test | Temperature : 125 \pm 2°C Time : 48 \pm 2hrs Load : Allowed DC current | | | | | | | | | | | | | | | | |
| 6 | High Temperature Load Life Test | Temperature : 85 \pm 2°C Time : 1000 \pm 12hrs Load : Allowed DC current | | | | | | | | | | | | | | | | |
| 7 | Humidity Load Life | Temperature : 40 \pm 2°C Relative Humidity : 90~95% Time : 1000 \pm 12hrs Load : Allowed DC current | | | | | | | | | | | | | | | | |



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