

### 1. PART NO. EXPRESSION :

**SCI0805LP-1N8KF**

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

(a) Series code

(b) Dimension code

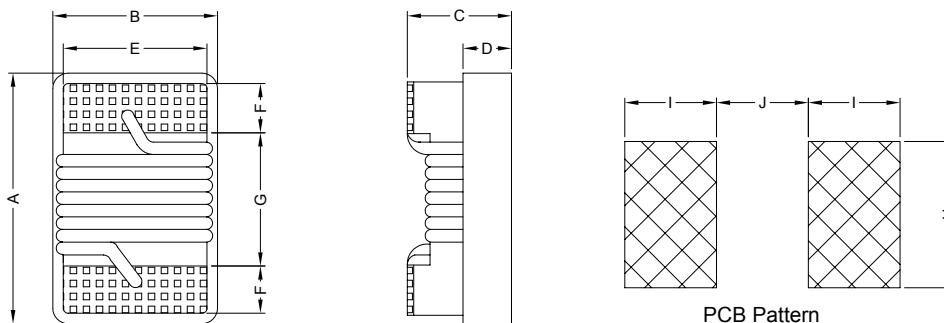
(c) Type code : LP ( Low Profile )

(d) Inductance code : 1N8 = 1.8nH

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

(f) F : RoHS Compliant

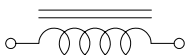
### 2. CONFIGURATION & DIMENSIONS :



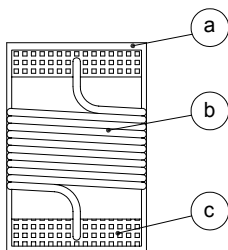
Unit:m/m

A	B	C	D	E	F	G	H	I	J
2.29 Max.	1.73 Max.	1.03 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 ( $\Omega$ ) Max.	IDC (mA) Max.
SCI0805LP-1N8□F	K	1.8	250	55	1500	9400	0.030	800
SCI0805LP-3N9□F	K, J	3.9	250	50	1000	6100	0.060	800
SCI0805LP-4N7□F	K, J	4.7	250	50	1000	5500	0.060	800
SCI0805LP-6N8□F	K, J	6.8	250	50	1000	5500	0.080	800
SCI0805LP-8N2□F	K, J	8.2	250	50	1000	4800	0.080	800
SCI0805LP-10N□F	K, J, G	10	250	55	750	3300	0.080	800
SCI0805LP-12N□F	K, J, G	12	250	55	750	3800	0.100	800
SCI0805LP-15N□F	K, J, G	15	250	50	500	2950	0.100	800
SCI0805LP-18N□F	K, J, G	18	250	50	500	3100	0.130	800
SCI0805LP-22N□F	K, J, G	22	250	50	500	2900	0.150	800
SCI0805LP-27N□F	K, J, G	27	250	50	500	2450	0.230	600
SCI0805LP-33N□F	K, J, G	33	250	50	500	2350	0.280	600
SCI0805LP-39N□F	K, J, G	39	250	50	500	2200	0.330	600
SCI0805LP-47N□F	K, J, G	47	200	50	500	2000	0.390	600
SCI0805LP-56N□F	K, J, G	56	200	50	500	1850	0.390	500
SCI0805LP-68N□F	K, J, G	68	200	50	500	1500	0.400	500
SCI0805LP-82N□F	K, J, G	82	150	50	500	1500	0.440	500
SCI0805LP-R10□F	K, J, G	100	150	50	500	1200	0.640	400
SCI0805LP-R12□F	K, J, G	120	150	40	250	1150	0.680	300
SCI0805LP-R15□F	K, J, G	150	150	40	250	1050	0.800	300
SCI0805LP-1R0□F	K, J, G	1000	25	16	50	80	2.000	220

Inductance tolerance :

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



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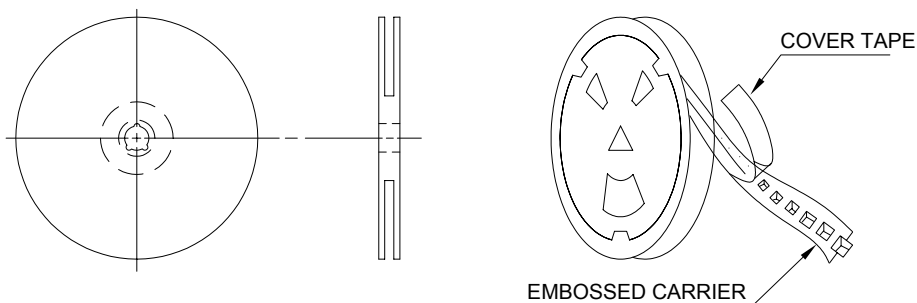


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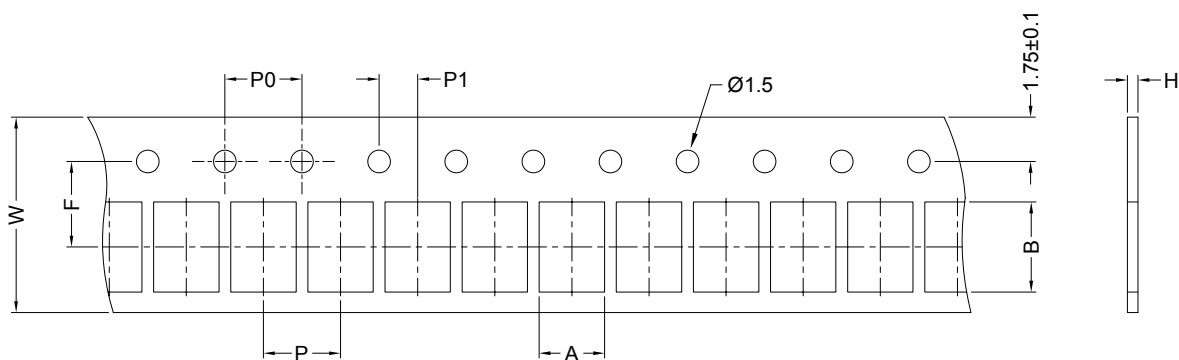
PG. 2

### 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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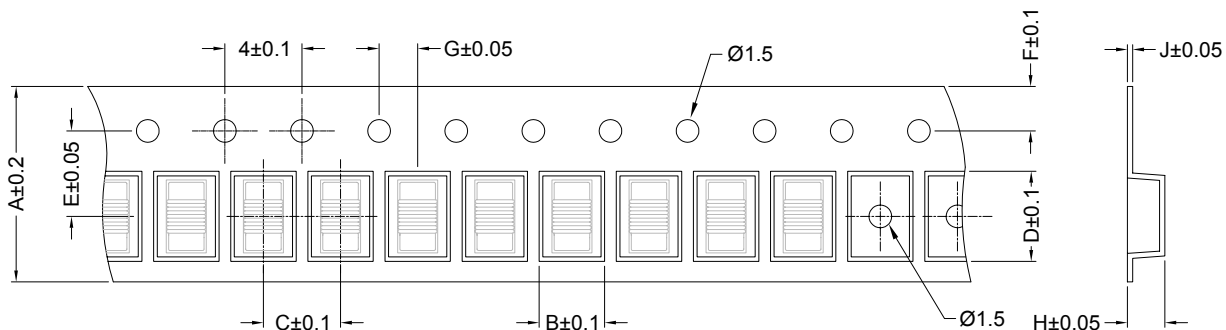
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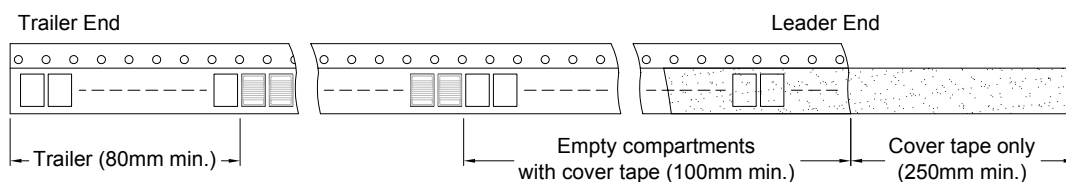
Embossed Carrier Tape :



Dimension (unit: mm)

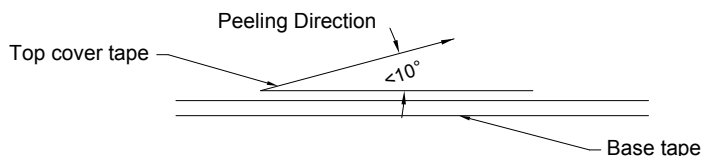
Series	A	B	C	D	E	F	G	H	J	Qty
SCI0805S	8	1.85	4	2.30	3.5	1.75	2	1.45	0.23	2000pcs / reel
SCI0805LP	8	1.80	4	2.30	3.5	1.75	2	0.90	0.23	2000pcs / reel
SCI0805HQ	8	1.85	4	2.30	3.5	1.75	2	1.45	0.23	2000pcs / reel
SCI1008S	8	2.70	4	2.80	3.5	1.75	2	2.00	0.23	2000pcs / reel
SCI1008LP	8	2.70	4	2.80	3.5	1.75	2	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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PG. 6

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 : $40 \pm 2^\circ\text{C}$ Relative Humidity : 90~95% Time : 96hrs $\pm 2$ hrs Measured after exposure in the room condition for 2hrs															
3	Low Temperature Storage Test		Temperature : $-40 \pm 2^\circ\text{C}$ Time : $48 \pm 2$ hrs 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 (<math>^\circ\text{C}</math>)</th> <th>Time (min)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td><math>-25 \pm 3</math></td> <td>30</td> </tr> <tr> <td>2</td> <td><math>25 \pm 2</math></td> <td>15</td> </tr> <tr> <td>3</td> <td><math>85 \pm 3</math></td> <td>30</td> </tr> <tr> <td>4</td> <td><math>25 \pm 2</math></td> <td>15</td> </tr> </tbody> </table> Total : 5 cycles	Step	Temperature ( $^\circ\text{C}$ )	Time (min)	1	$-25 \pm 3$	30	2	$25 \pm 2$	15	3	$85 \pm 3$	30	4	$25 \pm 2$	15
Step	Temperature ( $^\circ\text{C}$ )		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 : $125 \pm 2^\circ\text{C}$ Time : $48 \pm 2$ hrs Load : Allowed DC current																
6	High Temperature Load Life Test	Temperature : $85 \pm 2^\circ\text{C}$ Time : $1000 \pm 12$ hrs Load : Allowed DC current																
7	Humidity Load Life	Temperature : $40 \pm 2^\circ\text{C}$ Relative Humidity : 90~95% Time : $1000 \pm 12$ hrs Load : Allowed DC current																



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