WIREWOUND CHIP INDUCTORS

SCI0805S SERIES

1. PART NO. EXPRESSION :

S C I 0 8 0 5 S - 2 N 8 K F

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

(a) Series code

(b) Dimension code

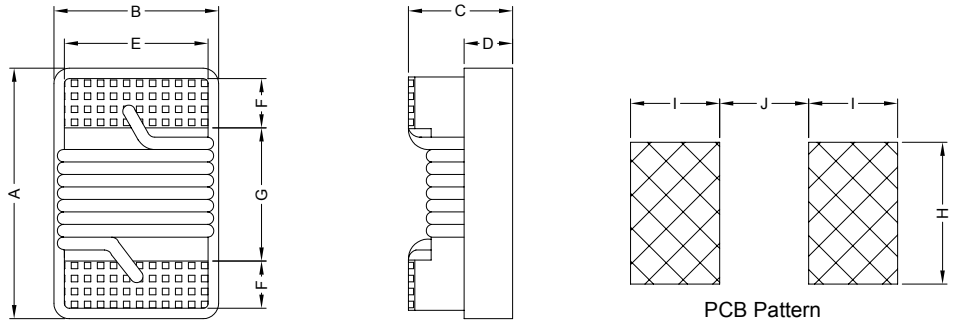
(c) Type code : S (Standard)

(d) Inductance code : 2N8 = 2.8nH

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

(f) F : Lead Free

2. CONFIGURATION & DIMENSIONS :

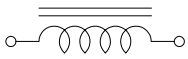


PCB Pattern

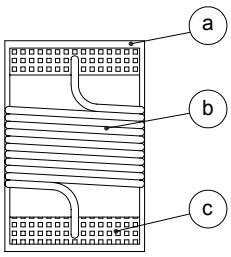
Unit:m/m

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.	0.51 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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15.01.2008

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 & ΔL/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.
SCI0805S-2N8□F	K, J	2.8	250	80	1500	7900	0.060	800
SCI0805S-3N0□F	K, J	3.0	250	65	1500	7900	0.060	800
SCI0805S-3N3□F	K, J	3.3	250	50	1500	6000	0.080	600
SCI0805S-5N6□F	K, J	5.6	250	65	1000	5500	0.080	600
SCI0805S-6N8□F	K, J	6.8	250	50	1000	5500	0.110	600
SCI0805S-7N5□F	K, J	7.5	250	50	1000	4500	0.140	600
SCI0805S-8N2□F	K, J	8.2	250	50	1000	4700	0.120	600
SCI0805S-8N7□F	K, J	8.7	250	50	1000	3900	0.210	400
SCI0805S-10N□F	K, J, G	10	250	60	500	4200	0.100	600
SCI0805S-12N□F	K, J, G	12	250	50	500	4000	0.150	600
SCI0805S-15N□F	K, J, G	15	250	50	500	3400	0.170	600
SCI0805S-18N□F	K, J, G	18	250	50	500	3300	0.200	600
SCI0805S-22N□F	K, J, G	22	250	55	500	2600	0.220	500
SCI0805S-24N□F	K, J, G	24	250	50	500	2000	0.220	500
SCI0805S-27N□F	K, J, G	27	250	55	500	2500	0.250	500
SCI0805S-33N□F	K, J, G	33	250	60	500	2050	0.270	500
SCI0805S-36N□F	K, J, G	36	250	55	500	1700	0.270	500
SCI0805S-39N□F	K, J, G	39	250	60	500	2000	0.290	500
SCI0805S-43N□F	K, J, G	43	200	60	500	1650	0.340	500
SCI0805S-47N□F	K, J, G	47	200	60	500	1650	0.310	500
SCI0805S-56N□F	K, J, G	56	200	60	500	1550	0.340	500
SCI0805S-68N□F	K, J, G	68	200	60	500	1450	0.380	500
SCI0805S-72N□F	K, J, G	72	150	65	500	1400	0.400	500
SCI0805S-82N□F	K, J, G	82	150	65	500	1300	0.420	400
SCI0805S-91N□F	K, J, G	91	150	65	500	1200	0.480	400

Pb

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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.
SCI0805S-R10□F	K, J, G	100	150	65	500	1200	0.460	400
SCI0805S-R11□F	K, J, G	110	150	50	250	1000	0.480	400
SCI0805S-R12□F	K, J, G	120	150	50	250	1100	0.510	400
SCI0805S-R15□F	K, J, G	150	100	50	250	920	0.560	400
SCI0805S-R18□F	K, J, G	180	100	50	250	870	0.640	400
SCI0805S-R20□F	K, J, G	200	100	50	250	860	0.660	400
SCI0805S-R22□F	K, J, G	220	100	50	250	850	0.700	400
SCI0805S-R24□F	K, J, G	240	100	44	250	690	1.00	350
SCI0805S-R25□F	K, J, G	250	100	45	250	680	1.00	350
SCI0805S-R27□F	K, J, G	270	100	48	250	650	1.00	350
SCI0805S-R30□F	K, J, G	300	100	48	250	620	1.20	330
SCI0805S-R33□F	K, J, G	330	100	48	250	600	1.40	310
SCI0805S-R36□F	K, J, G	360	100	48	250	580	1.45	300
SCI0805S-R39□F	K, J, G	390	100	48	250	560	1.50	290
SCI0805S-R43□F	K, J, G	430	50	33	100	430	1.70	230
SCI0805S-R47□F	K, J, G	470	50	33	100	375	1.70	220
SCI0805S-R56□F	K, J, G	560	25	23	50	340	1.90	210
SCI0805S-R62□F	K, J, G	620	25	23	50	220	2.20	210
SCI0805S-R68□F	K, J, G	680	25	23	50	200	2.20	190
SCI0805S-R75□F	K, J, G	750	25	23	50	200	2.30	180
SCI0805S-R82□F	K, J, G	820	25	23	50	200	2.35	180
SCI0805S-1R0□F	K, J, G	1000	25	20	50	100	2.50	170
SCI0805S-1R2□F	K, J, G	1200	7.96	18	25	100	2.50	170
SCI0805S-1R5□F	K, J, G	1500	7.96	16	25	100	2.50	170
SCI0805S-1R8□F	K, J, G	1800	7.96	16	7.96	80	2.50	170
SCI0805S-2R2□F	K, J, G	2200	7.96	16	7.96	60	2.70	160
SCI0805S-2R7□F	K, J, G	2700	7.96	16	7.96	50	2.95	150

Inductance tolerance :

□ : G : ±2%
J : ±5%
K : ±10%

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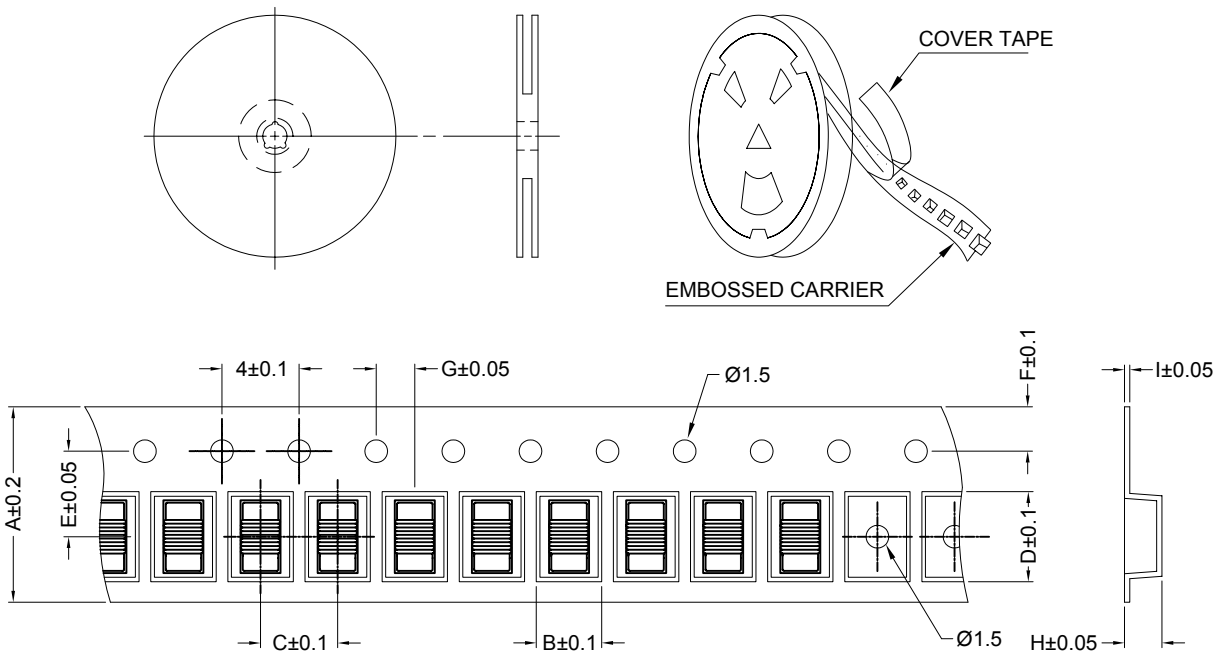
7. ELECTRICAL CHARACTERISTICS :

CONFIGURATTION :



DIMENSION (unit: mm)

SERIES	A	B	C	D	E	F	G	H	I
SCI0402	8.0	0.71	2.0	1.16	3.5	1.75	0	0.65	0.23
SCI0603	8.0	1.10	4.0	1.75	3.5	1.75	2	1.15	0.25
SCI0805	8.0	1.88	4.0	2.38	3.5	1.75	2	1.48	0.20
SCI1008	8.0	2.73	4.0	2.88	3.5	1.75	2	2.33	0.20

PACKING QUANTITY

SERIES	INNER REEL
	Q'TY (PCS)
SCI0402	4000
SCI0603	4000
SCI0805	2000
SCI1008	2000

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8. ENVIRONMENTAL CHARACTERISTICS :

Electrical Performance Test :

ITEM		SPECIFICATION	TEST CONDITIONS / TEST METHODS
1	Inductance	Refer to Electrcal 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 ±5% Q change : within ±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 ±5% Q change : within ±10%	Pre-heating : 150°C, 1 min Solder Composition : Sn/Pb=63/67 Solder Temperature : 230±5°C Immersion Time : 20±2sec Solder Temperature : 260±5°C Immersion Time : 5±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±5°C for 10 seconds) to a tinned copper subs rate. A dynamiter force gauge should be applied to the side of the conponent. 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±5°C Immersion Time : 4±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±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

Pb

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Climatic Test :

<table>
<tr><th colspan="2">ITEM</th><th>SPECIFICATION</th><th>TEST CONDITIONS / TEST METHODS</th></tr>
<tr><td>1</td><td>Temperature Characteristics</td><td rowspan="5">Appearance : No damage
L change : within ±10%
Q change : within ±20%</td><td>-40°C ~ +125°C</td></tr>
<tr><td>2</td><td>Humidity Resistance</td><td>Temperature : 40±2°C
Relative Humidity : 90~95%
Time : 96hrs ±2hrs
Measured after exposure in the room condition for 2hrs</td></tr>
<tr><td>3</td><td>Low Temperature Storage Test</td><td>Temperature : -40±2°C
Time : 48±2hrs
Inductors are to be tested after 1 hour at room temperature.</td></tr>
<tr><td>4</td><td>Thermal Shock Test</td><td>One cycle :
<table>
<tr><th>Step</th><th>Temperature (°C)</th><th>Time (min)</th></tr>
<tr><td>1</td><td>-25±3</td><td>30</td></tr>
<tr><td>2</td><td>25±2</td><td>15</td></tr>
<tr><td>3</td><td>85±3</td><td>30</td></tr>
<tr><td>4</td><td>25±2</td><td>15</td></tr>
</table>
Total : 5 cycles</td></tr>
<tr><td>5</td><td>High Temperature Storage Test</td><td>Temperature : 125±2°C
Time : 48±2hrs
Load : Allowed DC current</td></tr>
<tr><td>6</td><td>High Temperature Load Life Test</td><td>There should be no evidence of short of open circuit.</td><td>Temperature : 85±2°C
Time : 1000±12hrs
Load : Allowed DC current</td></tr>
<tr><td>7</td><td>Humidity Load Life</td><td></td><td>Temperature : 40±2°C
Relative Humidity : 90~95%
Time : 1000±12hrs
Load : Allowed DC current</td></tr>
</table>

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