Data Sheet

Customer:

Product: Wire Wound Chip Inductor – SCI High Current Series

Size : 1008/1210/1812

Issued Date: 26-Jul.-2016

Edition: Ver. 3

Record of change

Date	Ver.	Description	Page
30-Sep.-2014	1		
28-Aug-2015	2	Add size 1008	4
26-Jul.-2016	3	Revised operating & storage temperature range	3
09-Oct.-2019	4	Update size 1812	4-5
05-Jan.-2023	5	Revised Part No.	

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05-Jan.-2023	05-Jan.-2023	05-Jan.-2023	
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WIRE WOUND CHIP INDUCTOR SCI (H)SERIES

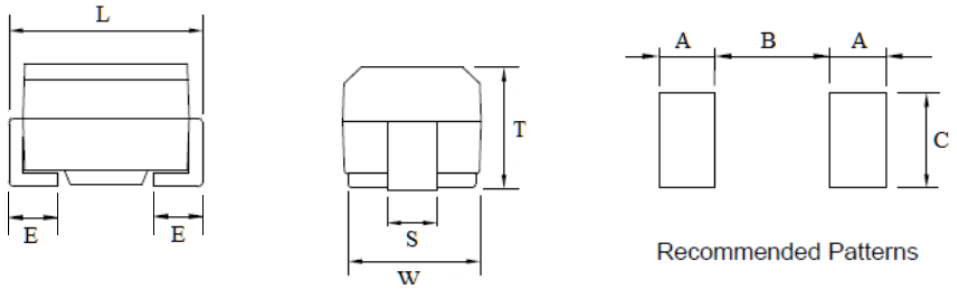
■ Introductions

The SCI (H) series are chip inductors with large current widely used in the communication applications and the other electronic devices, such as cellular phones, Television, Video Camera, Radio, Smart Meters and the other devices.

■ Features

* Excellent solder ability and resistance to soldering heat.
* With metal terminals and resin coated, it offers many superior features, such as highly resistant to mechanical shocks and pressure, reliable in environments of sudden temperature change and humidity and super Q characteristics.
* Highly accurate dimensions, high reliability, and easy surface mount assembly.
* Large current capability can be used for applications that need to meet high DC rated current.

■ Chip Dimension



Unit (mm)

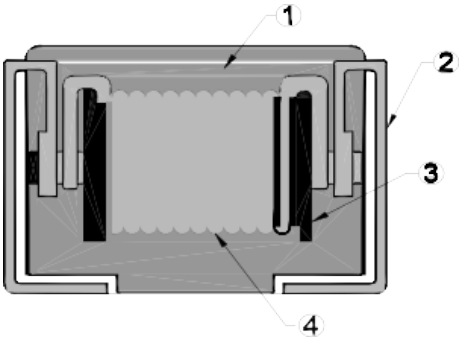
Size	L	W	T	S	E	A	B	C
SCI1008(H)	2.50±0.20	2.00±0.0	2.20±0.20	1.80±0.10	0.40	1.0	1.5	1.0
SCI1210(H)	3.20±0.20	2.50±0.20	2.20±0.20	1.90±0.10	0.55	1.20	2.0	2.0
SCI1812(H)	4.50±0.30	3.20±0.20	3.20±0.20	1.20	1.0 +0.3 -0.0	1.50	2.2	1.60

■ Part Numbering

SCI	**1210**	**H**	**T**	**1R0**	**J**	□□
SERIES	SIZE	MATERIAL	PACKAGE	INDUCTANCE	TOLERANCE	INTERNAL CODE
Wire Wound	1008	H =High Current	T= Tape&Reel	R10= 0.1uH	K= ±10%	
Molded	1210			1R0= 1.0uH	M=±20%	
	1812			330= 33uH		
				331= 330 uH		

WIRE WOUND CHIP INDUCTOR SCI (H)SERIES

■ Construction & Dimension



1	Molded resin	3	Ferrite Core
2	Electrode(Ag)	4	Magnet Wire

■ Operating Temperature Range:

Operating Temperature Range is the scope of ambient temperature at which the inductors can be operated continuously at rated current includes self-temperature rise.

* SCI1008(H) Type: -40 to +105°C
* SCI1210(H) Type: -40 to +105°C
* SCI1812(H) Type: -25 to +85°C

■ Storage Temperature Range:

Storage Temperature Range is the scope of ambient temperature at which the inductors are mounted on the circuit board already.

* SCI1008(H) Type: -40 to +85°C
* SCI1210(H) Type: -40 to +85°C
* SCI1812(H) Type: -25 to +85°C

■ Characteristics:

Standard Test Condition:
Unless otherwise specified, the standard range of atmospheric conditions for making measurements and tests are as follows:

* Ambient Temperature: 25°C ± 2°C
* Relative Humidity : 60% to 70%
* Air Pressure : 86 Kpa to 106 Kpa

WIRE WOUND CHIP INDUCTOR SCI (H)SERIES

Electrical Specification

Size 1008 High Current Type

Part No.	Inductance	Q	Test Freq.	Tolerance	RDC(max)	IDC(max)
	(uH)	(min)	(MHz)	(%)	(Ω)	(mA)
SCI1008HT1R0□□□	1	20	7.96	M	0.34	475
SCI1008HT1R5□□□	1.5	20	7.96	M	0.42	435
SCI1008HT2R2□□□	2.2	20	7.96	M	0.50	390
SCI1008HT3R3□□□	3.3	20	7.96	M	0.65	340
SCI1008HT4R7□□□	4.7	20	7.96	M	0.80	285
SCI1008HT6R8□□□	6.8	30	7.96	M	1.00	275
SCI1008HT100□□□	10	30	2.52	K	1.69	210
SCI1008HT150□□□	15	30	2.52	K	2.20	175
SCI1008HT220□□□	22	30	2.52	K	2.80	160
SCI1008HT330□□□	33	30	2.52	K	4.20	120

* Tolerance: K=±10%, M=±20%
* Operating Temperature: -40℃ to +105℃
* Inductance & Q value measured in HP4191A
* SRF measured in 8753 Agilient
* DC Resistance RDC measured in VP-2941A Panasonic
* Unspecified values available on request.

WIRE WOUND CHIP INDUCTOR SCI (H)SERIES

Electrical Specification

Size 1210 High Current Type

Part No.	Inductance	Q	Test Freq.	Tolerance	S.R.F.(min)	RDC(max)	IDC(max)
	(uH)	(min)	(MHz)	(%)	(MHz)	(Ω)	(mA)
SCI1210HT1R0□□□	1	10	7.96	M	100	0.06	1000
SCI1210HT1R5□□□	1.5	10	7.96	M	80	0.11	830
SCI1210HT2R2□□□	2.2	10	7.96	M	68	0.13	770
SCI1210HT3R3□□□	3.3	10	7.96	M	54	0.16	690
SCI1210HT4R7□□□	4.7	10	7.96	M	46	0.20	620
SCI1210HT6R8□□□	6.8	10	7.96	M	38	0.27	530
SCI1210HT100□□□	10	15	2.52	K	30	0.36	450
SCI1210HT150□□□	15	15	2.52	K	26	0.56	370
SCI1210HT220□□□	22	15	2.52	K	21	0.77	300
SCI1210HT330□□□	33	15	2.52	K	17	1.10	240
SCI1210HT470□□□	47	15	2.52	K	14	1.64	180
SCI1210HT680□□□	68	20	2.52	K	12	2.80	140
SCI1210HT101□□□	100	20	2.52	K	10	3.70	120
SCI1210HT151□□□	150		0.796	K	8	6.10	100
SCI1210HT221□□□	220		0.796	K	7	8.40	80
SCI1210HT331□□□	330		0.796	K	6	12.3	70

* Tolerance: Tolerance: K=±10%, M=±20%
* Operating Temperature: -40℃ to +105℃
* Inductance & Q value measured in HP4191A
* SRF measured in 8753 Agilient
* DC Resistance RDC measured in VP-2941A Panasonic
* Unspecified values available on request.

WIRE WOUND CHIP INDUCTOR SCI (H)SERIES

Electrical Specification

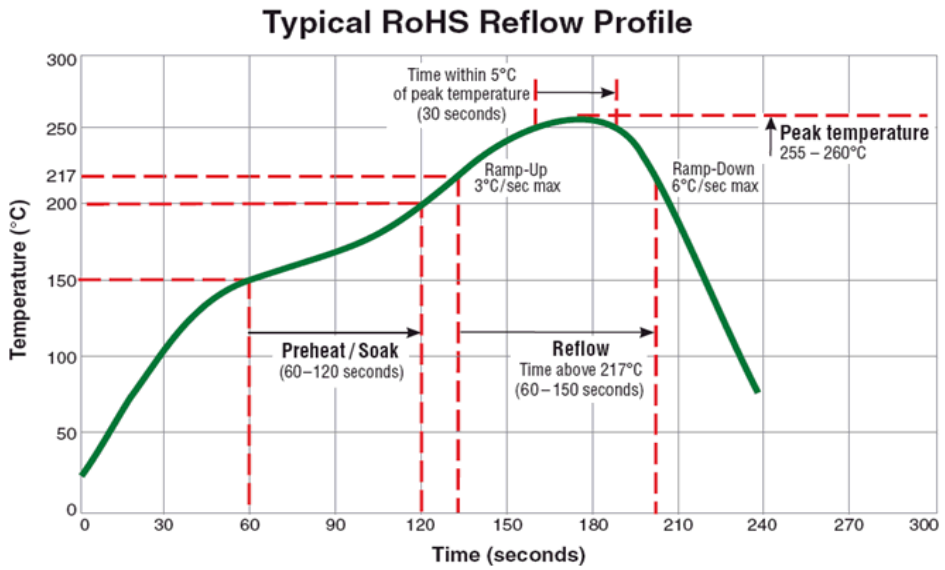
Size 1812 High Current Type

Part No.	Inductance	Q	Test Freq.	Tolerance	S.R.F.(min)	RDC(max)	IDC(max)
	(uH)	(min)	(MHz)	(%)	(MHz)	(Ω)	(mA)
SCI1812HT1R0□□□	1.0	10	7.960	J , K , M	265.0	0.11	1050
SCI1812HT1R2□□□	1.2	10	7.960	J , K , M	180.0	0.12	1000
SCI1812HT1R5□□□	1.5	10	7.960	J , K , M	170.0	0.15	950
SCI1812HT1R8□□□	1.8	10	7.960	J , K , M	105.0	0.16	900
SCI1812HT2R2□□□	2.2	10	7.960	J , K , M	80.0	0.18	850
SCI1812HT2R7□□□	2.7	10	7.960	J , K , M	60.0	0.20	800
SCI1812HT3R3□□□	3.3	10	7.960	J , K , M	55.0	0.22	750
SCI1812HT3R9□□□	3.9	10	7.960	J , K , M	45.0	0.24	700
SCI1812HT4R7□□□	4.7	10	7.960	J , K , M	43.0	0.27	650
SCI1812HT5R6□□□	5.6	10	7.960	J , K , M	40.0	0.30	650
SCI1812HT6R8□□□	6.8	10	7.960	J , K , M	35.0	0.35	600
SCI1812HT8R2□□□	8.2	10	7.960	J , K , M	30.0	0.40	600
SCI1812HT100□□□	10	10	2.520	J , K , M	27.0	0.50	550
SCI1812HT120□□□	12	10	2.520	J , K , M	25.0	0.60	500
SCI1812HT150□□□	15	10	2.520	J , K , M	20.0	0.70	450
SCI1812HT180□□□	18	10	2.520	J , K , M	19.0	0.80	400
SCI1812HT220□□□	22	10	2.520	J , K , M	18.0	0.90	370
SCI1812HT270□□□	27	10	2.520	J , K , M	16.0	1.20	330
SCI1812HT330□□□	33	10	2.520	J , K , M	15.0	1.40	300
SCI1812HT390□□□	39	10	2.520	J , K , M	13.0	1.60	280
SCI1812HT470□□□	47	10	2.520	J , K , M	12.0	1.90	260
SCI1812HT560□□□	56	10	2.520	J , K , M	10.0	2.20	240
SCI1812HT680□□□	68	10	2.520	J , K , M	9.5	2.60	220
SCI1812HT820□□□	82	10	2.520	J , K , M	8.5	3.50	200
SCI1812HT101□□□	100	20	0.796	J , K , M	8.0	4.00	180
SCI1812HT121□□□	120	20	0.796	J , K , M	7.0	4.50	160
SCI1812HT151□□□	150	20	0.796	J , K , M	6.5	6.50	140
SCI1812HT181□□□	180	20	0.796	J , K , M	6.0	7.50	120
SCI1812HT221□□□	220	20	0.796	J , K , M	5.5	9.00	120
SCI1812HT271□□□	270	20	0.796	J , K , M	5.0	11.00	100
SCI1812HT331□□□	330	20	0.796	J , K , M	4.5	13.00	90
SCI1812HT391□□□	390	20	0.796	J , K , M	4.0	14.00	85
SCI1812HT471□□□	470	20	0.796	J , K , M	3.5	16.00	75
SCI1812HT561□□□	560	20	0.796	J , K , M	3.0	21.00	70
SCI1812HT681□□□	680	20	0.796	J , K , M	2.5	24.20	65

* Tolerance: K=±10%, M=±20%
* Operating Temperature: -25℃ to +85℃
* Inductance & Q value measured in HP4291 or HP4284
* SRF measured in HP4291
* DC Resistance RDC measured in Agilent 34401A
* Unspecified values available on request.

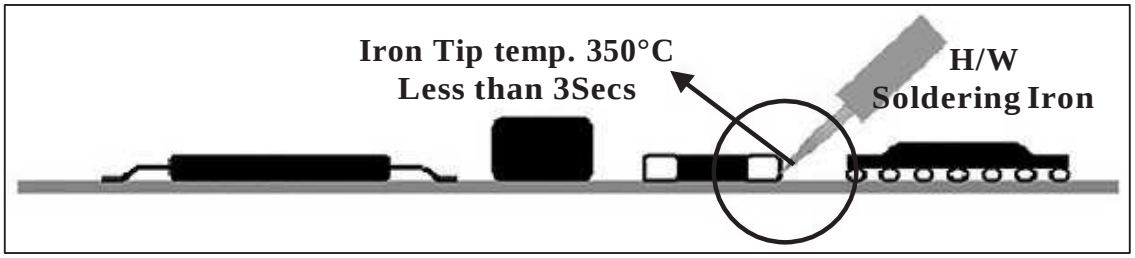
■ Soldering Profile

Reflow Soldering



Manual Soldering

Soldering iron tip temperature: 350°C max / within 3 seconds.



WIRE WOUND CHIP INDUCTOR SCI (H)SERIES

■ Specification & Test Method

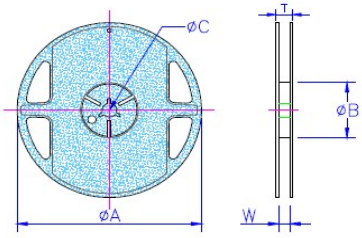
	ITEM	CONDITION	SPECIFICATION
Mechanical Performance Test	Solderability	The electrodes shall be at least 90% covered with new solder coating	Lead-free inductor: after fluxing (alpha 100 or equiv), inductor shall be dipped in a melted solder bath at 245±5°C, 5±0.5 seconds
	Resistance to Soldering Heat	Appearance: No damage	Pre-heating: 150°C, 1min. Solder Temperature: 260±5°C Immersion Time: 10±1 seconds
	Vibration	Appearance: No damage L change: within±10% Q change: within±30% DCR: within specification	Test device shall be soldered on the substrate Oscillation Frequency: 10 to 55 to 10Hz for 1 min. Amplitude: 1.5 mm Time: 2 hrs for each axis (X, Y&Z), total 6 hrs
Electrical Performance Test	Inductance	Refer to standard electrical characteristic spec	HP4291 or HP4284
	Q		HP4291 or HP4284
	SRF		HP4291
	DC Resistance DCR		Agilent 34401A
	Rated Current IDC		Applied the current to coils, The inductance change should be less than 10% to initial value
Climatic Performance Test	Temperature Cycle	Appearance: No damage L change: within±10% Q change: within±30% DCR: within specification	One cycle: Step / Temperature (°C) / Time (min.) 1 / -25±3 / 30 2 / 25±2 / 3 3 / 85±3 / 30 4 / 25±2 / 3 Total: 100 cycles Measured after exposure in the room condition for 24 hrs
	Damp Heat with Load		Temperature: 40±2°C Relative Humidity: 90 ~ 95% Time: 1000 hrs Measured after exposure in the room condition for 24 hrs
	High Temperature Storage		Temperature: 85±3°C Applied Current: Rated Current Time: 1000 hrs Measured after exposure in the room condition for 24 hrs
	Low Temperature Storage		Temperature: -25±3°C Time: 1000 hrs Measured after exposure in the room condition for 24 hrs

WIRE WOUND CHIP INDUCTOR SCI (H)SERIES

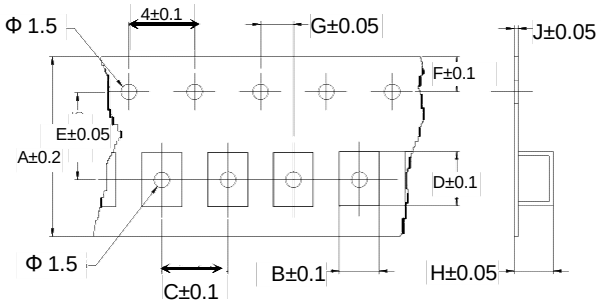
■ Packaging

Packaging Quantity & Reel Specifications

Type	ΦA	ΦB	ΦC	W	T	Q'ty
SCI1008(H)	178±2.0	60±0.5	13±0.3	9±0.3	12±1.0	2000
SCI1210(H)	178±2.0	60±0.5	13±0.3	9±0.3	12±1.0	2000
SCI1812(H)	178±2.0	80±0.5	13±0.3	13.2±0.3	16±1.0	500



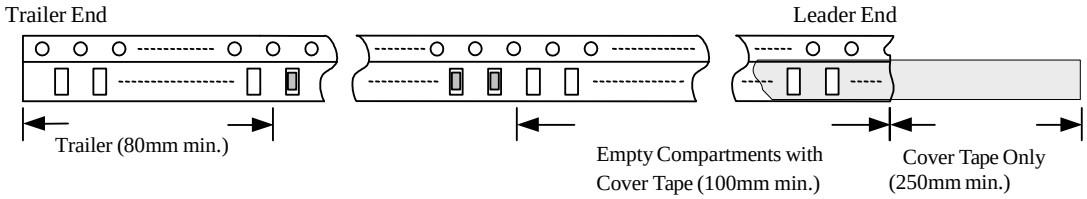
Embossed Plastic Tape Specifications



Type	A	B	C	D	E	F	G	H	J
SCI1008(H)	8	2.70	4	3.60	3.5	1.75	2	2.40	0.23
SCI1210(H)	8	2.96	4	3.60	3.5	1.75	2	2.40	0.23
SCI1812(H)	12	3.30	8	5.00	5.5	1.75	2	3.50	0.30

Unit: mm

Leader / Trailer Tape



Cover Tape Peel Strength

The force for tearing off cover tape is 0.1～0.6（N）in the arrow direction at the following conditions: Temperature: 5～35℃

Humidity:45～85%

Atmospheric Pressure:860～1060 hpa