



ISO9001 & ISO14001 & TS16949 CHILISIN ELECTRONICS CORP.

**Lead-Free & RoHs Compliance!!**

**SPECIFICATION FOR APPROVAL**

CUSTOMER : \_\_\_\_\_

CUSTOMER P/N : \_\_\_\_\_

OUR DWG No : \_\_\_\_\_

QUANTITY : 0 Pcs. DATE : 2013/06/17

ITEM : SCD0503T-150M-N

SPECIFICATION ACCEPTED BY:	
COMPONENT ENGINEER	
ELECTRICAL ENGINEER	
MECHANICAL ENGINEER	
APPROVED	
REJECTED	

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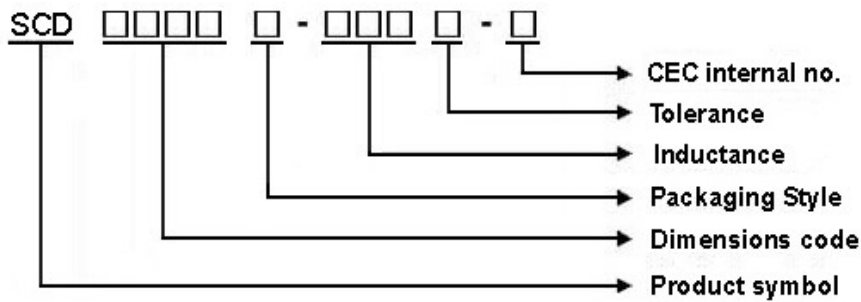
  

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# SCD0503T Series Specification

**1 Scope:** This specification applies to SMD POWER CHOKE

**2 Part Numbering: Product Identification**

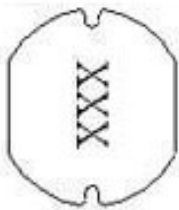


**3 Rating:**

**Operating Temperature:** - 4 0 °C ~ 1 0 5 °C (Including self - temperature rise)

**Storage Temperature:** Under 2 5 °C , **Humidity < 75% RH**

**4 Marking:**



Ex : SCD□□□□T-100M-N

Marking : 100

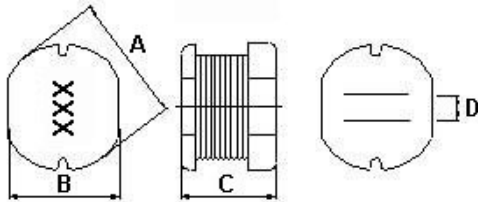
Marking color : Black

**5 Standard Testing Condition**

	Unless otherwise specified	In case of doubt
Temperature	Ordinary Temperature(15 to 35°C)	20±2°C
Humidity	Ordinary Humidity(25 to 85% RH)	60 to 70 % RH

## SCD0503T Series Specification

### 6 Configuration and Dimensions:



Dimensions in mm

TYPE	SCD0503
A	5.8±0.3
B	5.2±0.3
C	3.0±0.3
D	2.0

### 7 ELECTRICAL CHARACTERISTICS :

Part No.	Inductance (uH)	Test Freq.	RDC (Ω)Max.	Isat (A)	Tolerance (±%)	Marking
SCD0503T-1R0□-N	1	7.96 MHz,1 V	0.03	4.5	20	1R0
SCD0503T-1R2□-N	1.2	7.96 MHz,1 V	0.03	4.2	20	1R2
SCD0503T-1R5□-N	1.5	7.96 MHz,1 V	0.03	4.1	20	1R5
SCD0503T-1R8□-N	1.8	7.96 MHz,1 V	0.03	3.7	10,20	1R8
SCD0503T-2R0□-N	2	7.96 MHz,1 V	0.03	3.6	20	2R0
SCD0503T-2R2□-N	2.2	7.96 MHz,1 V	0.03	3.5	20	2R2
SCD0503T-2R7□-N	2.7	7.96 MHz,1 V	0.04	3.2	20	2R7
SCD0503T-3R3□-N	3.3	7.96 MHz,1 V	0.05	2.8	10,20	3R3
SCD0503T-3R9□-N	3.9	7.96 MHz,1 V	0.06	2.6	20	3R9
SCD0503T-4R7□-N	4.7	7.96 MHz,1 V	0.07	2.5	10,20	4R7
SCD0503T-5R6□-N	5.6	7.96 MHz,1 V	0.08	2.4	20	5R6
SCD0503T-6R8□-N	6.8	7.96 MHz,1 V	0.09	2.2	20	6R8
SCD0503T-8R2□-N	8.2	7.96 MHz,1 V	0.1	2	20	8R2
SCD0503T-100□-N	10	2.52 MHz,1 V	0.12	1.8	10,20	100
SCD0503T-120□-N	12	2.52 MHz,1 V	0.13	1.75	20	120
SCD0503T-150□-N	15	2.52 MHz,1 V	0.15	1.7	10,20	150
SCD0503T-180□-N	18	2.52 MHz,1 V	0.22	1.6	10,20	180
SCD0503T-220□-N	22	2.52 MHz,1 V	0.22	1.5	10,20	220
SCD0503T-270□-N	27	2.52 MHz,1 V	0.26	1.4	20	270
SCD0503T-330□-N	33	2.52 MHz,1 V	0.33	1.1	10,20	330
SCD0503T-390□-N	39	2.52 MHz,1 V	0.42	1	10,20	390
SCD0503T-470□-N	47	2.52 MHz,1 V	0.5	0.9	10,20	470
SCD0503T-560□-N	56	2.52 MHz,1 V	0.55	0.85	10,20	560
SCD0503T-680□-N	68	2.52 MHz,1 V	0.65	0.8	10,20	680
SCD0503T-820□-N	82	2.52 MHz,1 V	0.8	0.65	10,20	820

NOTE: □-tolerance K=±10% / M=±20%

1. Operating temperature range - 40 °C ~ 105 °C (Including self - temperature rise)

2. Isat: Inductance drop =10% typ.

"-N" FOR COMPLETELY LEAD FREE TYPE(INCLUDING FERRITE BODY & SOLDER)



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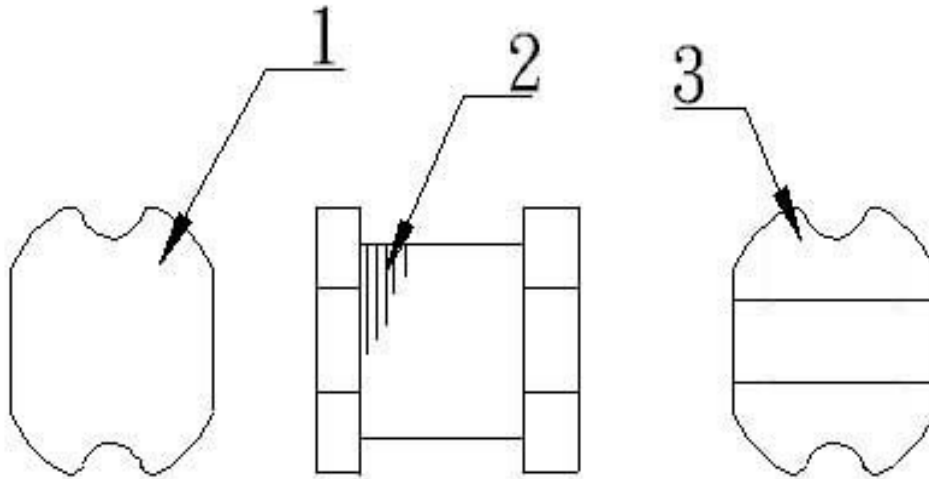
# SCD0503T Series Specification

Part No.	Inductance (uH )	Test Freq.	RDC ( $\Omega$ )Max.	Isat (A)	Tolerance ( $\pm\%$ )	Marking
SCD0503T-101□-N	100	1 kHz,1 V	0.9	0.6	10,20	101
SCD0503T-121□-N	120	1 kHz,1 V	1	0.58	10,20	121
SCD0503T-151□-N	150	1 kHz,1 V	1.3	0.43	10,20	151
SCD0503T-181□-N	180	1 kHz,1 V	1.5	0.41	10,20	181
SCD0503T-221□-N	220	1 kHz,1 V	2	0.38	10,20	221
SCD0503T-271□-N	270	1 kHz,1 V	2.5	0.35	10,20	271
SCD0503T-331□-N	330	1 kHz,1 V	3.2	0.28	10,20	331
SCD0503T-391□-N	390	1 kHz,1 V	3.5	0.26	10,20	391
SCD0503T-471□-N	470	1 kHz,1 V	4.2	0.2	10,20	471
SCD0503T-561□-N	560	1 kHz,1 V	4.5	0.19	10,20	561
SCD0503T-681□-N	680	1 kHz,1 V	6.5	0.18	10,20	681
SCD0503T-821□-N	820	1 kHz,1 V	7.5	0.15	10,20	821
SCD0503T-102□-N	1000	1 kHz,1 V	8	0.13	10,20	102

# SCD0503T Series Specification

## 8 SCD0503T Series

### 8.1 Construction:



### 8.2 Material List:

ITEM	PART	DESCRIPTION	SUPPLIES
1	CORE	FERRITE	CHILISIN
2	WIRE	MAGNET WIRE	
3	TERMINAL	Sn/Ag3.0/Cu0.5	Dyfenco



# SCD0503T Series Specification

## 9 Reliability Of Ferrite Wire Wound Power Inductor

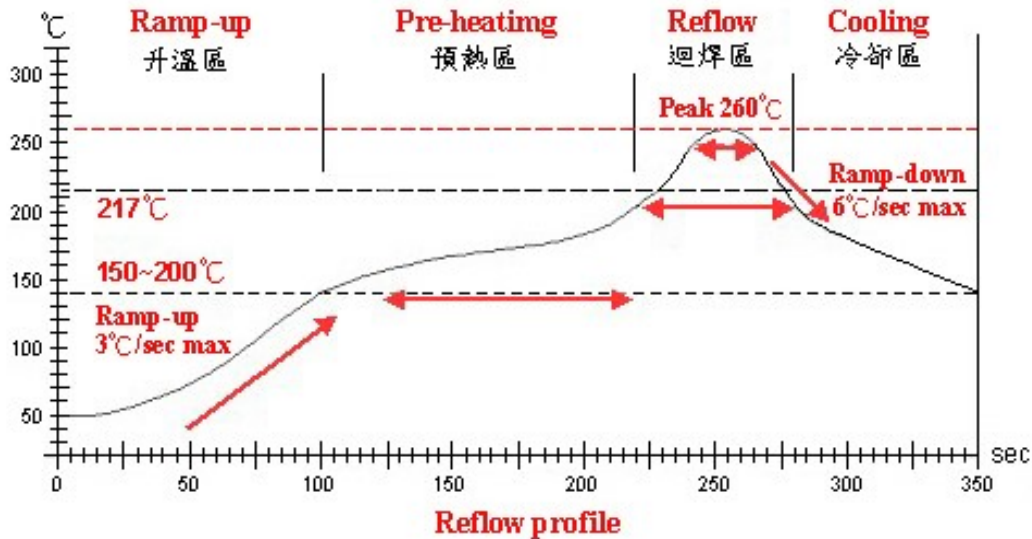
### 1-1.Mechanical Performance

No	Item	Specification	Test Method
1-1-1	Vibration	Appearance: No damage Inductance: within $\pm 10\%$ of initial value	Test device shall be soldered on the substrate Oscillation Frequency: 10 to 55 to 10Hz for 1min Amplitude: 1.5mm Time: 2hrs for each axis (X, Y & Z), total 6hrs
1-1-2	Resistance to Soldering Heat	Appearance: No damage	Pre-heating: 150°C, 1min Solder Composition: Sn/Ag3.0/Cu0.5 Solder Temperature: 260 $\pm$ 5°C Immersion Time: 10 $\pm$ 1sec
1-1-3	Solder ability	The electrodes shall be at least 95% covered with new solder coating	Pre-heating: 150°C, 1min Solder Composition: Sn/Ag3.0/Cu0.5 Solder Temperature: 245 $\pm$ 5°C Immersion Time: 4 $\pm$ 1sec
1-1-4	Resistance to solvent	There must be no change in appearance or obliteration of marking.	Inductors must withstand 6 minutes of alcohol or water.

### 1-2.Environmental Performance

No	Item	Specification	Test Method															
1-2-1	Temperature Shock	Appearance: No damage Inductance: within $\pm 10\%$ of initial value	10 cycles (Air to Air) 1 cycles shall consist of: 30 minutes exposure to -55 °C 30 minutes exposure to 125 °C 15 seconds maximum transition between temperatures															
1-2-2	Temperature Cycle		One cycle: <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Step</th> <th>Temperature (°C)</th> <th>Time (min)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>-40<math>\pm</math>3</td> <td>30</td> </tr> <tr> <td>2</td> <td>25<math>\pm</math>2</td> <td>3</td> </tr> <tr> <td>3</td> <td>105<math>\pm</math>3</td> <td>30</td> </tr> <tr> <td>4</td> <td>25<math>\pm</math>2</td> <td>3</td> </tr> </tbody> </table>	Step	Temperature (°C)	Time (min)	1	-40 $\pm$ 3	30	2	25 $\pm$ 2	3	3	105 $\pm$ 3	30	4	25 $\pm$ 2	3
Step	Temperature (°C)	Time (min)																
1	-40 $\pm$ 3	30																
2	25 $\pm$ 2	3																
3	105 $\pm$ 3	30																
4	25 $\pm$ 2	3																
1-2-3	Humidity Resistance		Total: 100cycles Measured after exposure in the room condition for 24hrs Temperature: 40 $\pm$ 2°C Relative Humidity: 90 ~ 95% Time: 1000hrs Measured after exposure in the room condition for 24hrs															
1-2-4	Heat Life		Temperature: 85 $\pm$ 3°C Relative Humidity: 20% Applied Current: Rated Current Time: 1000hrs Measured after exposure in the room condition for 24hrs															
1-2-5	Cold Resistance		Temperature: -40 $\pm$ 3°C Relative Humidity: 0% Time: 1000hrs Measured after exposure in the room condition for 24hrs															

## SCD0503T Series Specification



Lead-Free(LF) 標準溫度分析範圍

Refer to J-STD-020C

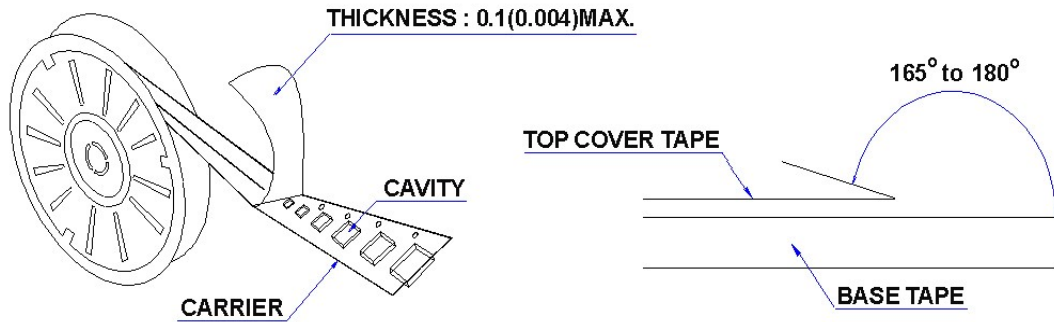
管制項目 Item.	升温區 Ramp-up	預熱區 Pre-heating	迴焊區 Reflow	Peak Temp	冷卻區 Cooling
溫度範圍 Temp. scope	R.T. ~ 150°C	150°C ~ 200°C	217°C	260±5°C	Peak Temp. ~ 150°C
標準時間 Time spec.	—	60 ~ 180 sec	60 ~ 150sec	20 ~ 40 sec	—
實際時間 Time result	—	75 ~ 100 sec	90 ~ 120sec	20 ~ 35 sec	—

# SCD0503T Series Specification

## 11 PACKAGING

### 11.1 Packaging -Cover tape

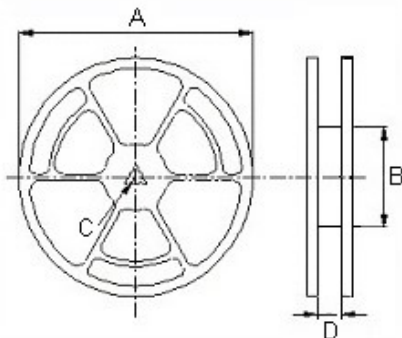
The force for tearing off cover tape is 10 to 130 grams in the arrow direction.



### 11.2 Packaging Quantity

TYPE	BULK	PCS/REEL
SCD03011	✓	3000
SCD03015	✓	3000
SCD03021	✓	3000
SCD0501	✓	2000
SCD0502	✓	2000
SCD0503	✓	2000

### 11.3 Reel Dimensions



Reel Dimension : m/m

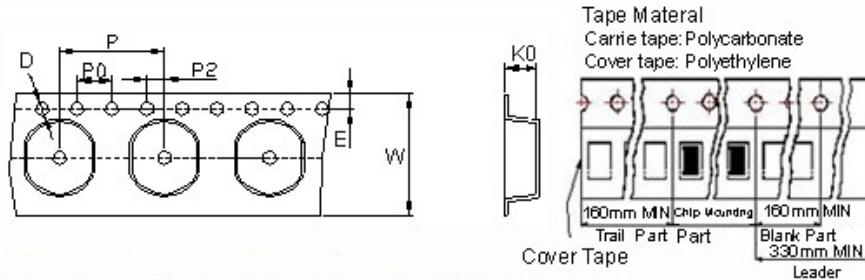
TYPE	A	B	C	D
SCD03011	330	100	13	13.4
SCD03015	330	100	13	13.4
SCD03021	330	100	13	13.4
SCD0501	330	100	13	13.4
SCD0502	330	100	13	17.4
SCD0503	330	100	13	17.4



# SCD0503T Series Specification

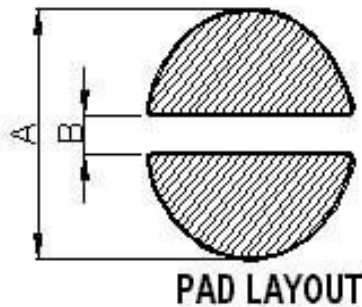
## 11 PACKAGING

### 11.4 Tape Dimensions in mm



TYPE	K0	D	E	W	P	P0	P2
SCD03011	1.30	1.55	1.75	12	8	4	2
SCD03015	1.80	1.55	1.75	12	8	4	2
SCD03021	2.50	1.55	1.75	12	8	4	2
SCD0501	2.35	1.55	1.75	12	8	4	2
SCD0502	3.30	1.50	1.75	16	8	4	2
SCD0503	3.30	1.50	1.75	16	8	4	2

## 12 Recommended Pattern



Dimensions in mm

TYPE	A(in/mm)	B(in/mm)
SCD03011	0.177/4.5	0.059/1.5
SCD03015	0.177/4.5	0.039/1.0
SCD03021	0.177/4.5	0.039/1.0
SCD0501	0.268/6.8	0.079/2.0
SCD0502	0.268/6.8	0.079/2.0
SCD0503	0.268/6.8	0.079/2.0

## 13 Note:

1. Please make sure that your product is has been evaluated and confirmed against your specifications when our product is mounted to your product.
2. Do not knock nor drop.
3. All the items and parameters in this product specification have been prescribed on the premise that our product is used for the purpose, under the condition and in the environment agreed upon between you and us. You are requested not to use our product deviating from such agreement.
4. Please keep the distance between transformer/coil and other components (refer to the standard IEC 950)