



ISO9001 & ISO14001 & TS16949 **CHILISIN ELECTRONICS CORP.**

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

## SPECIFICATION FOR APPROVAL

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

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

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

**QUANTITY :**     **0**   **Pcs.**     **DATE :**     **2013/06/05**

**ITEM :**                             **SCD0705T-SERIES**

SPECIFICATION ACCEPTED BY:	
<b>COMPONENT ENGINEER</b>	
<b>ELECTRICAL ENGINEER</b>	
<b>MECHANICAL ENGINEER</b>	
<b>APPROVED</b>	
<b>REJECTED</b>	

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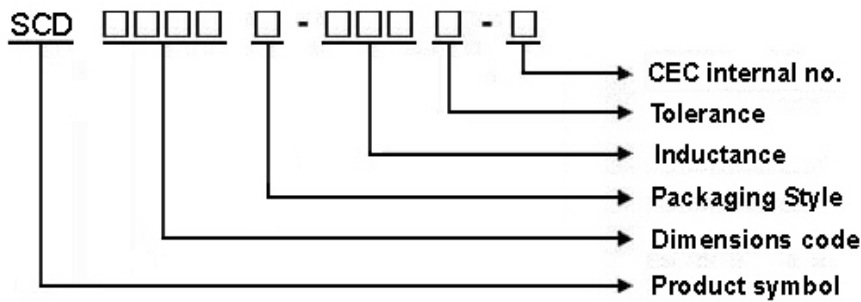
  

<b>DRAWN BY</b> <b>陳瑞揚 ryan.chen</b>	<b>CHECKED BY</b> <b>張麗玲 ll.chang</b>	<b>APPROVED BY</b> <b>陳瑞揚 ryan.chen</b>
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# SCD0705T Series Specification

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

**2** Part Number: SCD0705T-3R3M-N

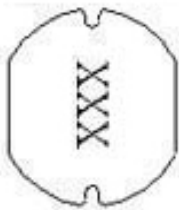


**3** Rating:

Operating Temperature:  $-40^{\circ}\text{C} \sim 105^{\circ}\text{C}$  (Including self - temperature rise)

Storage Temperature: Under  $25^{\circ}\text{C}$  , Humidity < 75% RH

**4** Marking:



Ex : SCD0705T-100M-N

Marking : 100

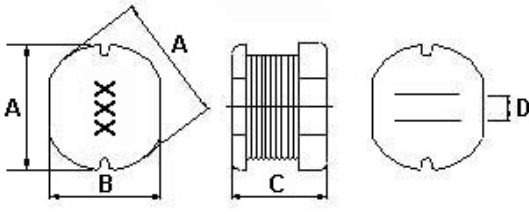
Marking color : Black

**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

## SCD0705T Series Specification

### 6 Configuration and Dimensions:



Dimensions in mm

TYPE	SCD0705
A	7.8±0.3
B	7.0±0.3
C	5.0±0.3
D	2.1

### 7 ELECTRICAL CHARACTERISTICS :

Part No.	Inductance (uH)	Test Freq.	RDC (Ω)Max.	Isat (A)	Tolerance (±%)	Marking
SCD0705T-1R4□-N	1.4	7.96 MHz,1 V	0.02	3.7	20	1R4
SCD0705T-1R5□-N	1.5	7.96 MHz,1 V	0.02	3.7	20	1R5
SCD0705T-1R8□-N	1.8	7.96 MHz,1 V	0.02	3.7	20	1R8
SCD0705T-2R2□-N	2.2	7.96 MHz,1 V	0.02	3.7	20	2R2
SCD0705T-2R7□-N	2.7	7.96 MHz,1 V	0.02	3.7	20	2R7
SCD0705T-3R0□-N	3	7.96 MHz,1 V	0.025	3.7	20	3R0
SCD0705T-3R3□-N	3.3	7.96 MHz,1 V	0.03	3.7	20	3R3
SCD0705T-3R9□-N	3.9	7.96 MHz,1 V	0.03	3.7	20	3R9
SCD0705T-4R7□-N	4.7	7.96 MHz,1 V	0.04	3.5	10,20	4R7
SCD0705T-5R6□-N	5.6	7.96 MHz,1 V	0.04	3.3	20	5R6
SCD0705T-6R8□-N	6.8	7.96 MHz,1 V	0.04	3.1	20	6R8
SCD0705T-8R2□-N	8.2	7.96 MHz,1 V	0.05	2.7	20	8R2
SCD0705T-100□-N	10	2.52 MHz,1 V	0.07	2.3	10,20	100
SCD0705T-120□-N	12	2.52 MHz,1 V	0.08	2	20	120
SCD0705T-150□-N	15	2.52 MHz,1 V	0.09	1.8	10,20	150
SCD0705T-180□-N	18	2.52 MHz,1 V	0.1	1.6	20	180
SCD0705T-220□-N	22	2.52 MHz,1 V	0.11	1.5	10,20	220
SCD0705T-270□-N	27	2.52 MHz,1 V	0.12	1.3	20	270
SCD0705T-330□-N	33	2.52 MHz,1 V	0.13	1.2	10,20	330
SCD0705T-390□-N	39	2.52 MHz,1 V	0.16	1.1	10,20	390
SCD0705T-470□-N	47	2.52 MHz,1 V	0.18	1.1	10,20	470
SCD0705T-560□-N	56	2.52 MHz,1 V	0.24	0.94	10,20	560
SCD0705T-680□-N	68	2.52 MHz,1 V	0.28	0.85	10,20	680
SCD0705T-820□-N	82	2.52 MHz,1 V	0.37	0.78	10,20	820
SCD0705T-101□-N	100	1 kHz,1 V	0.43	0.72	10,20	101

**NOTE:** □-tolerance K=±10% / M=±20%

1.Operating temperature range – 4 0 °C ~ 1 0 5 °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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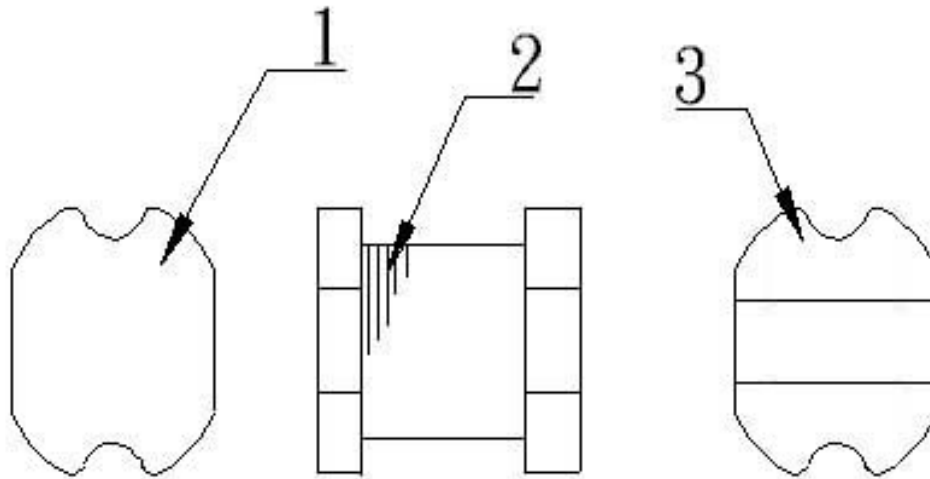
# SCD0705T Series Specification

Part No.	Inductance (uH)	Test Freq.	RDC (Ω)Max.	Isat (A)	Tolerance (±%)	Marking
SCD0705T-121□-N	120	1 kHz,1 V	0.47	0.66	10,20	121
SCD0705T-151□-N	150	1 kHz,1 V	0.64	0.58	10,20	151
SCD0705T-181□-N	180	1 kHz,1 V	0.71	0.51	10,20	181
SCD0705T-221□-N	220	1 kHz,1 V	0.96	0.49	10,20	221
SCD0705T-271□-N	270	1 kHz,1 V	1.11	0.42	10,20	271
SCD0705T-331□-N	330	1 kHz,1 V	1.26	0.4	10,20	331
SCD0705T-391□-N	390	1 kHz,1 V	1.77	0.36	10,20	391
SCD0705T-471□-N	470	1 kHz,1 V	1.96	0.34	10,20	471
SCD0705T-561□-N	560	1 kHz,1 V	2.41	0.32	10,20	561

# SCD0705T Series Specification

## 8 SCD0705T 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



# SCD0705T Series Specification

## 9 Reliability Of Ferrite Wire Wound Power Inductor

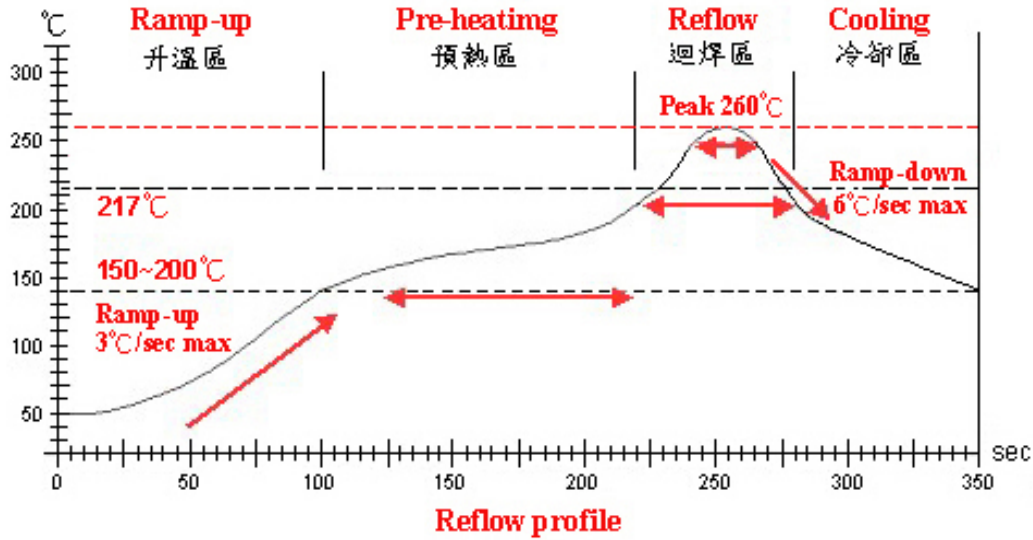
### 1-1.Mechanical Performance

No	Item	Specification	Test Method
1-1-1	Vibration	Appearance: No damage Inductance: within $\pm 10\%$ of initial value	SCD0705T-3R3M-N 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	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																

## SCD0705T 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	—

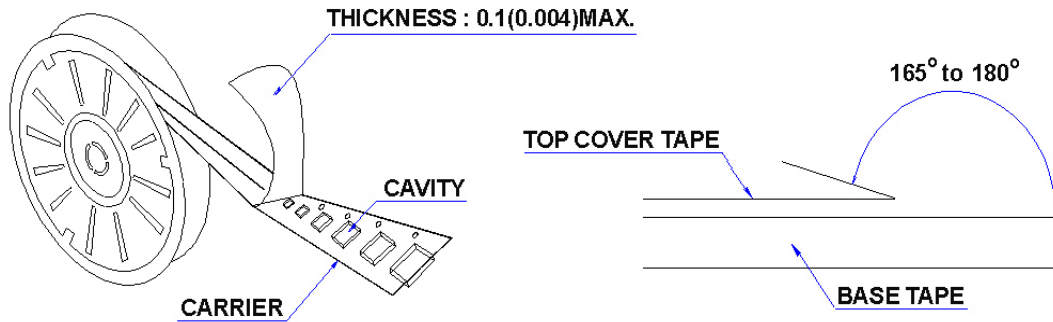
# SCD0705T Series Specification

## 11 PACKAGING

### 11.1 Packaging -Cover tape

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

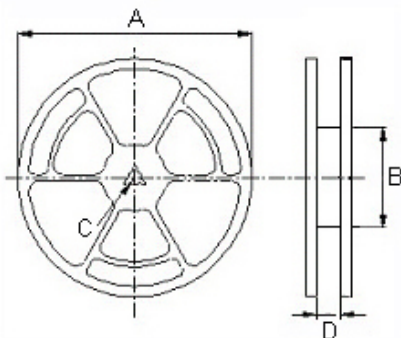
SCD0705T-3R3M-N



### 11.2 Packaging Quantity

TYPE	BULK	PCS/REEL
SCD0403	✓	2000
SCD0504	✓	1500
SCD0703	✓	1000
SCD0705	✓	700
SCD1004	✓	700
SCD1005	✓	700

### 11.3 Reel Dimensions



Reel Dimension : m/m

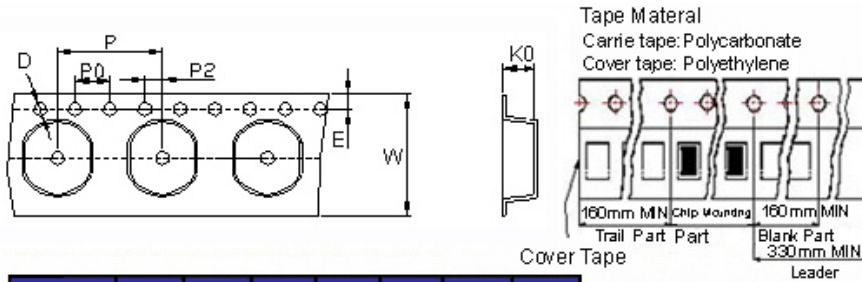
TYPE	A	B	C	D
SCD0403	330	100	13	13.4
SCD0504	330	100	13	17.4
SCD0703	330	100	13	17.4
SCD0705	330	100	13	17.4
SCD1004	330	100	13	24.4
SCD1005	330	100	13	24.4



# SCD0705T Series Specification

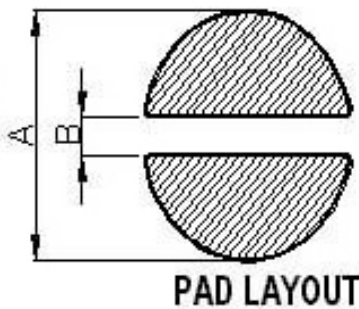
## 11 PACKAGING

### 11.4 Tape Dimensions in mm



TYPE	K0	D	E	W	P	P0	P2
SCD0403	3.55	1.55	1.75	12	8	4	2
SCD0504	4.80	1.55	1.75	16	8	4	2
SCD0703	3.80	1.55	1.75	16	12	4	2
SCD0705	5.20	1.55	1.75	16	12	4	2
SCD1004	4.50	1.55	1.75	24	12	4	2
SCD1005	5.80	1.55	1.75	24	12	4	2

## 12 Recommended Pattern



Dimensions in mm

TYPE	A(in/mm)	B(in/mm)
SCD0403	0.22/5.5	0.047/1.2
SCD0504	0.268/6.8	0.051/1.3
SCD0703	0.346/8.8	0.083/2.1
SCD0705	0.346/8.8	0.083/2.1
SCD1004	0.433/11	0.083/2.1
SCD1005	0.433/11	0.083/2.1

## 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)