



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

Lead-Free & RoHs Compliance!!

SPECIFICATION FOR APPROVAL

CUSTOMER : _____

CUSTOMER P/N : _____

OUR DWG No : _____

QUANTITY : 0 **Pcs.** **DATE :** 2013/03/07

ITEM : SCD0504T-SERIES

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

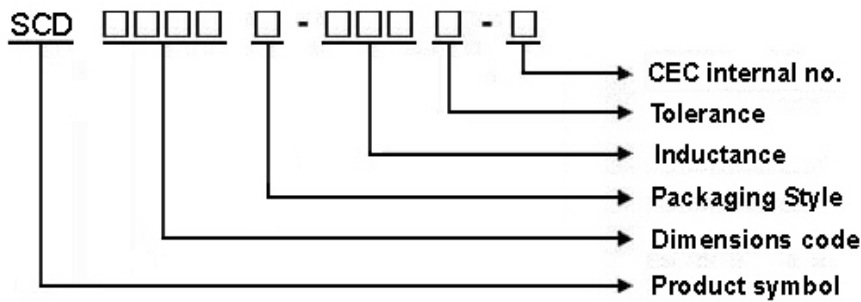
<p>奇力新電子股份有限公司 CHILISIN ELECTRONICS CORP. NO.29,LANE 301,TEHHSIN ROAD,HUKOU, HSINCHU,TAIWAN,303, REPUBLIC OF CHINA TEL : (03) 599-2646 FAX : (03) 599-9176 E-mail : Sales@chilisin.com.tw http : //www.chilisin.com.tw</p> <p>台北營業處 Taipei Office 1F., No.2, Aly. 1, Ln. 235, Baoqiao Rd., Xindian Dist., New Taipei City 231, Taiwan TEL : +886-2-6629-5588~9 FAX : +886-2-6629-0088 E-mail : Sales@chilisin.com.tw</p>	<p>東莞奇力新電子有限公司 Chilisin Electronics (Dongguan) Co., Ltd. No. 78, Puxing Rd., Yuliangwei Administration Area, Qingxi Town, Dongguan City, Guangdong,China TEL : +86-769-8773-0251~3 FAX : +86-769-8773-0232 E-mail : cect@chilisin.com.tw</p> <p>奇力新電子(蘇州)有限公司 Chilisin Electronics (Suzhou) Co., Ltd. No.143,Song Shan Rd., Suzhou New District, Suzhou,China Postal Code:215129 TEL:+86-512-6841-2350 FAX:+86-512-6841-2356 E-mail : suzhou@chilisin.com.tw</p>
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DRAWN BY 江鳳玉 linda.j	CHECKED BY 溫美玲 ling	APPROVED BY 陳瑞揚 ryan.chen
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SCD0504T Series Specification

1 Scope: This specification applies to SMD POWER CHOKE

2 Part Number: SCD0504T-SERIES

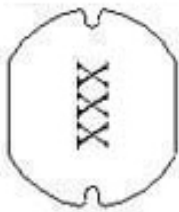


3 Rating:

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

Storage Temperature: Under 25°C , Humidity < 75% RH

4 Marking:



Ex : SCD□□□□T-100M-N

Marking : 100

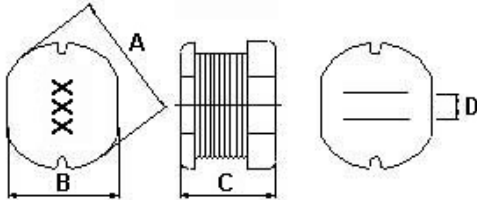
Marking color : Black

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

SCD0504T Series Specification

6 Configuration and Dimensions:



Dimensions in mm

TYPE	SCD0504
A	5.8±0.3
B	5.2±0.3
C	4.5±0.4
D	1.3

7 ELECTRICAL CHARACTERISTICS :

Part No.	Inductance (uH)	Test Freq.	RDC (Ω)Max.	Isat (A)	Tolerance (±%)	Marking
SCD0504T-1R8□-N	1.8	7.96 MHz,1 V	0.02	3.5	20	1R8
SCD0504T-2R2□-N	2.2	7.96 MHz,1 V	0.023	3.2	20	2R2
SCD0504T-3R3□-N	3.3	7.96 MHz,1 V	0.0314	2.59	10,20	3R3
SCD0504T-3R5□-N	3.5	7.96 MHz,1 V	0.03	2.4	20	3R5
SCD0504T-4R7□-N	4.7	7.96 MHz,1 V	0.0372	2.3	10,20	4R7
SCD0504T-6R8□-N	6.8	7.96 MHz,1 V	0.057	1.8	20	6R8
SCD0504T-8R2□-N	8.2	7.96 MHz,1 V	0.0594	1.7	20	8R2
SCD0504T-100□-N	10	2.52 MHz,1 V	0.1	1.44	10,20	100
SCD0504T-120□-N	12	2.52 MHz,1 V	0.12	1.4	20	120
SCD0504T-150□-N	15	2.52 MHz,1 V	0.14	1.3	10,20	150
SCD0504T-180□-N	18	2.52 MHz,1 V	0.15	1.23	20	180
SCD0504T-220□-N	22	2.52 MHz,1 V	0.18	1.11	20	220
SCD0504T-270□-N	27	2.52 MHz,1 V	0.2	0.97	20	270
SCD0504T-330□-N	33	2.52 MHz,1 V	0.23	0.88	10,20	330
SCD0504T-390□-N	39	2.52 MHz,1 V	0.32	0.8	10,20	390
SCD0504T-470□-N	47	2.52 MHz,1 V	0.37	0.72	10,20	470
SCD0504T-560□-N	56	2.52 MHz,1 V	0.42	0.68	10,20	560
SCD0504T-680□-N	68	2.52 MHz,1 V	0.46	0.61	10,20	680
SCD0504T-820□-N	82	2.52 MHz,1 V	0.6	0.58	10,20	820
SCD0504T-101□-N	100	1 kHz,1 V	0.7	0.52	10,20	101
SCD0504T-121□-N	120	1 kHz,1 V	0.93	0.48	10,20	121
SCD0504T-151□-N	150	1 kHz,1 V	1.1	0.4	10,20	151
SCD0504T-181□-N	180	1 kHz,1 V	1.38	0.38	10,20	181
SCD0504T-221□-N	220	1 kHz,1 V	1.57	0.35	10,20	221
SCD0504T-271□-N	270	1 kHz,1 V	1.85	0.29	10,20	271

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)



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

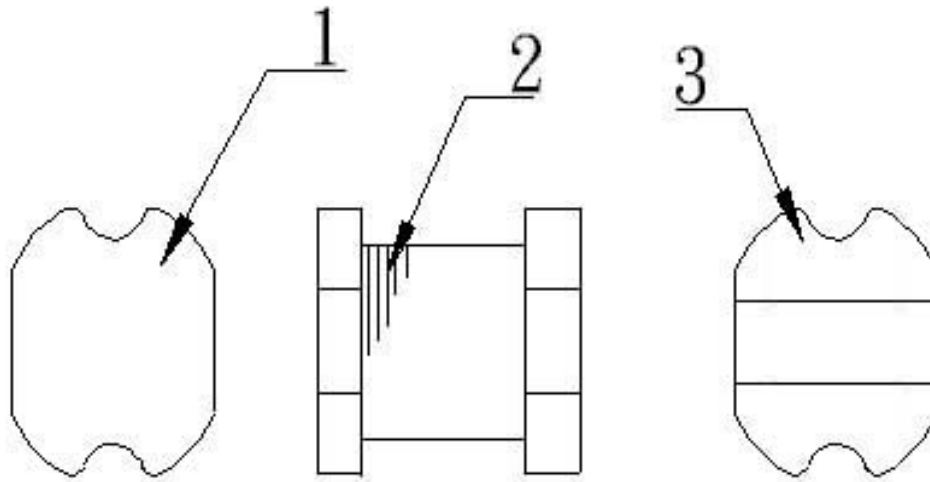
SCD0504T Series Specification

Part No.	Inductance (uH)	Test Freq.	RDC (Ω)Max.	Isat (A)	Tolerance ($\pm\%$)	Marking
SCD0504T-331□-N	330	1 kHz,1 V	2	0.28	10,20	331
SCD0504T-391□-N	390	1 kHz,1 V	2.6	0.26	10,20	391
SCD0504T-471□-N	470	1 kHz,1 V	3	0.12	10,20	471
SCD0504T-561□-N	560	1 kHz,1 V	4.19	0.1	10,20	561
SCD0504T-681□-N	680	1 kHz,1 V	4.44	0.08	10,20	681
SCD0504T-821□-N	820	1 kHz,1 V	5.12	0.05	10,20	821
SCD0504T-102□-N	1000	1 kHz,1 V	10	0.03	10,20	102

SCD0504T Series Specification

8 SCD0504T 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



SCD0504T Series Specification

9 Reliability Of Ferrite Wire Wound Power Inductor

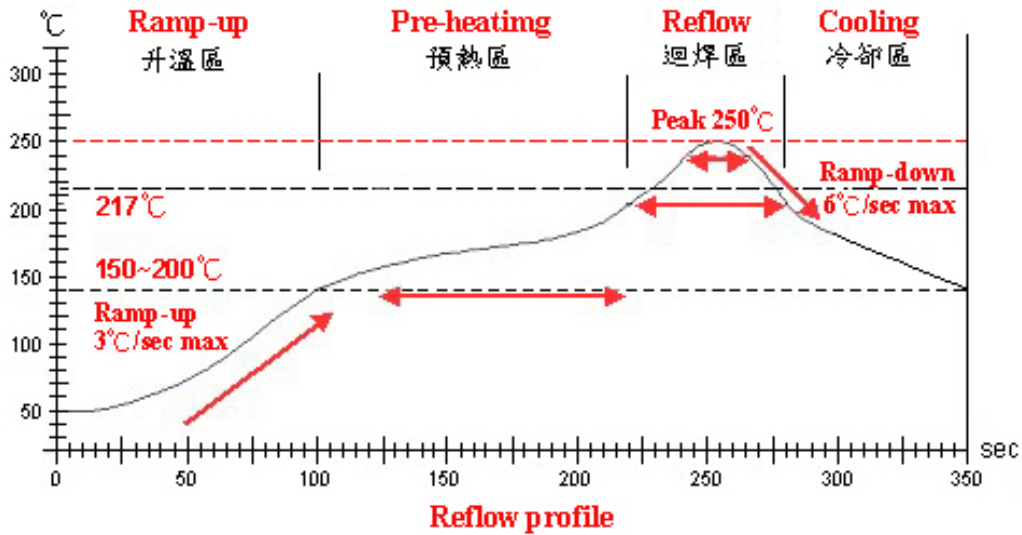
1-1.Mechanical Performance

No	Item	Specification	Test Method
1-1-1	Vibration	Appearance: No damage Inductance: within $\pm 10\%$ of initial value	SCD0504T-SERIES 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\pm3</td> <td>30</td> </tr> <tr> <td>2</td> <td>25\pm2</td> <td>3</td> </tr> <tr> <td>3</td> <td>105\pm3</td> <td>30</td> </tr> <tr> <td>4</td> <td>25\pm2</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																

SCD0504T Series Specification



Lead-Free(LF) 標準溫度分析範圍

Refer to J-STD-020C

管制項目 Item.	升溫區 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	250±5°C	Peak Temp. ~ 150°C
標準時間 Time spec.	—	60 ~ 180 sec	60 ~ 150 sec	20 ~ 40 sec	—
實際時間 Time result	—	60 ~ 95 sec	75 ~ 95 sec	20 ~ 35 sec	—

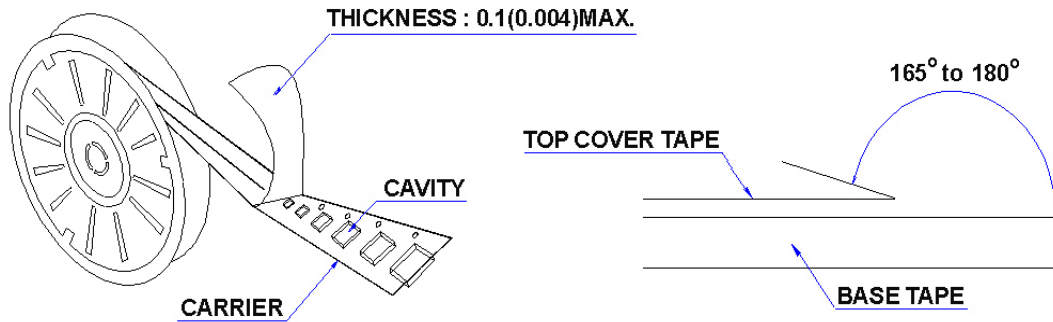
SCD0504T Series Specification

11 PACKAGING

11.1 Packaging -Cover tape

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

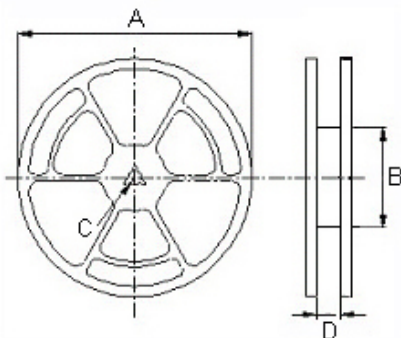
SCD0504T-SERIES



11.2 Packaging Quantity

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

11.3 Reel Dimensions



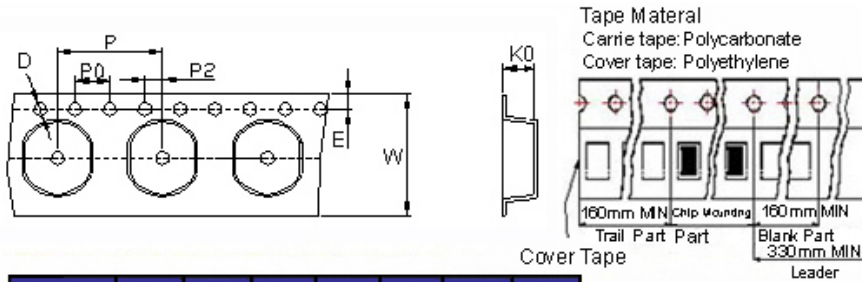
Reel Dimension : m/m

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

SCD0504T Series Specification

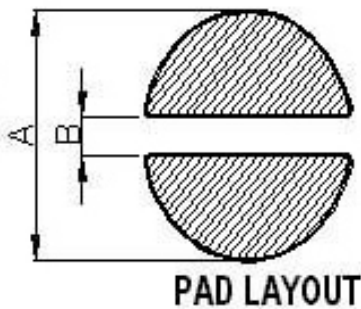
11 PACKAGING

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)