



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

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

## SPECIFICATION FOR APPROVAL

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

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

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

**QUANTITY :** 0 Pcs. **DATE :** 2013/04/10

**ITEM :** SQC322520T-SERIES

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

<p><b>奇力新電子股份有限公司</b>            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><b>台北營業處</b>  <b>Taipei Office</b>            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><b>東莞奇力新電子有限公司</b>            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><b>奇力新電子(蘇州)有限公司</b>            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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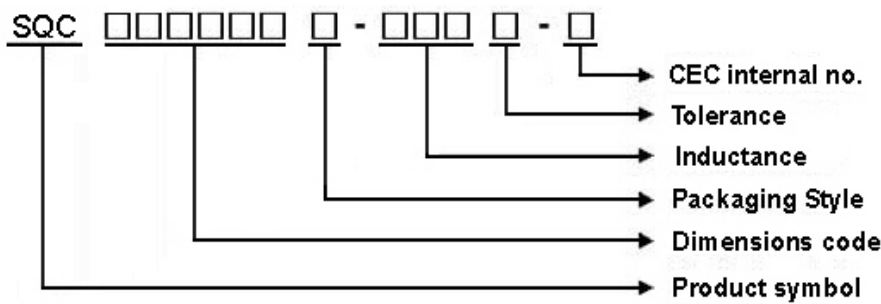
  

<b>DRAWN BY</b> <b>陳瑞揚 ryan.chen</b>	<b>CHECKED BY</b> <b>張麗玲 ll.chang</b>	<b>APPROVED BY</b> <b>陳瑞揚 ryan.chen</b>
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# SQC322520T Series Specification

**1** Scope: This specification applies to CHIP COIL

**2** Part Numbering: Product Identification

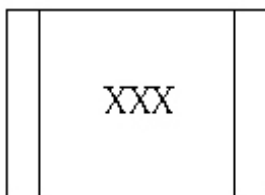


**3** Rating:

Operating Temperature:  $-40^{\circ}\text{C} \sim 125^{\circ}\text{C}$  (Including self - temperature rise)

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

**4** Marking:



**Ex : SQC322520T-4R7M-N**

**Marking : 4R7**

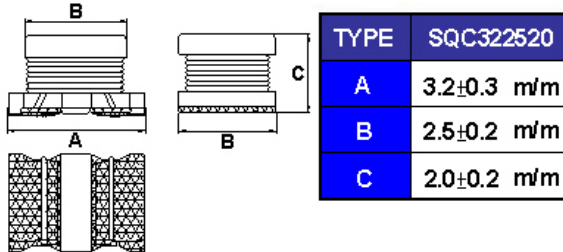
**Marking color : Black**

**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

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## 6 Configuration and Dimensions:



## 7 ELECTRICAL CHARACTERISTICS :

Part No.	Inductance (uH)	Test Freq.	SRF (MHz)Min.	RDC (Ω)	Rated Current (A)	Tolerance	Marking
SQC322520T-R15□-N	0.15	0.1V 1MHz	400	0.028±30%	1.45	M	R15
SQC322520T-R47□-N	0.47	0.1V 1MHz	150	0.042±30%	1.1	M	R47
SQC322520T-1R0□-N	1	0.1V 1MHz	96	0.09±30%	1	M	1R0
SQC322520T-2R2□-N	2.2	0.1V 1MHz	64	0.13±30%	0.6	M	2R2
SQC322520T-3R3□-N	3.3	0.1V 1MHz	60	0.15±30%	0.6	K,M	3R3
SQC322520T-3R9□-N	3.9	0.1V 1MHz	50	0.16±30%	0.5	M	3R9
SQC322520T-4R7□-N	4.7	0.1V 1MHz	43	0.20±30%	0.45	M	4R7
SQC322520T-6R8□-N	6.8	0.1V 1MHz	30	0.26±30%	0.4	M	6R8
SQC322520T-100□-N	10	0.1V 1MHz	26	0.44±30%	0.3	K,M	100
SQC322520T-150□-N	15	0.1V 1MHz	22	0.55±30%	0.35	K,M	150
SQC322520T-220□-N	22	0.1V 1MHz	19	0.71±30%	0.25	K,M	220
SQC322520T-270□-N	27	0.1V 1MHz	15	0.90±30%	0.23	K,M	270
SQC322520T-330□-N	33	0.1V 1MHz	15	1.1±30%	0.2	K,M	330
SQC322520T-470□-N	47	0.1V 1MHz	15	1.30±30%	0.17	K,M	470
SQC322520T-560□-N	56	0.1V 1MHz	12	2.30±30%	0.15	K,M	560
SQC322520T-101□-N	100	0.1V 1MHz	10	3.50±30%	0.1	K,M	101
SQC322520T-151□-N	150	0.1V 1MHz	7	6.0±30%	0.08	J,K,M	151
SQC322520T-221□-N	220	0.1V 1MHz	6.8	8.40±30%	0.07	J,K,M	221
SQC322520T-271□-N	270	0.1V 1MHz	6	10±30%	0.065	K,M	271
SQC322520T-331□-N	330	0.1V 1MHz	5.6	10±30%	0.06	J,K,M	331
SQC322520T-391□-N	390	0.1V 1MHz	5	17±30%	0.06	K,M	391
SQC322520T-471□-N	470	0.1V 1kHz	5	19±30%	0.06	K,M	471
SQC322520T-561□-N	560	0.1V 1kHz	5	22±30%	0.06	K,M	561

**NOTE:** □-tolerance J=±5% / K=±10% / M=±20%

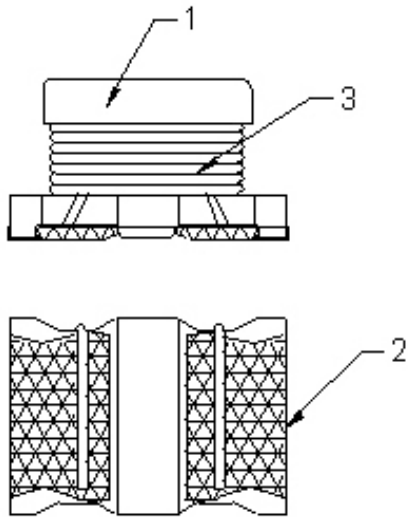
1. Operating temperature range - 4 0 °C ~ 1 2 5 °C (Including self - temperature rise)
2. Rated Current: Self temperature rise shall be limited to 35 °C Max. Inductance drop 10% typ.

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

# SQC322520T Series Specification

## 8 SQC322520T Series

### 8.1 Construction:



### 8.2 Material List:

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

# SQC322520T Series Specification

## 9 Reliability Of Ferrite Wire Wound Chip Coil

### 1-1.Mechanical Performance

Item	Specification	Test Method
1-1-1	Shear Test Chip coil shall not be damaged after tested as test method	Substrate: Glass-epoxy substrate  Solder:Sn/Ag3.0/Cu0.5 Applied Direction:  Force : 10N Hold Duration:5s±1s  
1-1-2	Bending Test	Substrate:Glass-epoxy substrate(100mm*40mm*1.6mm) speed of Applying Force:1mm/s Deflection:2mm Hold Duration:30s  
1-1-3	Vibration	Oscillation Frequency:10Hz to 55 Hz to 10 hZ for 1 min Total Amplitude:1.5mm Testing Time:A period of 2 hours in each of 3 mutually perpendicular directions(Total 6 hours)
1-1-4	Solderability The wetting area of the electrode shall be at least 95% covered with new solder coating	Solder:Sn/Ag3.0/Cu0.5 per-Heating:150°C±10°C/1min to 2min solder Temperature:245°C±5°C Immersion Time:4s±1s
1-1-5	Resistance to Soldering Heat Appearance:No damage	Solder:Sn/Ag3.0/Cu0.5 per-Heating:150°C±10°C/1min to 2min solder Temperature:260°C±5°C Immersion Time:10s±1s
1-1-6	Resistance to solvent There must be no change in appearance or obliteration of marking.	Inductors must withstand 6 minutes of alcohol or water.

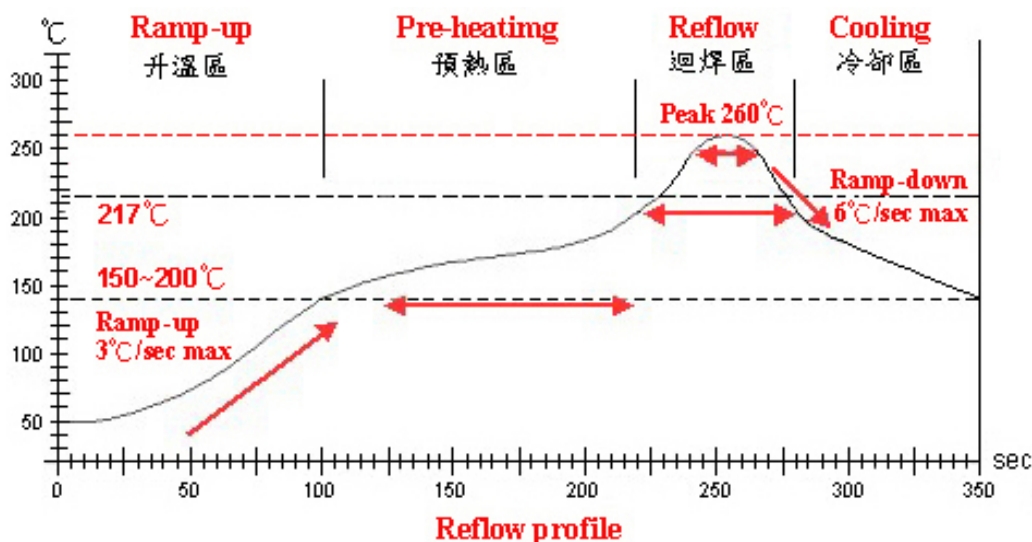
### 1-2.Environmental Performance

No	Item	Specification	Test Method															
1-2-1	Heat Resistance	Appearance: No damage Inductance Change:within±10%	Temperature:85°C±3°C Time:1000h Then measured after exposure in the room Condition for 24h±2h															
1-2-2	Cold Resistance		Temperature: -40°C±3°C Time:1000h Then measured after exposure in the room Condition for 24h±2h															
1-2-3	Humidity		Temperature: 40°C ±2°C Humidity:90%(RH) to 95%(RH) Time:1000h Then measures after exposure in the room Condition for 24h±2h															
1-2-4	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±3</td> <td>30</td> </tr> <tr> <td>2</td> <td>25±2</td> <td>3</td> </tr> <tr> <td>3</td> <td>125±3</td> <td>30</td> </tr> <tr> <td>4</td> <td>25±2</td> <td>3</td> </tr> </tbody> </table> Total: 100cycles Measured after exposure in the room condition for 24hrs	Step	Temperature (°C)	Time (min)	1	-40±3	30	2	25±2	3	3	125±3	30	4	25±2	3
Step	Temperature (°C)	Time (min)																
1	-40±3	30																
2	25±2	3																
3	125±3	30																
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# SQC322520T Series Specification



Lead-Free(LF) 標準溫度分析範圍

Refer to J-STD-020C

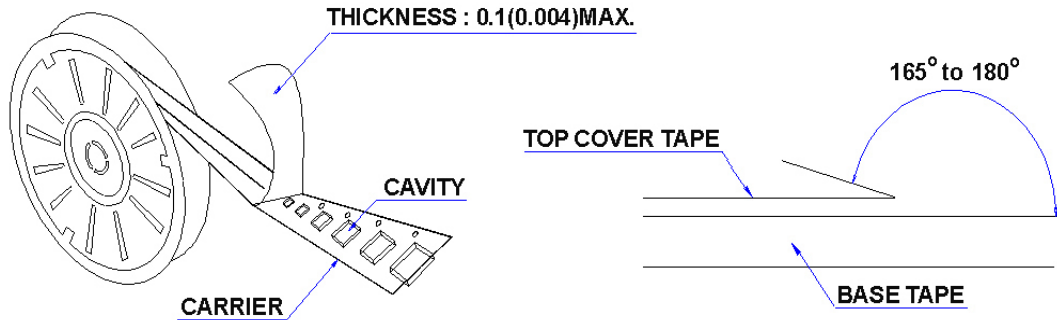
管制項目 Item.	升温區 Ramp-up	預熱區 Pre-heating	迴焊區 Reflow	Peak Temp	冷卻區 Cooling
溫度範圍 Temp.scope	R.T. ~ 150°C	150°C ~ 200°C	217°C	260±5°C	Peak Temp. ~ 150°C
標準時間 Time spec.	—	60 ~ 180 sec	60 ~ 150sec	20 ~ 40 sec	—
實際時間 Time result	—	75 ~ 100 sec	90 ~ 120 sec	5 ~ 10 sec	—

# SQC322520T Series Specification

## 11 PACKAGING

### 11.1 Packaging -Cover tape

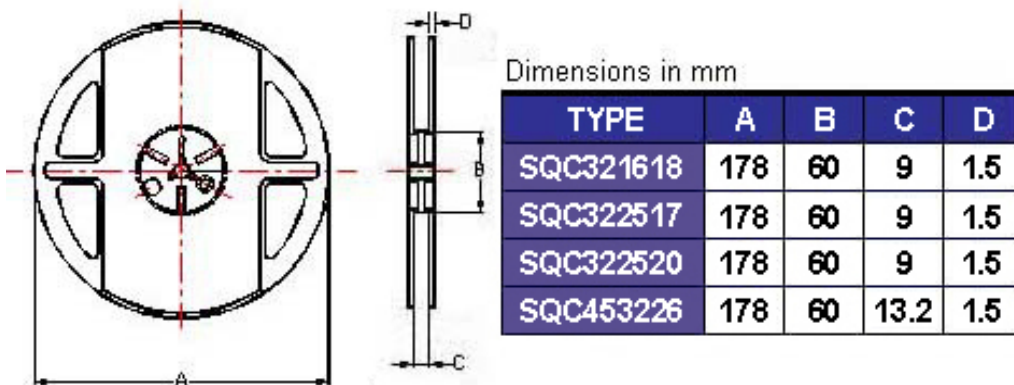
The force for tearing off cover tape is 10 to 100 grams in the arrow direction.



### 11.2 Packaging Quantity

TYPE	BULK	PCS/REEL
SQC321618	✓	2000
SQC322517	✓	2000
SQC322520	✓	2000
SQC453226	✓	500

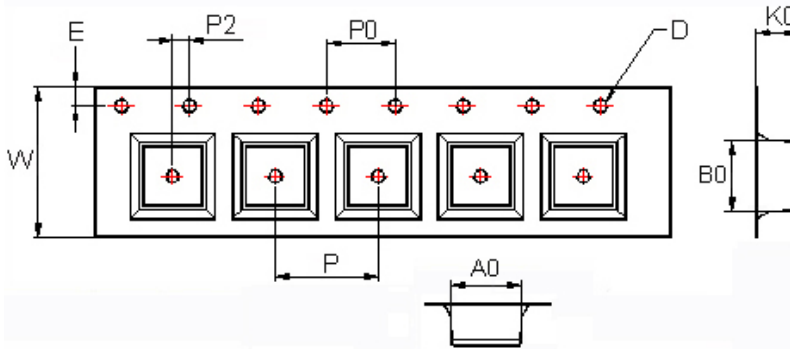
### 11.3 Reel Dimensions



# SQC322520T Series Specification

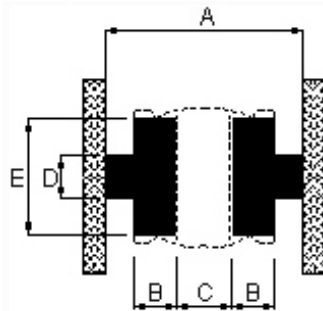
## 11 PACKAGING

### 11.4 Tape Dimensions in mm



TYPE	A0	B0	K0	D	E	W	P	P0	P2
SQC322520	2.90	3.60	2.25	1.5	1.75	8	4	4	2

## 12 Recommended Pattern



Dimensions in mm

TYPE	A(in/mm)	B(in/mm)	C(in/mm)	D(in/mm)	E(in/mm)
SQC322520	0.217/5.5	0.039/1.0	0.051/1.3	0.039/1.0	0.079/2.0
SQC453228	0.295/7.5	0.059/1.5	0.059/1.5	0.059/1.5	0.118/3.0

## 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)





## SQC322520T Series Specification

### 13 Note:

#### 5.Storage and Handing Requirements

##### (1)Storage period

Use the products within 12 months after delivered

Solderability should be checked if this period is exceeded

##### (2)Storage conditions

\*Products should be stored in the warehouse on the following conditions

Temperature:  $-10^{\circ}\text{C} \sim 40^{\circ}\text{C}$

Humidity : 30% ~ 70% relative humidity no rapid change on temperature and humidity

The electrode of the products is coated with solder. Don't keep products in corrosive gases such as sulfur, chlorine gas or acid, or it may cause oxidization of electrode, resulting in poor solderability.

\*Products should not be stored on bulk packaging condition to prevent the chipping of the core and the breaking of winding wire caused by the collision between the products.

\*Products should be stored on the palette for the prevention of the influence from humidity, dust and so on.

\*Products should be stored in the warehouse without heat shock, vibration, direct sunlight and so on.

##### (3)Handing Condition

Care should be taken when transporting or handing product to avoid excessive vibration or mechanical shock.