



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

Lead-Free & RoHs Compliance!!

SPECIFICATION FOR APPROVAL

CUSTOMER : _____

CUSTOMER P/N : _____

OUR DWG No : _____

QUANTITY : 0 **Pcs.** **DATE :** 2013/03/18

ITEM : SDS1306T-SERIES

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

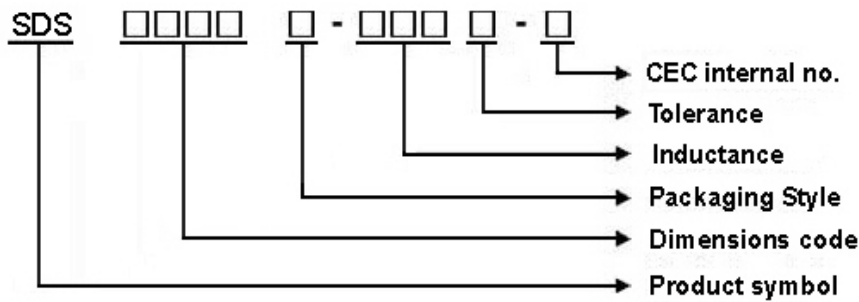
<p>奇力新電子股份有限公司 CHILISIN ELECTRONICS CORP. NO.29,LANE 301,TEHHSIN ROAD,HUKOU, HSINCHU,TAIWAN,303, REPUBLIC OF CHINA TEL : (03) 599-2646 FAX : (03) 599-9176 E-mail : Sales@chilisin.com.tw http : //www.chilisin.com.tw</p> <p>台北營業處 Taipei Office 1F., No.2, Aly. 1, Ln. 235, Baoqiao Rd., Xindian Dist., New 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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SDS1306T Series Specification

1 Scope: This specification applies to SMD POWER CHOKE

2 Part Numbering: Product Identification

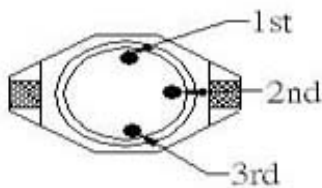


3 Rating:

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

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

4 Marking:



Ex: SDS□□□□T-100M-N

Marking: 1st → Brown

2nd → Black

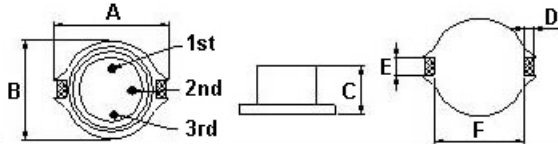
3rd → Orange

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

SDS1306T Series Specification

6 Configuration and Dimensions:



Dimensions in mm

TYPE	A	B	C	D	E	F
SDS1306	18.54 ⁺⁰	15.24 ⁺⁰	7.62 ⁺⁰	2.54	2.54	12.7

7 ELECTRICAL CHARACTERISTICS :

Part No.	Inductance (uH)	Test Freq. (kHz)	RDC (Ω)Max.	I _{rms} (A)	I _{sat} (A)	SRF (MHz)	Q Freq.		Color Code		
							Typ.	Min.	(kHz)	1st	2nd
SDS1306T-100□-N	10	100 kHz,0.1 V	0.04	3.9	5.5	24	40 / 100	BRN	BLK	ORN	
SDS1306T-150□-N	15	100 kHz,0.1 V	0.048	3.4	4.5	16	40 / 100	BRN	GRN	ORN	
SDS1306T-220□-N	22	100 kHz,0.1 V	0.059	3.1	3.5	14	30 / 100	RED	RED	ORN	
SDS1306T-330□-N	33	100 kHz,0.1 V	0.075	2.8	3.3	11	40 / 100	ORN	ORN	ORN	
SDS1306T-470□-N	47	100 kHz,0.1 V	0.097	2.4	2.7	8	40 / 100	YEL	VIO	ORN	
SDS1306T-680□-N	68	100 kHz,0.1 V	0.14	2	2.2	7	40 / 100	BLU	GRY	ORN	
SDS1306T-101□-N	100	100 kHz,0.1 V	0.21	1.7	1.7	5.5	40 / 100	BRN	BLK	YEL	
SDS1306T-151□-N	150	100 kHz,0.1 V	0.3	1.3	1.3	4.8	50 / 100	BRN	GRN	YEL	
SDS1306T-221□-N	220	100 kHz,0.1 V	0.47	1.1	1.1	4	50 / 100	RED	RED	YEL	
SDS1306T-331□-N	330	100 kHz,0.1 V	0.78	0.86	0.86	3	50 / 100	ORN	ORN	YEL	
SDS1306T-471□-N	470	100 kHz,0.1 V	1.08	0.73	0.73	2.4	50 / 100	YEL	VIO	YEL	
SDS1306T-681□-N	680	100 kHz,0.1 V	1.4	0.64	0.64	2	60 / 100	BLU	GRY	YEL	
SDS1306T-102□-N	1000	100 kHz,0.1 V	2.01	0.53	0.53	1	60 / 100	BRN	BLK	GRN	

NOTE: □-tolerance M=±20%

1. Operating temperature range - 4 0°C ~ 125°C (Including self - temperature rise)

2. inductance drop 10% typ. at I_{sat}

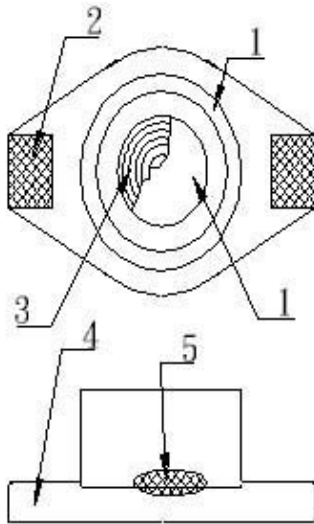
3. 40°C rise typ. at I_{rms}.

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

SDS1306T Series Specification

8 SDS1306T Series

8.1 Construction:



8.2 Material List:

ITEM	PART	DESCRIPTION	SUPPLIES
1	CORE	FERRITE	CHILISIN
2	TERMINAL	C5191R-H,Sn	N/A
3	WIRE	COPPER WIRE	
4	BASE	PM-9630	SUMITOMO
5	EPOXY	471-5LL(HV)A,B TD-6642	JASDI HUI-LI



SDS1306T 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 Q change: within $\pm 30\%$ 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	Solderability	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 Q change: within $\pm 30\%$ 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 Measured after exposure in the room condition for 24hrs															
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>125\pm3</td> <td>30</td> </tr> <tr> <td>4</td> <td>25\pm2</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 \pm 3	30	2	25 \pm 2	3	3	125 \pm 3	30	4	25 \pm 2	3
Step	Temperature (°C)	Time (min)																
1	-40 \pm 3	30																
2	25 \pm 2	3																
3	125 \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	High Temperature Resistance		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	Low Temperature Resistance		Temperature: -40 \pm 3°C Relative Humidity: 0% Time: 1000hrs Measured after exposure in the room condition for 24hrs															

SDS1306T Series Specification

1. Inductance measurement:

$$\text{nH} = 10^{-9} \text{ H}$$

$$\text{uH} = 10^{-6} \text{ H}$$

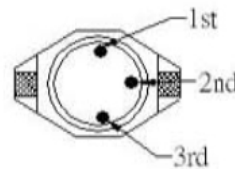
$$\text{mH} = 10^{-3} \text{ H}$$

2. Chilisin part numbering:

These parts are marked with 3 color dots. The table as follows shows the significance of each color.

Dot 1 and 2 indicate figures showing as below

0=Black	5=Green
1=Brown	6=Blue
2=Red	7=Violet
3=Orange	8=Gray
4=Yellow	9=White



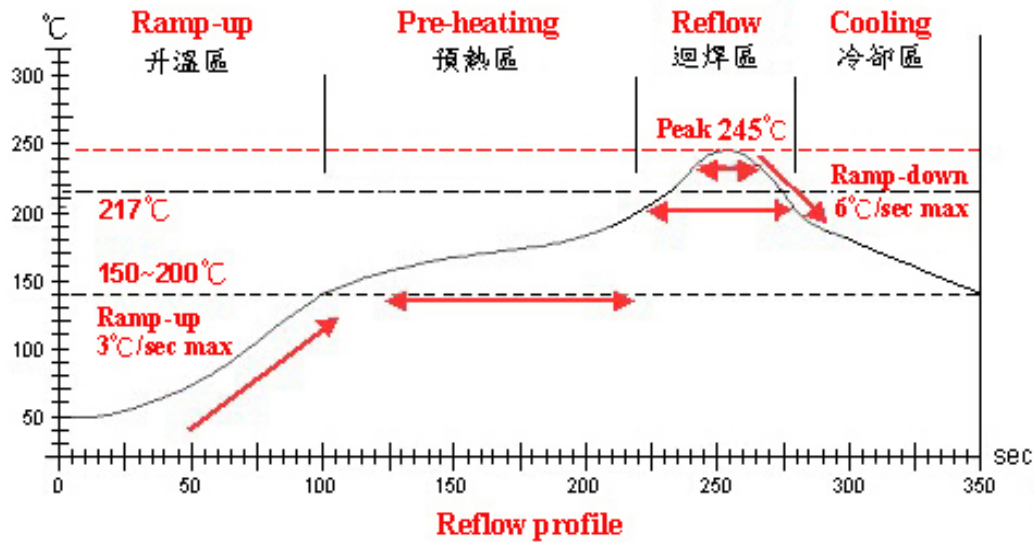
Dot 3 indicates the number of zeroes to be added, and the unit is nH for your reference:

101 means $10 \times 10 = 100 \text{ nH} = 0.1 \text{ uH}$, the third dot is Brown color.

102 means $10 \times 100 = 1000 \text{ nH} = 1 \text{ uH}$, the third dot is Red color.

103 means $10 \times 1000 = 10000 \text{ nH} = 10 \text{ uH}$, the third dot is Orange color.

SDS1306T Series Specification



Lead-Free(LF) 標準溫度分析範圍

Refer to J-STD-020C

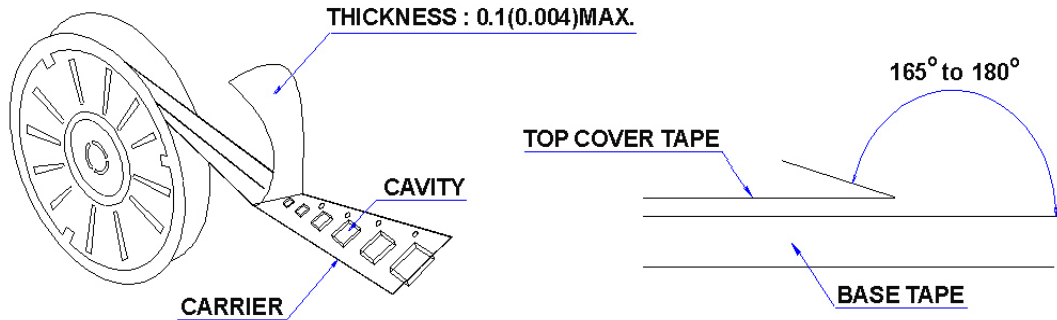
管制項目 Item.	升温區 Ramp-up	预热區 Pre-heating	迴焊區 Reflow	Peak Temp	冷却區 Cooling
溫度範圍 Temp. scope	R.T. ~ 150°C	150°C ~ 200°C	217°C	245±5°C	Peak Temp. ~ 150°C
標準時間 Time spec.	—	60 ~ 180 sec	60 ~ 150sec	20 ~ 40 sec	—
實際時間 Time result	—	70 ~ 95sec	70 ~ 95sec	20 ~ 35 sec	—

SDS1306T Series Specification

11 PACKAGING

11.1 Packaging -Cover tape

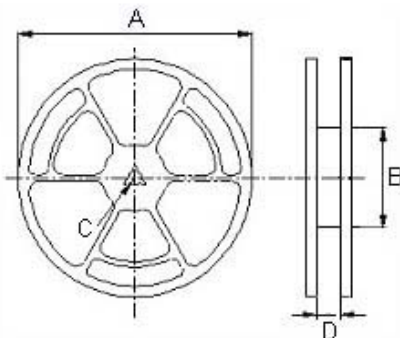
The force for tearing off cover tape is 10 to 130 grams in the arrow direction.



11.2 Packaging Quantity

TYPE	BULK	PCS/REEL
SDS0402	✓	2500
SDS0804	✓	1000
SDS1306	✓	250

11.3 Reel Dimensions



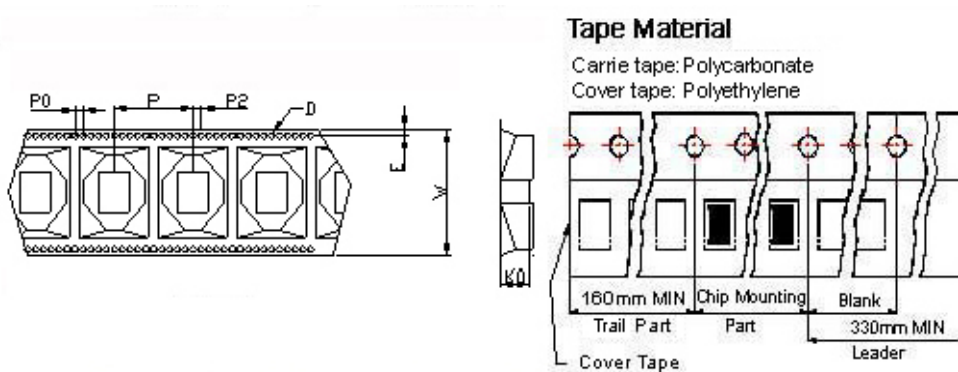
Reel Dimensions : m/m

TYPE	A	B	C	D
SDS0402	330	100	13	13.4
SDS0804	330	100	13	24.4
SDS1306	330	100	13	33.4

SDS1306T Series Specification

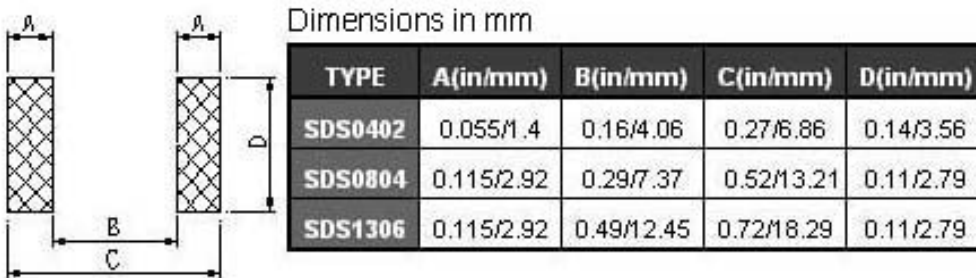
11 PACKAGING

11.4 Tape Dimensions in mm



TYPE	K0	D	E	W	P	P0	P2
SDS1306	7.5	1.55	1.75	32	20	4	2

12 Recommended Pattern



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)