

CUSTOMER _____

CUSTOMER' S P/N _____

DESCRIPTION SMD Power Inductor

SGTE PART NO. SP54-680M01

SAMPLE NO. S19090201 REVISION NO. A1 DATE 2019/9/2

SPECIFICATION FOR APPROVAL

FULLY APPROVED	REVISE APPROVED

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SPECIFICATION

**RoHS
COMPLIANT**

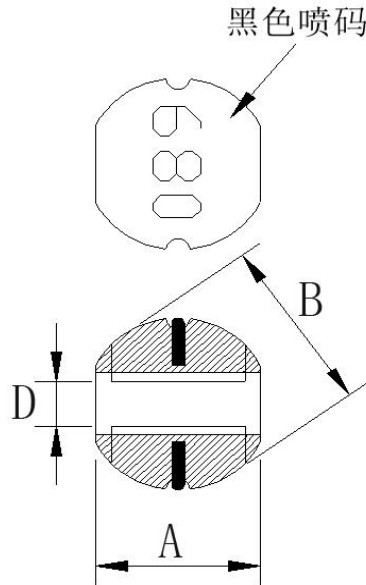
Customers Part Number		Item Name		Date	
		SMD Power Inductor		2019/9/2	
Gan Tong Part NO.		Sample NO.		Revision No.	A0
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Version	Change history	Before the change	After the change	Release date	
A0	NEW	—	—	2019/9/2	
A1		尺寸图纸变更		2023/10/16	
DRAWN BY		CHECKED BY		APPROVED BY	
贺芙蓉		刘俊良		罗荣	

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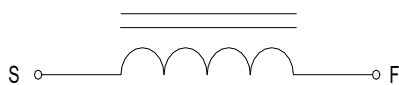
MECHANICAL & DIMENSIONS



(UNIT: mm)	
A	5.2 ± 0.3
B	5.8 ± 0.3
C	4.5 ± 0.3
D	2.0 REF

SCHEMATIC

CIRCUIT



ELECTRICAL REQUIREMENTS:

PARAMETER	SPECIFICATION	CONDITION	TEST INSTRUMENTS
L	$68 \pm 20\%$ uH	100KHz/0.25V	■ LCR Agilent4284A / Chroma 11300 ■ CH16502 IMPEDANCE METER ■ A4284A+A42841A LCR METER
DCR	0.44max Ω	@ 25°C	
IDC	1.00 A mps	Drop 25%	

·I rms: Current that causes a 40°C temperature rise from 25°C ambient.

·I sat: DC current at which the inductance drops 25% from it' s value without current.

·All test Data is referenced to 25°C ambient.

·Operating Temperature Range: -25°C to +125°C.

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Electrical Characteristic :

PARAMETER	L	DCR	IDC		
UNIT	uH	Ω	A mps		
SPECIFICATION	68 \pm 20%	0.44max	1.00		
CONDITION	100KHz/0.25V	@ 25°C	Drop 25%		
1	62.5	0.38	47.2		
2	62.9	0.38	46.6		
3	62.3	0.38	47.0		
4	62.4	0.38	47.3		
5	62.1	0.38	47.8		
6					
7					
8					
9					
10					
MEAN	62.44	0.38	47.18		
R	0.80	0.00	1.20		

External Dimensions:

NO	A	B	C				
	5.2 \pm 0.3	5.8 \pm 0.3	4.5 \pm 0.3				
1	5.12	5.68	4.49				
2	5.14	5.73	4.50				
3	5.15	5.70	4.47				
4	5.13	5.71	4.48				
5	5.14	5.68	4.51				
6							
7							
8							
9							
10							
MEAN	5.14	5.70	4.49				
R	0.03	0.05	0.04				

Inductance measured at 100KHz/0.25V.

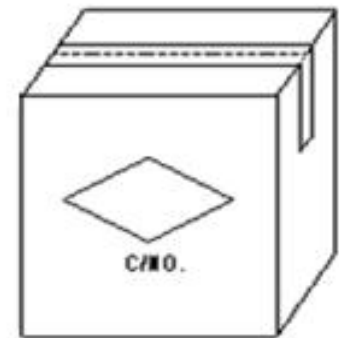
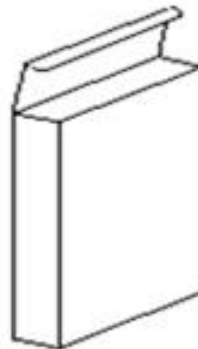
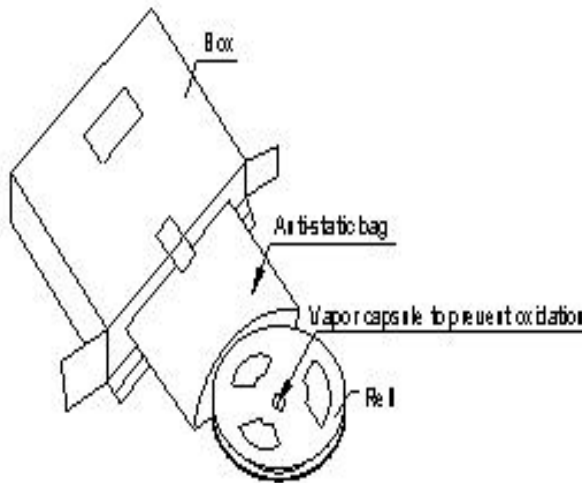
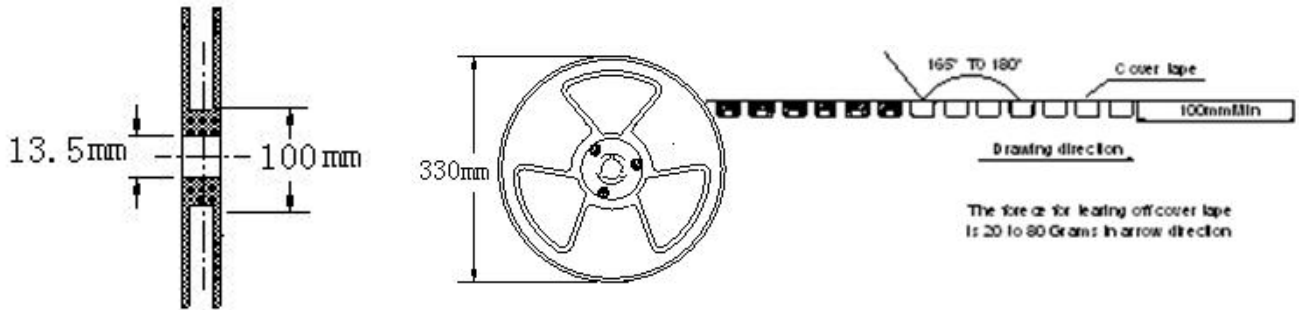
Electrical specifications at 25 \pm 5°C. Humidity 60 \pm 10%

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PACKAGING



Packaging Quantity

					Unit: mm
Inner Carton		Outer Carton			
Reel size	Quantity/Reel	Inside the box size	Quantity	Carton size	Quantity
ϕ 330	1500pcs	340*338*67	4500pcs	365*345*290	22500pcs

Storage

1. Temperature and humidity conditions: Less than 40°C and 70% RH.
2. Recommended products should be used within 6 months from the time of delivery.
3. The packaging material should be kept where no chlorine or sulfur exists in the air.

Transportation

1. Products should be handled with care to avoid damage or contamination from perspiration and skin oils.
2. The use of tweezers or vacuum pick up is strongly recommended for individual components.
3. Bulk handling should ensure that abrasion and mechanical shock are minimized.

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SOLDRING CONDITIONS

Figure 1. Re-flow Soldering

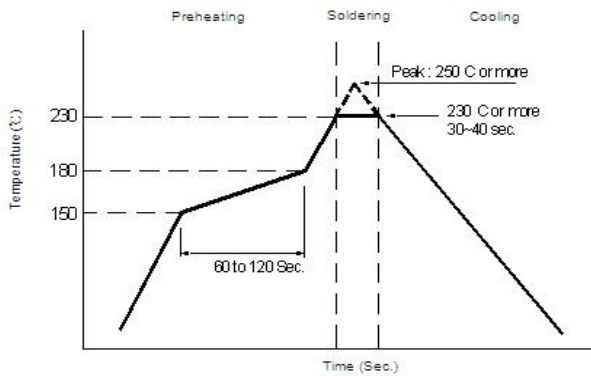
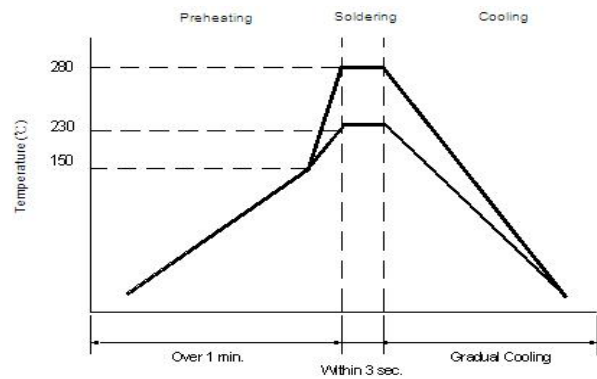


Figure 2. Hand Soldering



Reliability and Testing Conditions/Surface Mount Type Power Inductors

Item	Specification	Conditions															
Solderability	More than 90% of the terminal electrode should be covered with solder.																
Solder Heat Resistance	Inductance within ±20% of initial value and appearance shall not break.																
Heat resistance	Inductance within ±20% of initial value. No disconnection or short circuit. Appearance shall not break.	After 500±12 hours in 145±5°C and 2 hour drying under normal condition.															
Cold resistance	Inductance within ±20% of initial value. No disconnection or short circuit. Appearance shall not break.	After 500±12 hours in -40±2°C and 2 hour drying under normal condition.															
Thermal shock	Inductance within ±20% of initial value. No disconnection or short circuit. Appearance shall not break.	After 10 cycles of following condition. <table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <thead> <tr> <th>Step</th> <th>Temperature (°C)</th> <th>Times (min.)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>-40±2</td> <td>30</td> </tr> <tr> <td>2</td> <td>Room Temperature</td> <td>Within 3</td> </tr> <tr> <td>3</td> <td>145±5</td> <td>30</td> </tr> <tr> <td>4</td> <td>Room Temperature</td> <td>Within 3</td> </tr> </tbody> </table>	Step	Temperature (°C)	Times (min.)	1	-40±2	30	2	Room Temperature	Within 3	3	145±5	30	4	Room Temperature	Within 3
Step	Temperature (°C)	Times (min.)															
1	-40±2	30															
2	Room Temperature	Within 3															
3	145±5	30															
4	Room Temperature	Within 3															
Humidity Resistance	Inductance within ±20% of initial value. No disconnection or short circuit. Appearance shall not break.	After 500±12 hours in 40±2°C and 90 to 95% humidity, and 2 hour drying under normal condition.															
* Vibration Test	Inductance within ±20% of initial value and appearance shall not break.	After vibration for 1hour, In each of three orientations at sweep vibration (10~55~10Hz) with 1.52mm P-P Amplitudes.															