

CUSTOMER \_\_\_\_\_

CUSTOMER'S P/N \_\_\_\_\_

DESCRIPTION \_\_\_\_\_ POWER INDUCTOR \_\_\_\_\_

SGTE PART NO. \_\_\_\_\_ GPDC0808-220M \_\_\_\_\_

SAMPLE NO.: S14041802 REVISION NO. A DATE 2014-4-18

## SPECIFICATION FOR APPROVAL

FULLY APPROVED	REVISE APPROVED

**SGTE 感通科技**

深圳感通科技有限公司 (大陸工廠)

GANTONG TECHNOLOGY (SHENZHEN) CO., LTD.

深圳市平湖街道平湖村萬福路 26 號

No.26 Wan fu Road, Ping hu Village. Ping hu town, Shenzhen City.

Tel: 0755-28457600

Fax: 0755-28452952

感通科技有限公司 (台灣辦事處)

臺北縣汐止市新台 5 路一段 77 號 10 樓之 7

10F~7, NO.77, Sec.1, Hsin Tai 5 Road, Shi-chi City, Taipei.

Tel: 886-2-8698-2341

Fax: 886-2-8698-2342

納美科技股份有限公司 (香港辦事處)

LAPEE TECHNOLOGY LIMITED

香港九龍尖沙嘴加連威老道嘉蘭圍 5-11 號利時商業大廈 17 樓 1713 室

Room 1713 17/F, Rise Commercial Bldg5-11 Granville Cri cuit, Granville Rd, TSim Sha Tsui., Kln

Tel: 852-25301111

Fax: 852-25371111

<http://www.szgte.com>

# SPECIFICATION

RoHS  
COMPLIANT

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APPROVED BY

CHECKED BY

DRAWING BY

*Tianyi*

4/18

*Zhang*

4/18

*Li*

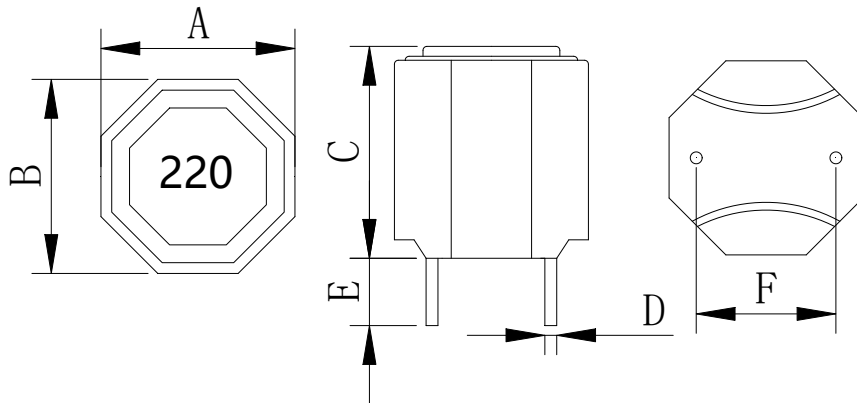
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# SPECIFICATION

**RoHS  
COMPLIANT**

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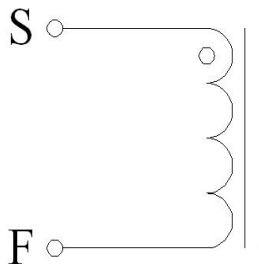
### External Dimensions Unit (mm)



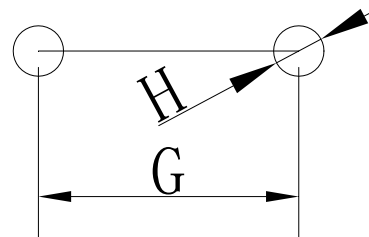
A	8.5± 0.5 (mm)
B	8.5± 0.5 (mm)
C	10.0Max (mm)
D	0.5± 0.1 (mm)
E	3.4± 0.5 (mm)
F	6.0± 0.5 (mm)
G	6.0± 0.5(mm)
H	0.7 (ref)

Coating:Black

### Connection



### Recommended Land Pattern



### Electrical Specification

Measurement Item	Unit Tolerance	Specification	Test Frequency	Test Instrument
L	uH (±20%)	22uH ±20%	100KHz/1V	LCR Meter Agilent/4284A or Chroma /11300
DCR	mΩ	53.6mΩ (Max)		Chroma /16502
I rms	Amps	3 A	100KHz/1V	LCR Meter Agilent/4284A+42841A
I sat	Amps	5A	100KHz/1V	or Chroma /11300+3302+1320+1320S

- I rms: Current that causes a 40°C temperature rise from 25°C ambient.
- I sat: DC current at which the inductance drops 35% from it's value without current.
- All test Data is referenced to 25°C ambient.
- Operating Temperature Range: -25°C to +125°C

# TEST REPORT

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## Electrical Characteristic

Item	L0A	DCR	I rms	I sat
Specification	22 uH	53.6m $\Omega$	3.5Amps	5Amps
Tolerance	$\pm 20\%$	Max	$\Delta T \leq 40^{\circ}\text{C}$	$L \geq 65\%$
1	21.90	41.32	28.5 $^{\circ}\text{C}$	79.1%
2	22.16	41.18		
3	21.54	40.96		
4	21.35	40.62		
5	20.94	41.63		
6	20.73	41.63		
7	22.69	41.04		
8	21.61	41.02		
9	21.61	41.55		
10	21.98	41.00		
$\bar{X}$	21.65	41.20		
$\sigma$	0.54	0.32		

## External Dimensions

Item	A	B	C	D	E	F
Specification	8.5	8.5	10.0	0.5	3.4	6.0
Tolerance	$\pm 0.5$ (mm)	$\pm 0.5$ (mm)	Max (mm)	$\pm 0.1$ (mm)	$\pm 0.5$ (mm)	$\pm 0.5$ (mm)
1	8.57	8.59	8.70	0.49	3.51	6.18
2	8.59	8.57	8.65	0.49	3.49	6.00
3	8.56	8.58	8.59	0.48	3.47	6.03
4	8.60	8.61	8.72	0.50	3.50	6.20
5	8.58	8.57	8.47	0.51	3.57	6.21
6	8.61	8.60	8.70	0.50	3.53	6.09
7	8.57	8.59	8.55	0.50	3.55	6.03
8	8.59	8.57	8.53	0.50	3.45	6.12
9	8.60	8.58	8.57	0.49	3.48	6.04
10	8.58	8.57	8.53	0.49	3.53	6.11
$\bar{X}$	8.59	8.58	8.60	0.50	3.51	6.10
$\sigma$	0.01	0.01	0.08	0.01	0.04	0.07

Inductance measured at 100KHz/1Vrms.

Electrical specifications at 25 $\pm 5^{\circ}\text{C}$ . Humidity 60 $\pm 10\%$

# ELECTRICAL CHARACTERISTICS

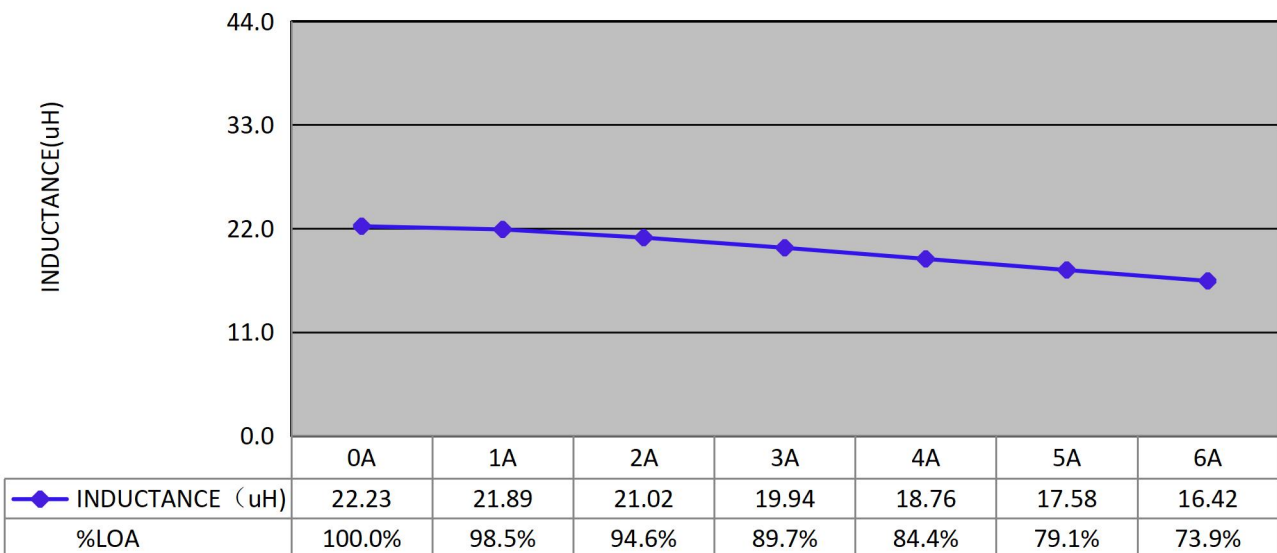
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## Inductance VS DC current

IDC	L	%LOA				
0A	22.23	100.0%				
1A	21.89	98.5%				
2A	21.02	94.6%				
3A	19.94	89.7%				
4A	18.76	84.4%				
5A	17.58	79.1%				
6A	16.42	73.9%				

CONDITION: 100KHZ/1.0Vrms AMBIENT: 20°C, 69.8%



DC BIAS(Amps)

# ELECTRICAL CHARACTERISTICS

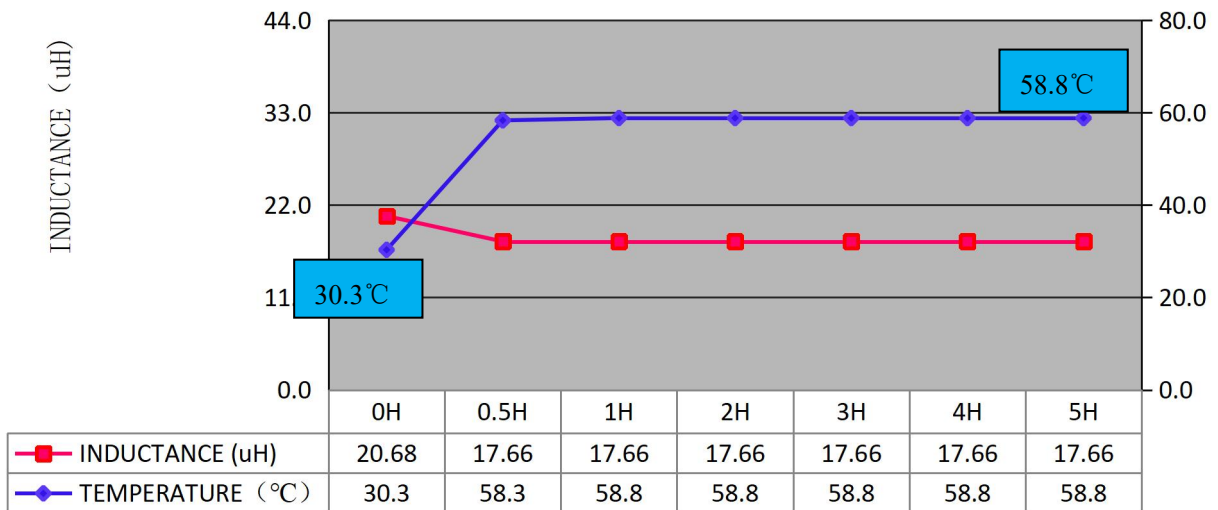
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## DC current VS Temperature

Time	L ( $\mu$ H )	T ( $^{\circ}$ C )	$\Delta$ T( $^{\circ}$ C )			
0H	20.680	30.3				
0.5H	17.660	58.3	28.0			
1H	17.660	58.8	28.5			
2H	17.660	58.8	28.5			
3H	17.660	58.8	28.5			
4H	17.660	58.8	28.5			
5H	17.660	58.8	28.5			

CONDITION: Load 3.5A AMBIENT: 20 $^{\circ}$ C, 69.8%



Inductance VS Temperature

# ELECTRICAL CHARACTERISTICS

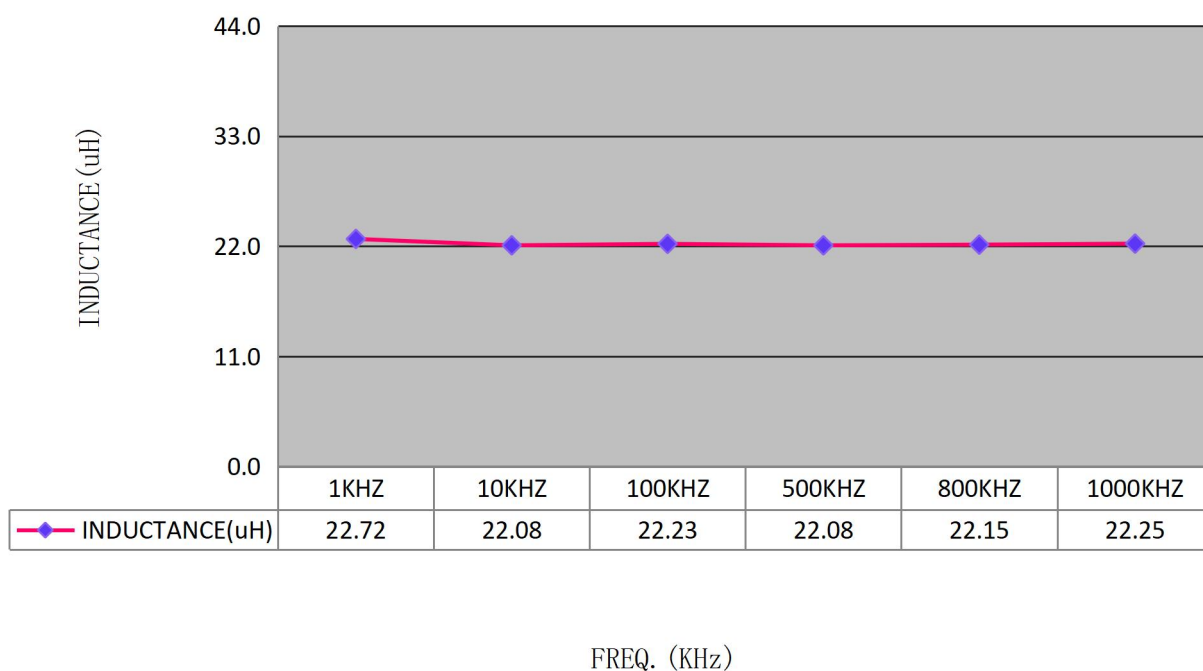
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## Inductance VS Frequency

FREQ.	L ( $\mu$ H )					
1KHZ	22.72					
10KHZ	22.08					
100KHZ	22.23					
500KHZ	22.08					
800KHZ	22.15					
1000KHZ	22.25					

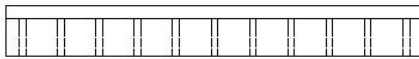
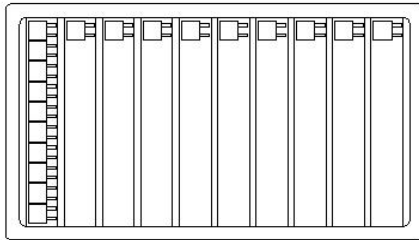
AMBIENT: 20°C, 69.8%



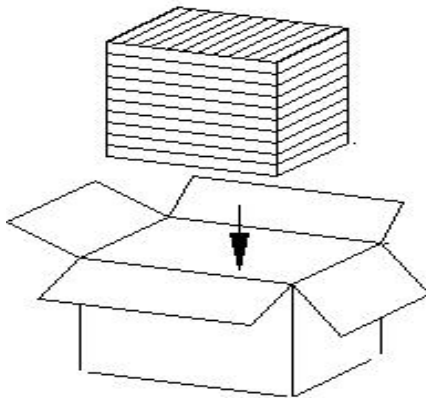
# PACKING FOR SPECIFICATION

**RoHS  
COMPLIANT**

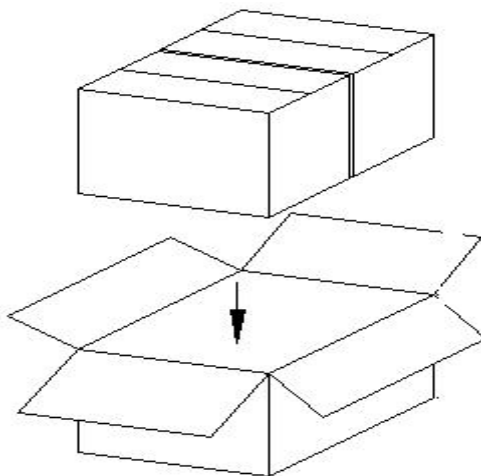
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PET Size : 215\*148\*16(B)mm  
Quantity : 150PCS/PET



Small box Size : 238\*156\*165 mm  
Quantity : 10PET/Small box  
1 Small box/1500PCS



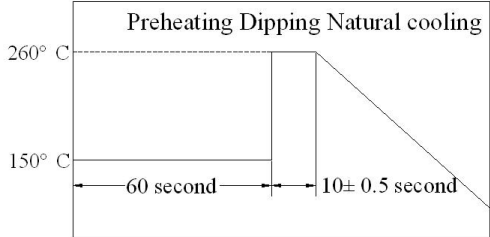
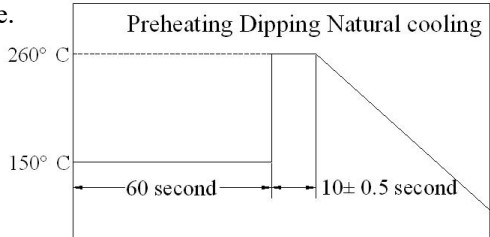
Big box Size : 328\*251\*175 mm  
Quantity : 2 Small box/Big box  
1 Big box/3000PCS

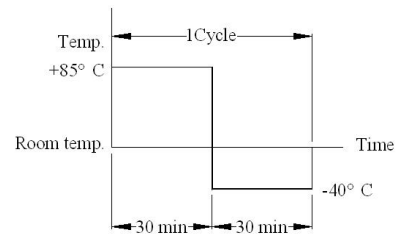


# GENERAL CHARACTERISTICS

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Item	Performance	Test Condition
<b>Mechanical Performance Test</b>		
Solder ability Test	More than 90% of terminal electrode should be covered with solder. After fluxing, component shall be dipped in a melted solder bath at $260 \pm 5^\circ\text{C}$ for 10 seconds	
Solder Heat Resistance	Components should have not evidence of electrical and mechanical damage. Inductance: within $\pm 20\%$ of initial value. Preheat: $150^\circ\text{C}$ 60 seconds Solder: (SnCu0.7) Solder Temperature: $260 \pm 5^\circ\text{C}$ Flux: Rosin. Dip time: $10 \pm 0.5$ seconds	
Low temperature storage test	1. Appearance: No damage. 2. Inductance: within $\pm 20\%$ of initial value. 3. No disconnection or short circuit.	Temperature: $-40^\circ\text{C} \pm 5^\circ\text{C}$ Time: $500 \pm 12$ Hours Recovery: 4to24hrs of recovery under the standard condition after the removal from test chamber.
High temperature storage test		Temperature: $85^\circ\text{C} \pm 5^\circ\text{C}$ Time: $500 \pm 2$ Hours Recovery: 4to24hrs of recovery under the standard condition after the removal from test chamber.
Thermal Shock Test (Temperature cycle)		$-40 \pm 5^\circ\text{C}$ for 30 Minutes. $+85 \pm 5^\circ\text{C}$ for 30 Minutes. Total: 10 Cycles
Humidity load life test		Temperature: $40 \pm 5^\circ\text{C}$ Humidity.: 90-95% Time: $500 \pm 12$ Hours Load: Allowed DC current Recovery: 4to24hrs of recovery under the standard condition after the removal from test chamber.



# THE CONDITION OF REFLOW

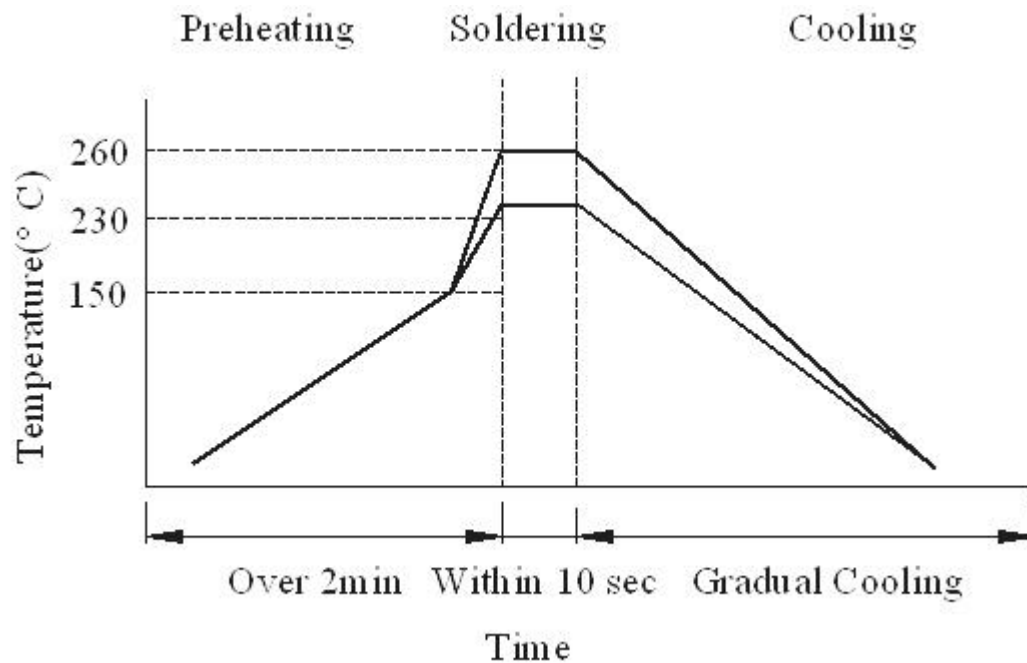
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## Wave Soldering



## Hand soldering

