

CUSTOMER \_\_\_\_\_

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

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

SGTE PART NO. \_\_\_\_\_ GPDA1010-R36M \_\_\_\_\_

SAMPLE NO. S14101304 REVISION NO. A2 DATE 2014-12-10

## 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, N0.77, 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

**Jesse**

10/12

**Tony**

10/12

**Lily**

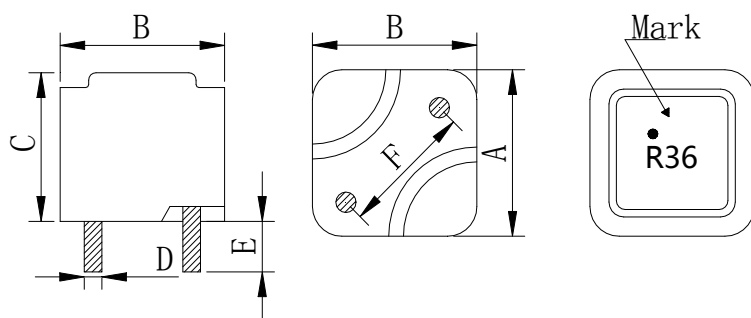
10/12

# SPECIFICATION

**RoHS  
COMPLIANT**

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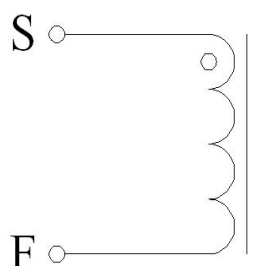
## External Dimensions Unit (mm)



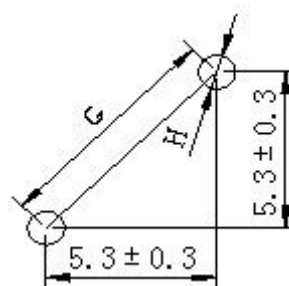
A	10.0± 0.5 (mm)
B	10.0± 0.5 (mm)
C	7.9± 0.3(mm)
D	1.4± 0.1 (mm)
E	3.4± 0.5 (mm)
F	7.5± 0.5(mm)
G	7.5± 0.5(mm)
H	1.6 (ref)

Coating:Black

## Connection



## Recommended Land Pattern



## Electrical Specification

Measurement Item	Unit Tolerance	Specification	Test Frequency	Test Instrument
L	uH (±20%)	0.36uH ±20%	100KHz/1V	LCR Meter Agilent/4284A or Chroma/11300
DCR	mΩ	0.87mΩ (Max)		Chroma/16502
I rms	Amps	35A	100KHz/1V	LCR Meter Agilent/4284A+42841A
I sat	Amps	50A	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

**RoHS  
COMPLIANT**

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## Electrical Characteristic

Item	L0A	DCR	I rms	I sat
Specification	0.36uH	0.87mΩ	35Amps	50Amps
Tolerance	±20%	Max	$\Delta T \leq 40^{\circ}\text{C}$	$L \geq 65\%$
1	0.328	0.67	21.0°C	84.9%
2	0.326	0.68		
3	0.324	0.66		
4	0.325	0.65		
5	0.325	0.67		
6	0.325	0.66		
7	0.321	0.68		
8	0.320	0.66		
9	0.322	0.68		
10	0.322	0.67		
$\bar{X}$	0.324	0.67		
$\sigma$	0.00	0.01		

## External Dimensions

Item	A	B	C	D	E	F
Specification	10.0	10.0	7.9	1.4	3.4	7.5
Tolerance	± 0.5 (mm)	± 0.5 (mm)	± 0.3 (mm)	± 0.1 (mm)	± 0.5 (mm)	± 0.5(mm)
1	10.15	10.16	7.77	1.39	3.57	7.65
2	10.14	10.12	7.80	1.38	3.49	7.63
3	10.15	10.14	7.70	1.41	3.51	7.68
4	10.11	10.11	7.74	1.40	3.48	7.63
5	10.15	10.15	7.76	1.39	3.55	7.59
6	10.14	10.15	7.70	1.41	3.50	7.67
7	10.14	10.14	7.75	1.37	3.54	7.60
8	10.16	10.15	7.66	1.40	3.47	7.53
9	10.15	10.14	7.74	1.39	3.60	7.61
10	10.13	10.14	7.70	1.38	3.56	7.65
$\bar{X}$	10.14	10.14	7.73	1.39	3.53	7.62
$\sigma$	0.01	0.01	0.04	0.01	0.04	0.04

Inductance measured at 100KHz/1Vrms.

Electrical specifications at 25°C. Humidity 60±10%

# ELECTRICAL CHARACTERISTICS

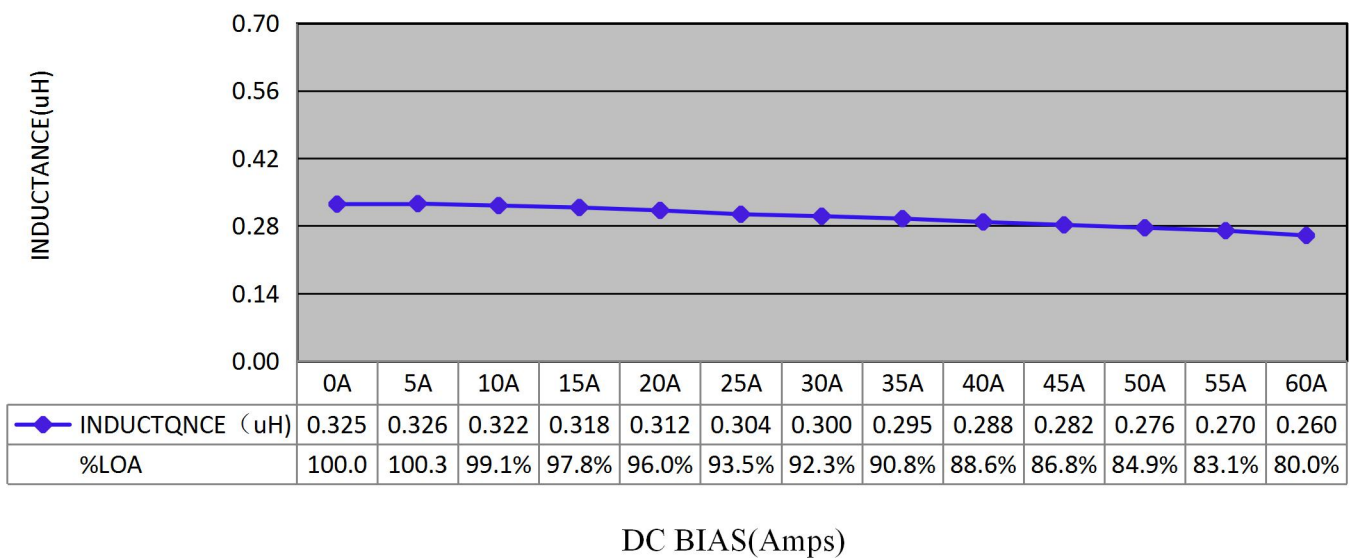
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## Inductance VS DC current

IDC	L	%LOA				
0A	0.325	100.0%				
5A	0.326	100.3%				
10A	0.322	99.1%				
15A	0.318	97.8%				
20A	0.312	96.0%				
25A	0.304	93.5%				
30A	0.300	92.3%				
35A	0.295	90.8%				
40A	0.288	88.6%				
45A	0.282	86.8%				
50A	0.276	84.9%				
55A	0.270	83.1%				
60A	0.260	80.0%				

CONDITTON: 100KHZ/1.0Vrms



# ELECTRICAL CHARACTERISTICS

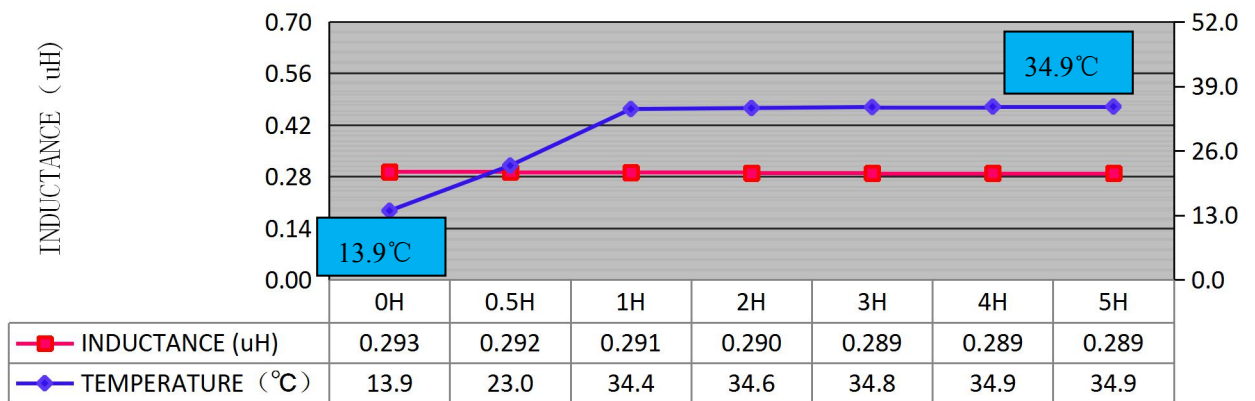
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## DC current VS Temperature

Time	L ( μ H )	T ( ° C )	ΔT(°C)			
0H	0.293	13.9				
0.5H	0.292	23.0	9.1			
1H	0.291	34.4	20.5			
2H	0.290	34.6	20.7			
3H	0.289	34.8	20.9			
4H	0.289	34.9	21.0			
5H	0.289	34.9	21.0			

CONDITTON: Load 35A



Inductance VS Temperature

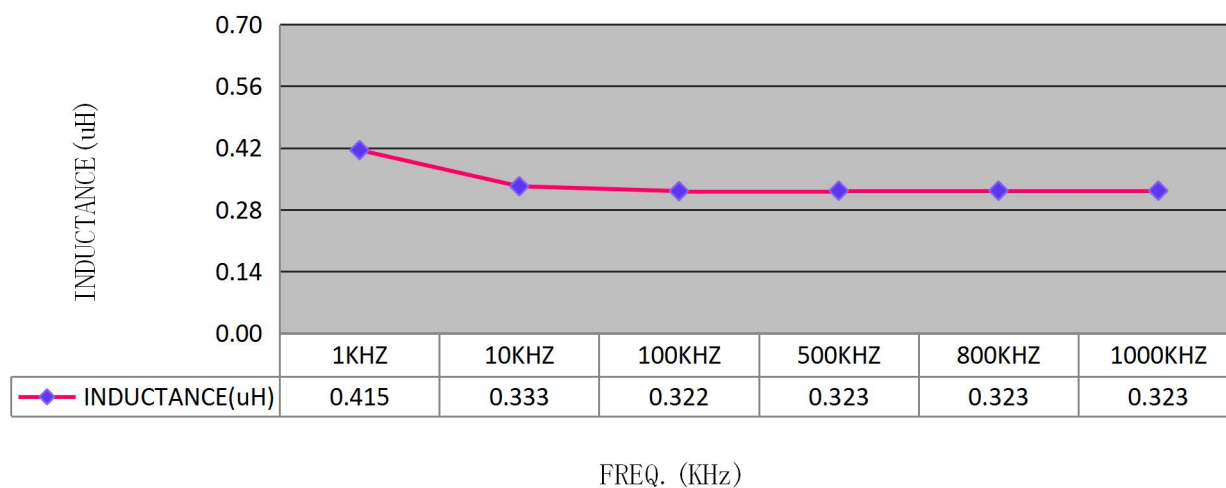
# ELECTRICAL CHARACTERISTICS

RoHS  
COMPLIANT

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## Inductance VS Frequency

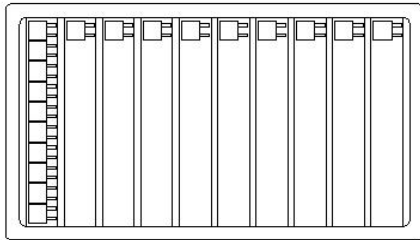
FREQ.	L ( $\mu$ H )					
1KHZ	0.415					
10KHZ	0.333					
100KHZ	0.322					
500KHZ	0.323					
800KHZ	0.323					
1000KHZ	0.323					



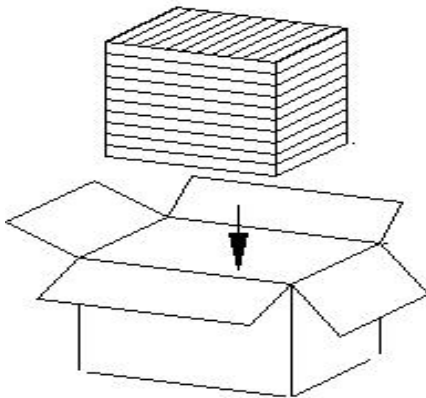
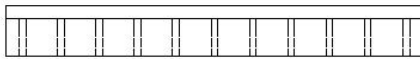
# PACKING FOR SPECIFICATION

**RoHS  
COMPLIANT**

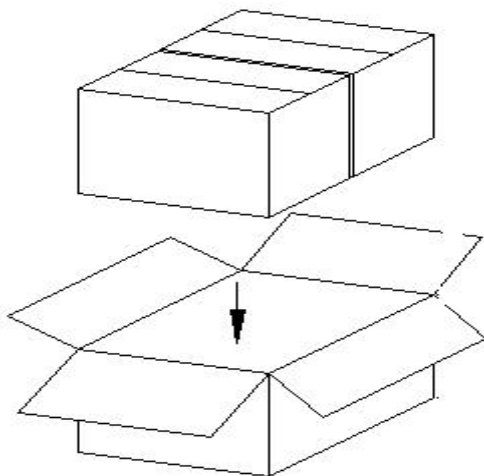
Customers Part Number	Item Name	Date
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PET Size : 215\*148 \*16(D)mm  
Quantity : 130PCS/PET



Small box Size : 238\*156\*165 mm  
Quantity : 10PET/Small box  
1 Small box/1300PCS



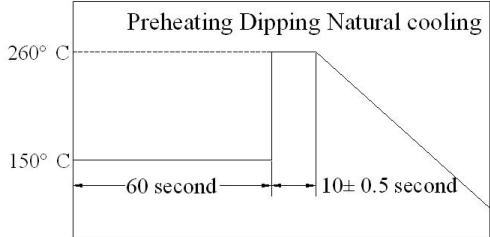
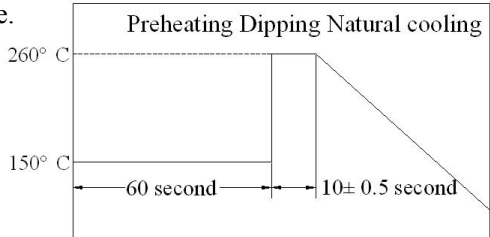
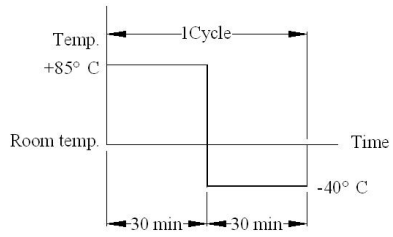
Big box Size : 328\*251\*175 mm  
Quantity : 2 Small box/Big box  
1 Big box/2600PCS



# 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

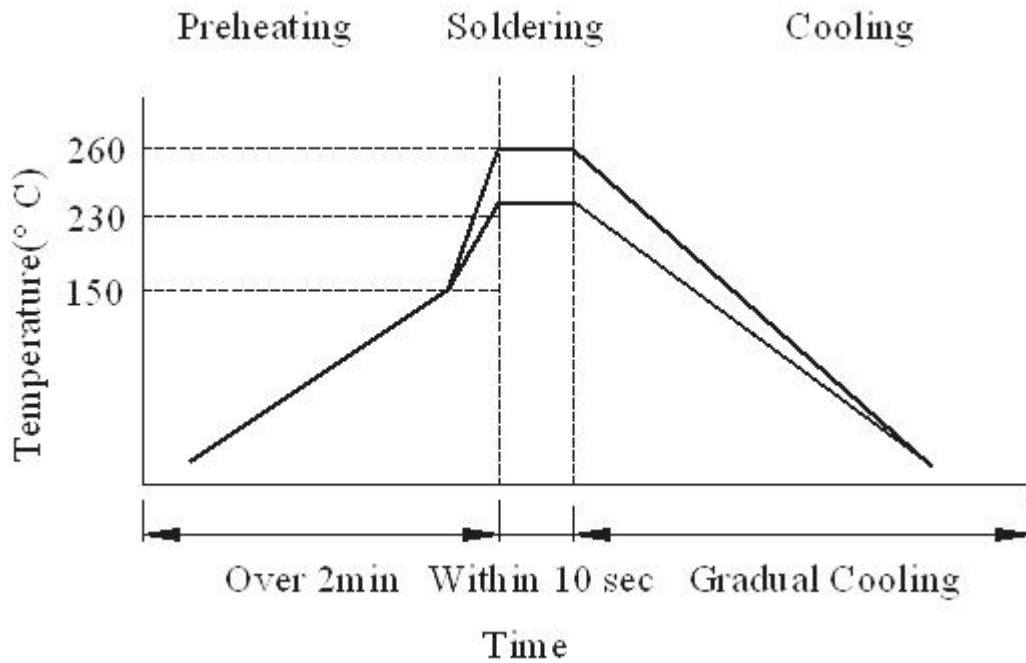
RoHS  
COMPLIANT

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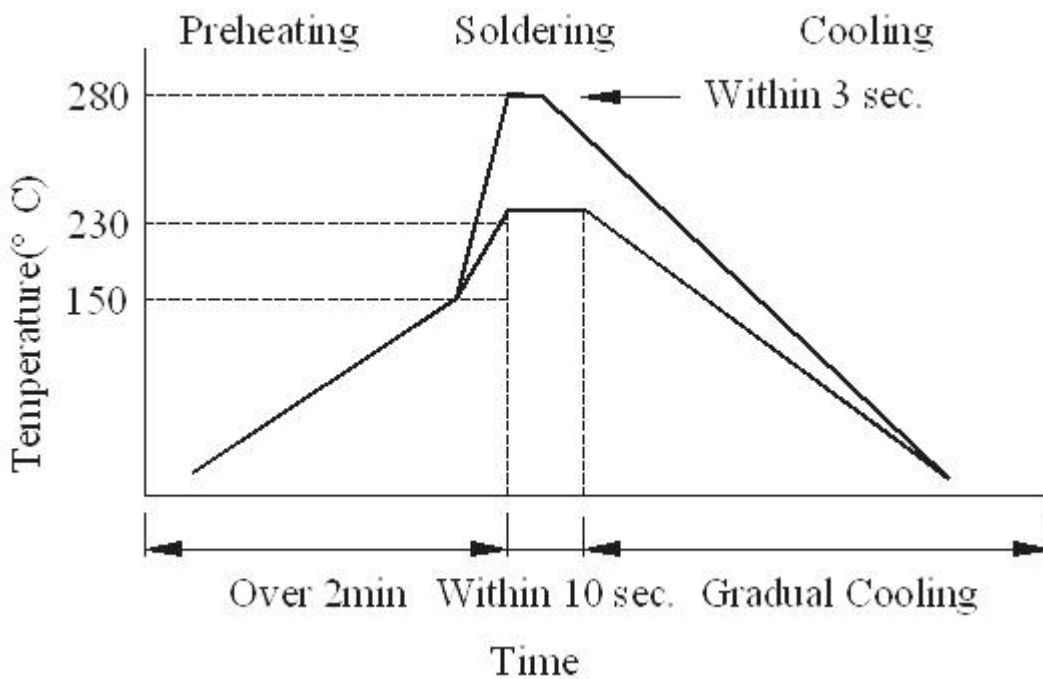
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## Wave Soldering



## Hand soldering



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