

CUSTOMER \_\_\_\_\_

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

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

SGTE PART NO. \_\_\_\_\_ GPDB1312-150M02 \_\_\_\_\_

SAMPLE NO. S09092501 REVISION NO. A DATE 25-Sep-09

## SPECIFICATION FOR APPROVAL

FULLY APPROVED	REVISE APPROVED

# GAN TONG

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**

## INDEX

### COVER PAGE

■ SHAPE & DIMENSION.....	1-8
■ ELECTRICAL CHARACTERISTICS AND EXTERNAL TEST REPORT.....	2-8
■ ELECTRICAL CHARACTERISTICS.....	3-8
■ ELECTRICAL CHARACTERISTICS.....	4-8
■ ELECTRICAL CHARACTERISTICS.....	5-8
■ PACKING FOR SPECIFICATION.....	6-8
■ GENERAL CHARACTERISTICS.....	7-8
■ THE CONDITION OF REFLOW.....	8-8

APPROVED BY

CHECKED BY

DRAWING BY

**Jesse**

**Gary**

**Lisa**

9/25

9/25

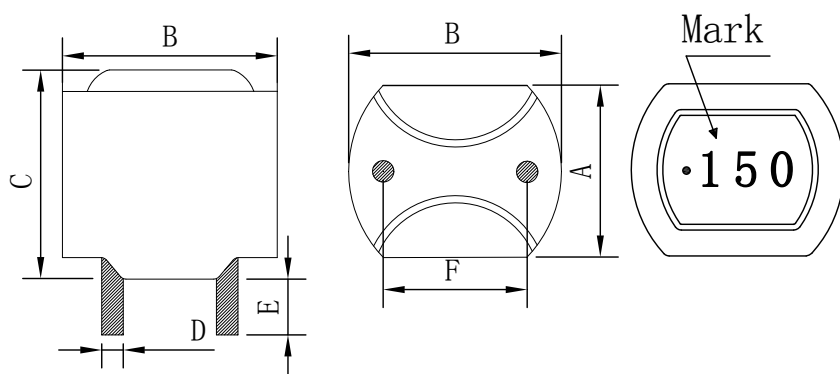
9/25

# SPECIFICATION

**RoHS  
COMPLIANT**

Customers Part Number	Item Name	Date
	Power Inductor	25-Sep-09
Gan Tong Part NO.	Sample NO.	Page
GPDB1312-150M	S09092501	1-8

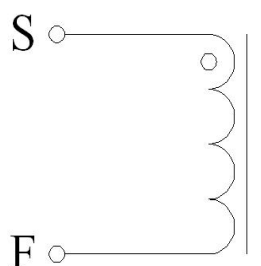
## External Dimensions Unit (mm)



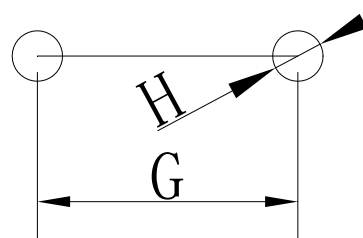
A	12.4± 0.5 (mm)
B	13.4± 0.5 (mm)
C	16.5 Max (mm)
D	0.8± 0.1 (mm)
E	5.0± 0.5 (mm)
F	7.5± 0.5 (mm)
G	7.5 (ref)
H	1.2 (ref)

Coating:Black

## Connection



## Recommended Land Pattern



## Electrical Specification

Measurement Item	Unit Tolerance	Specification	Test Frequency	Test Instrument
L	uH (±20%)	15uH ±20%	100KHz/1V	LCR Meter Agilent/4284A or Chroma /11300
DCR	mΩ	20mΩ (Max)		Chroma /16502
I rms	Amps	9A	100KHz/1V	LCR Meter Agilent/4284A+42841A
I sat	Amps	12A	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**

Customers Part Number	Item Name	Date	
	Power Inductor	25-Sep-09	
Gan Tong Part NO.	Sample NO.	Revision No.	Page
GPDB1312-150M	S09092501	A	2-8

## Electrical Characteristic

Item	L0A	DCR	I rms	I sat
Specification	15uH	20mΩ	9Amps	12Amps
Tolerance	±20%	Max	$\Delta T \leq 40^{\circ}\text{C}$	$L \geq 65\%$
1	14.17	13.75	37.8°C	90.8%
2	14.28	13.72		
3	14.23	13.74		
4	14.56	13.71		
5	14.10	13.70		
6	14.19	13.75		
7	14.22	13.74		
8	14.30	13.72		
9	14.56	13.71		
10	14.55	13.76		
$\bar{X}$	14.32	13.73		
$\sigma$	0.17	0.02		

## External Dimensions

Item	A	B	C	D	E	F
Specification	12.40	13.40	16.5	0.8	5.0	7.5
Tolerance	± 0.5 (mm)	± 0.5 (mm)	Max (mm)	± 0.1 (mm)	± 0.5 (mm)	± 0.5 (mm)
1	12.22	13.22	15.40	0.77	5.11	7.78
2	12.19	13.20	15.39	0.76	5.09	7.69
3	12.22	13.23	15.47	0.77	5.15	7.75
4	12.18	13.21	15.48	0.78	5.00	7.76
5	12.21	13.22	15.50	0.79	5.08	7.72
6	12.22	13.23	15.39	0.77	5.08	7.73
7	12.17	13.24	15.41	0.77	5.09	7.69
8	12.18	13.19	15.38	0.76	5.06	7.68
9	12.22	13.22	15.29	0.76	5.09	7.70
10	12.20	13.19	15.30	0.78	5.10	7.72
$\bar{X}$	12.20	13.22	15.40	0.77	5.09	7.72
$\sigma$	0.02	0.02	0.07	0.01	0.04	0.03

Inductance measured at 100KHz/1Vrms.

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

# ELECTRICAL CHARACTERISTICS

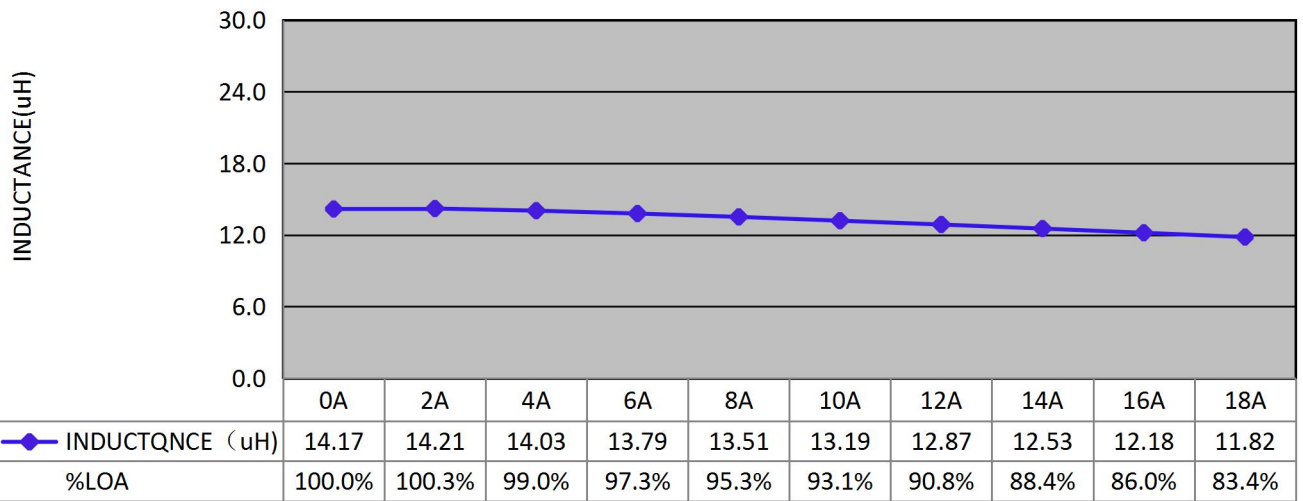
**RoHS  
COMPLIANT**

Customers Part Number	Item Name	Date
	Power Inductor	25-Sep-09
Gan Tong Part NO.	Sample NO.	Page
GPDB1312-150M	S09092501	3-8

## Inductance VS DC current

IDC	L	%LOA				
0A	14.17	100%				
2A	14.21	100.3%				
4A	14.03	99.0%				
6A	13.79	97.3%				
8A	13.51	95.3%				
10A	13.19	93.1%				
12A	12.87	90.8%				
14A	12.53	88.4%				
16A	12.18	86.0%				
18A	11.82	83.4%				

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



DC BIAS(Amps)

# ELECTRICAL CHARACTERISTICS

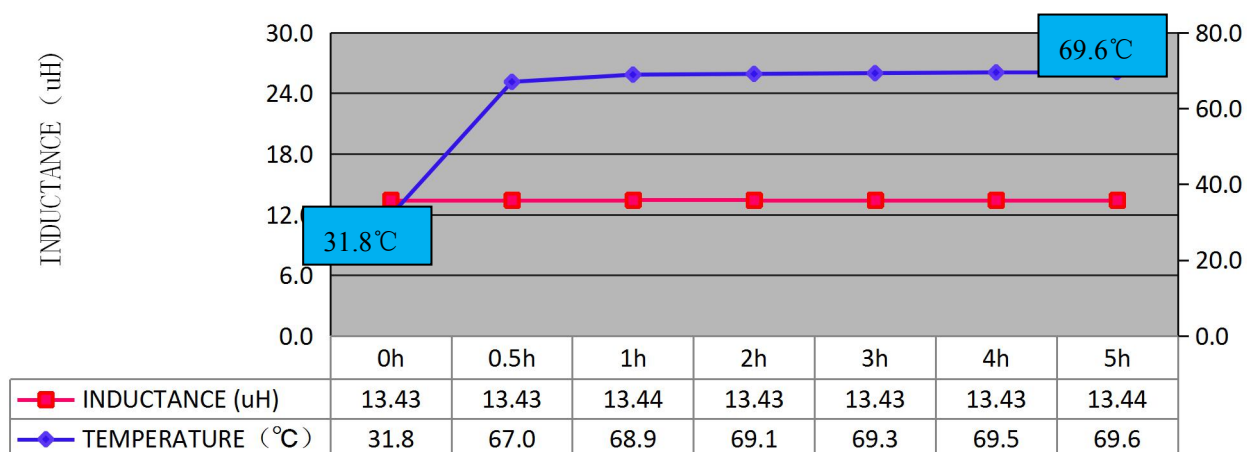
RoHS  
COMPLIANT

Customers Part Number	Item Name	Date
	Power Inductor	25-Sep-09
Gan Tong Part NO.	Sample NO.	Page
GPDB1312-150M	S09092501	4-8

## DC current VS Temperature

Time	L ( $\mu\text{H}$ )	T ( $^{\circ}\text{C}$ )	$\Delta\text{T} (^{\circ}\text{C})$			
0H	13.43	31.8				
0.5H	13.43	67.0	35.2			
1H	13.44	68.9	37.1			
2H	13.43	69.1	37.3			
3H	13.43	69.3	37.5			
4H	13.43	69.5	37.7			
5H	13.43	69.6	37.8			

CONDITION: Load 9A AMBIENT: 20 $^{\circ}\text{C}$ , 69.8%



Inductance VS Temperature

# ELECTRICAL CHARACTERISTICS

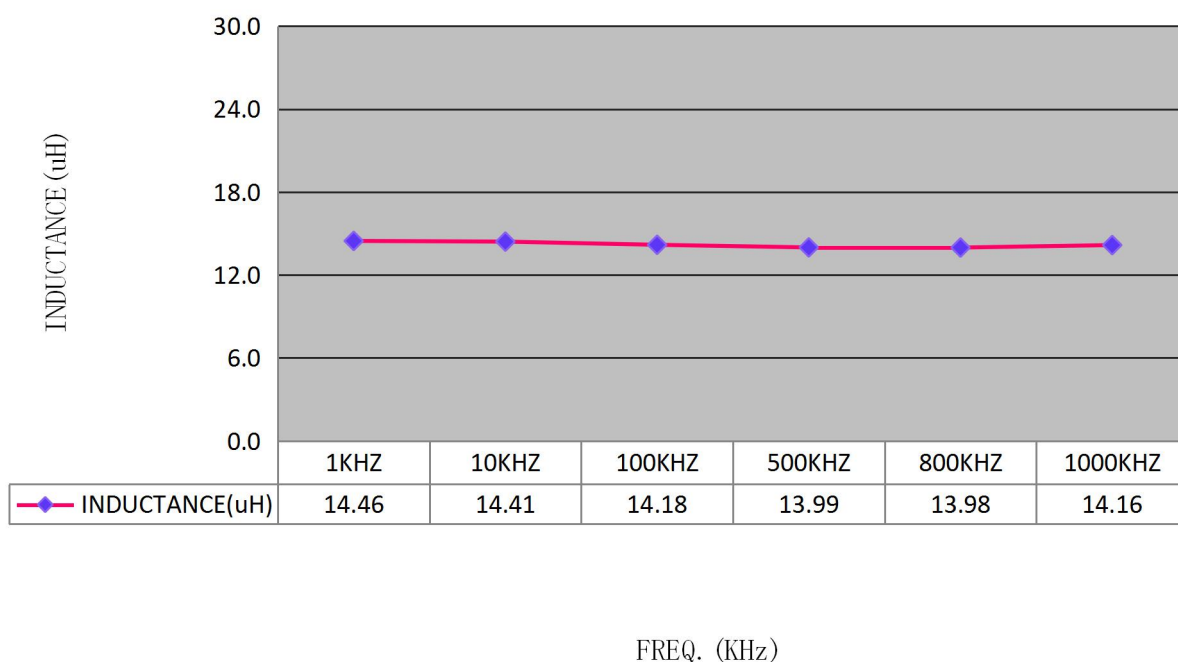
**RoHS  
COMPLIANT**

Customers Part Number	Item Name	Date
	Power Inductor	25-Sep-09
Gan Tong Part NO.	Sample NO.	Page
GPDB1312-150M	S09092501	5-8

## Inductance VS Frequency

FREQ.	L (μH)					
1KHZ	14.46					
10KHZ	14.41					
100KHZ	14.18					
500KHZ	13.99					
800KHZ	13.98					
1000KHZ	14.16					

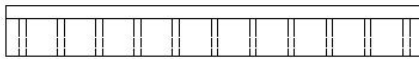
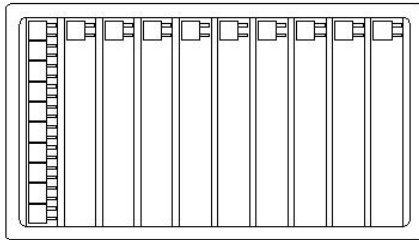
AMBIENT: 20°C, 69.8%



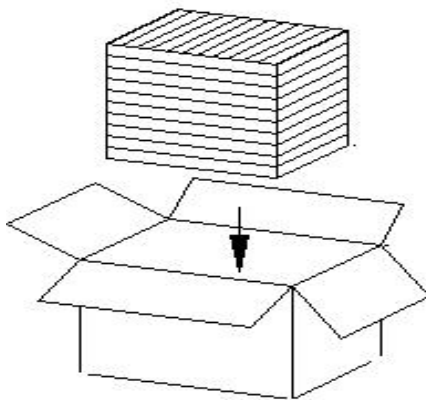
# PACKING FOR SPECIFICATION

**RoHS  
COMPLIANT**

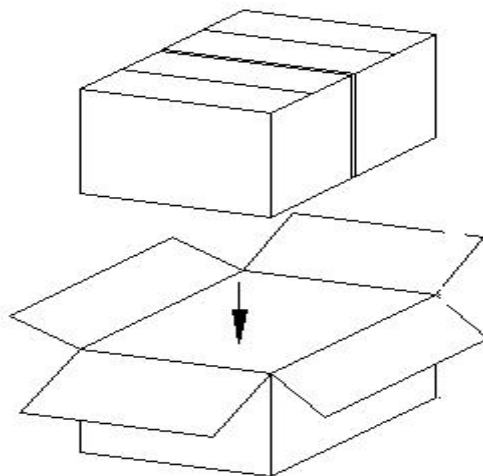
Customers Part Number	Item Name	Date
	Power Inductor	25-Sep-09
Gan Tong Part NO.	Sample NO.	Page
GPDB1312-150M	S09092501	6-8



PET Size : 175\*159\*19mm  
Quantity : 50PCS/PET



Small box Size : 328\*178\*114 mm  
Quantity : 10PET/Small box  
1 Small box/500PCS



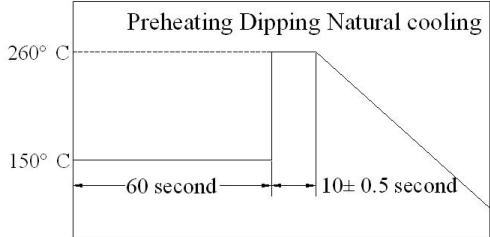
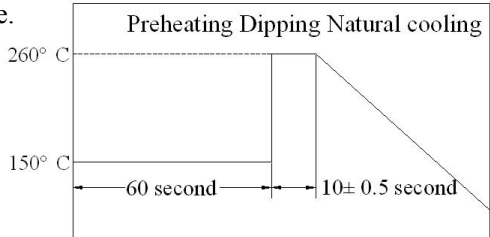
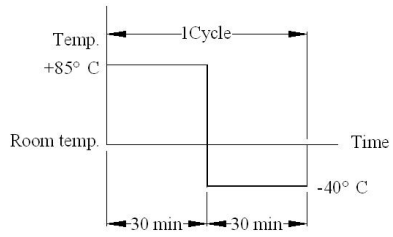
Big box Size : 386\*338\*132 mm  
Quantity : 2 Small box/Big box  
1 Big box/1000PCS



# GENERAL CHARACTERISTICS

Gan Tong Part NO.: GPDB1312-150M

PAGE : 7-8

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

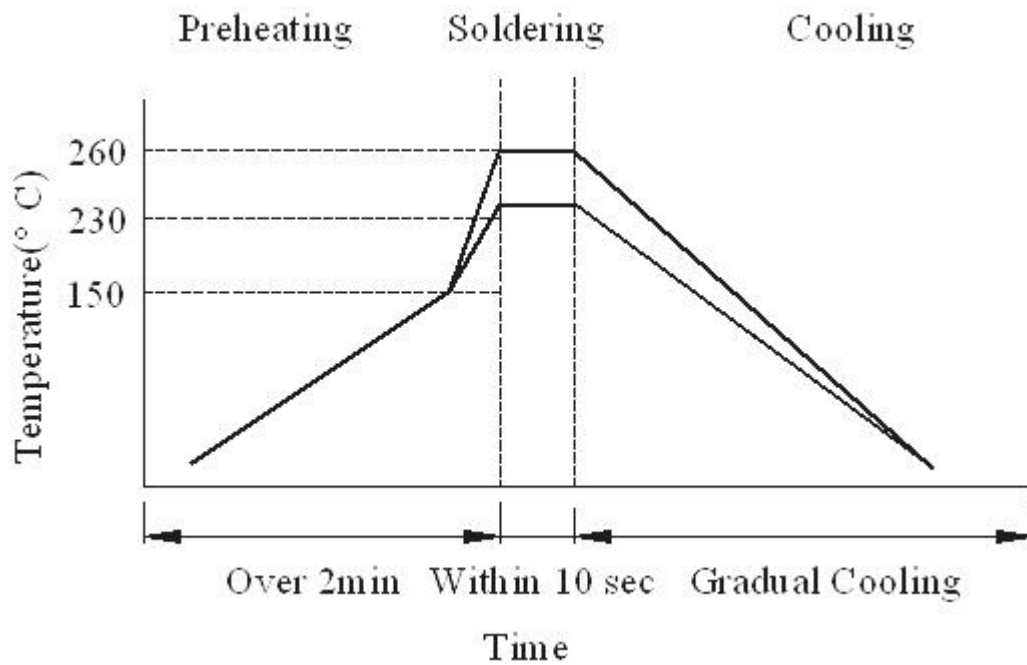
RoHS  
COMPLIANT

Gan Tong Part NO. : GPDB1312-150M

PAGE :

8-8

## Wave Soldering



## Hand soldering

