

CUSTOMER \_\_\_\_\_

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

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

SGTE PART NO. \_\_\_\_\_ GPDB1210-101M \_\_\_\_\_

SAMPLE NO.: S10042303 REVISION NO. A DATE 23-April-10

## SPECIFICATION FOR APPROVAL

FULLY APPROVED	REVISE APPROVED

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# SPECIFICATION

**RoHS  
COMPLIANT**

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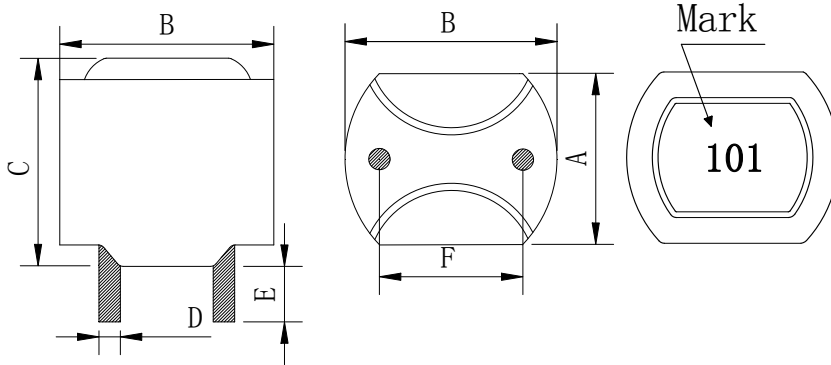
APPROVED BY	CHECKED BY	DRAWING BY
<b>Jesse</b> 4/23	<b>Gary</b> 4/23	<b>Lily</b> 4/23

# SPECIFICATION

**RoHS  
COMPLIANT**

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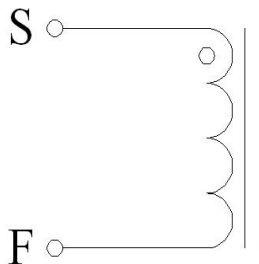
## External Dimensions Unit (mm)



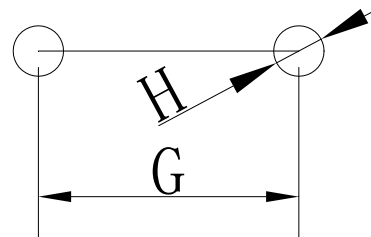
A	10.0± 0.5 (mm)
B	12.0± 0.5 (mm)
C	11.0Max (mm)
D	0.4± 0.1 (mm)
E	3.4± 0.5 (mm)
F	6.8± 0.5 (mm)
G	6.8± 0.5(mm)
H	0.8 (ref)

Coating:Black

## Connection



## Recommended Land Pattern



## Electrical Specification

Measurement Item	Unit Tolerance	Specification	Test Frequency	Test Instrument
L	uH (±20%)	100uH ±20%	100KHz/0.1V	LCR Meter Agilent/4284A or Chroma /11300
DCR	mΩ	157mΩ (Max)		Chroma /16502
I rms	Amps	2A	100KHz/0.1V	LCR Meter Agilent/4284A+42841A
I sat	Amps	5A	100KHz/0.1V	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	100uH	157mΩ	2Amps	5Amps
Tolerance	±20%	Max	$\Delta T \leq 40^{\circ}\text{C}$	$L \geq 65\%$
1	101.59	133.47	8.9°C	76.3%
2	101.58	133.09		
3	103.58	130.81		
4	104.75	130.56		
5	101.75	130.75		
6	102.85	131.07		
7	103.95	128.76		
8	104.31	129.57		
9	102.39	130.95		
10	103.75	129.87		
$\bar{X}$	103.05	130.89		
$\sigma$	1.12	1.38		

## External Dimensions

Item	A	B	C	D	E	F
Specification	10.0	12.0	11.0	0.4	3.4	6.8
Tolerance	± 0.5 (mm)	± 0.5 (mm)	Max (mm)	± 0.1 (mm)	± 0.5 (mm)	± 0.5 (mm)
1	10.29	12.31	10.52	0.42	3.41	6.87
2	10.27	12.24	10.56	0.46	3.45	6.75
3	10.25	12.25	10.51	0.41	3.50	6.90
4	10.29	12.29	10.53	0.42	3.46	6.81
5	10.31	12.28	10.51	0.45	3.51	6.85
6	10.30	12.29	10.55	0.43	3.47	6.79
7	10.29	12.25	10.54	0.44	3.42	6.84
8	10.27	12.29	10.50	0.43	3.44	6.83
9	10.25	12.24	10.53	0.42	3.45	6.86
10	10.27	12.25	10.54	0.40	3.42	6.81
$\bar{X}$	10.28	12.27	10.53	0.43	3.45	6.83
$\sigma$	0.02	0.02	0.02	0.02	0.03	0.04

Inductance measured at 100KHz/0.1Vrms.

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

# ELECTRICAL CHARACTERISTICS

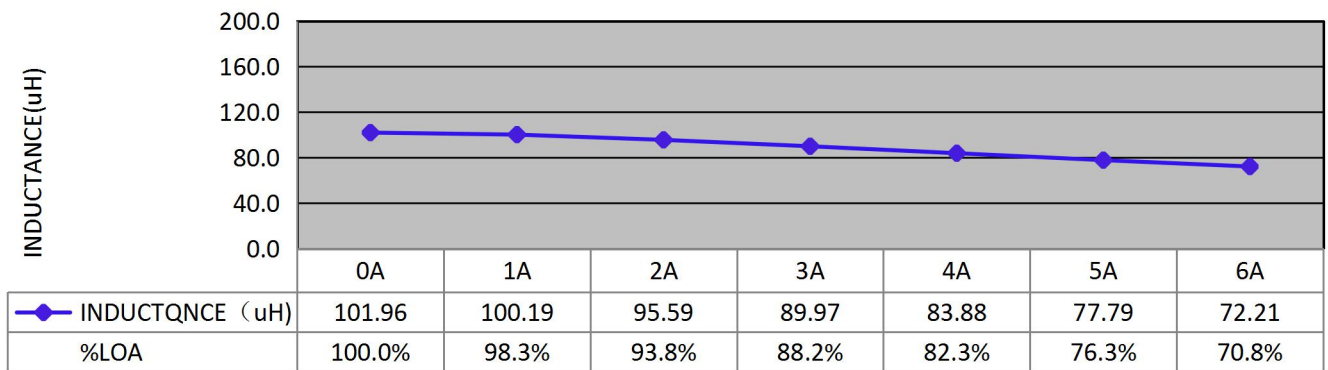
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## Inductance VS DC current

IDC	L	%LOA				
0A	101.96	100.0%				
1A	100.19	98.3%				
2A	95.59	93.8%				
3A	89.97	88.2%				
4A	83.88	82.3%				
5A	77.79	76.3%				
6A	72.21	70.8%				

CONDITTON: 100KHZ/0.1Vrms



DC BIAS(Amps)

# ELECTRICAL CHARACTERISTICS

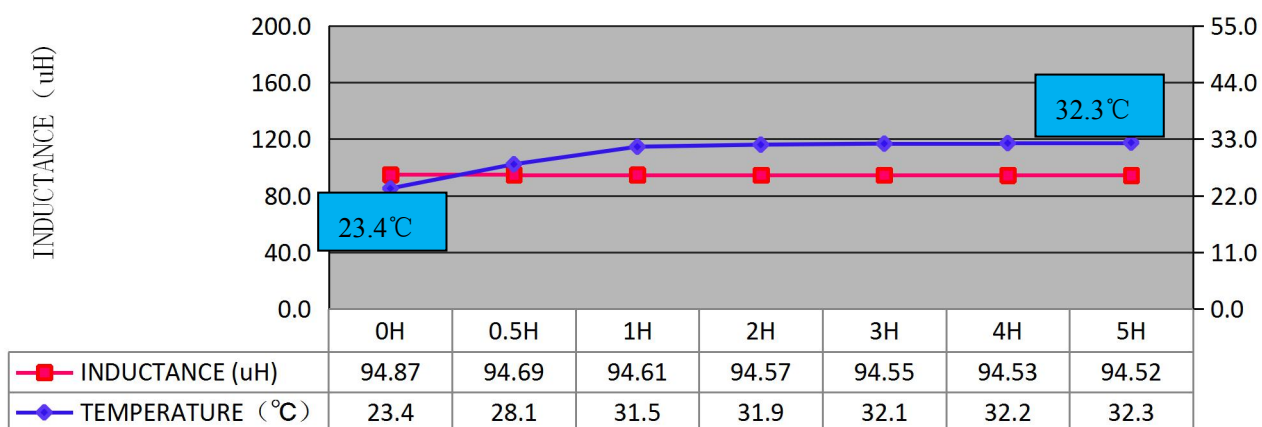
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## DC current VS Temperature

Time	L ( $\mu$ H)	T ( $^{\circ}$ C)	$\Delta$ T( $^{\circ}$ C)			
0H	94.87	23.4				
0.5H	94.69	28.1	4.7			
1H	94.61	31.5	8.1			
2H	94.57	31.9	8.5			
3H	94.55	32.1	8.7			
4H	94.53	32.2	8.8			
5H	94.52	32.3	8.9			

CONDITTON: Load 2A



Inductance VS Temperature

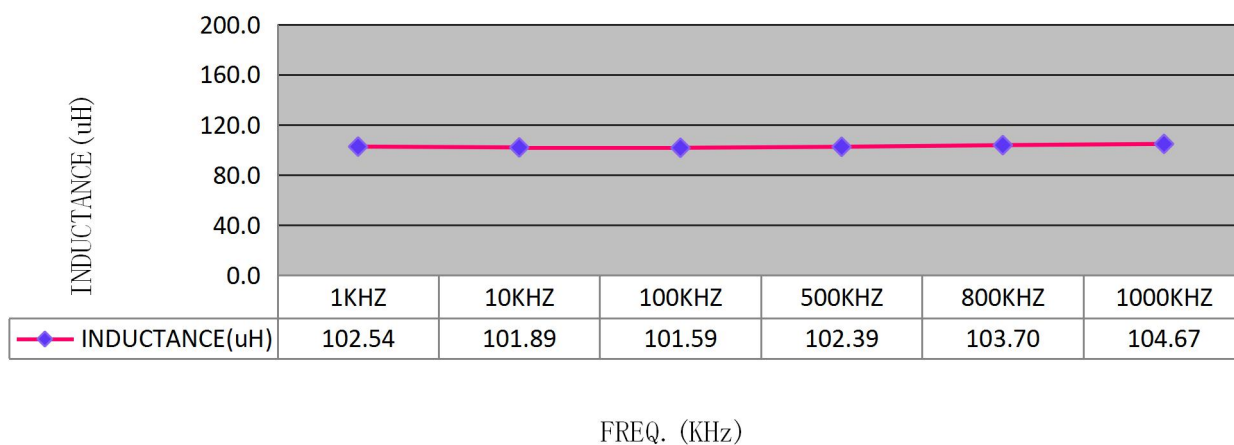
# ELECTRICAL CHARACTERISTICS

RoHS  
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## Inductance VS Frequency

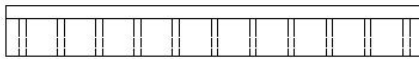
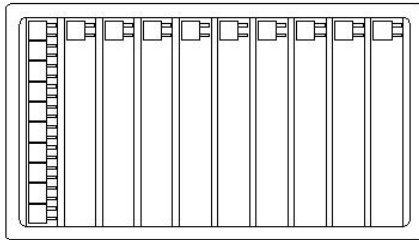
FREQ.	L (μH)					
1KHZ	102.54					
10KHZ	101.89					
100KHZ	101.59					
500KHZ	102.39					
800KHZ	103.70					
1000KHZ	104.67					



# PACKING FOR SPECIFICATION

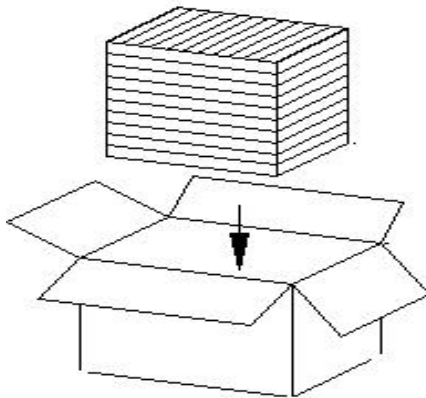
**RoHS  
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PET Size : 215\*148 \*16 (C) mm

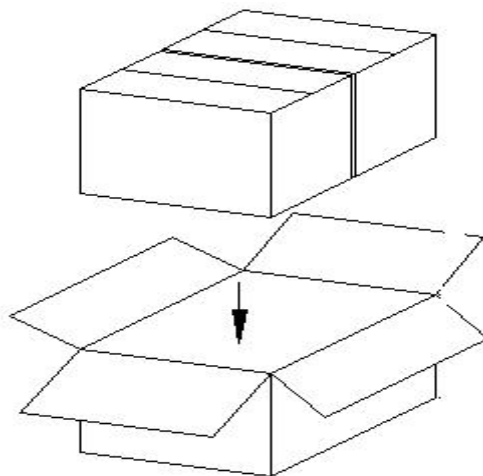
Quantity : 90PCS/PET



Small box Size : 238\*156\*165 mm

Quantity : 10PET/Small box

1Small box/900PCS



Big box Size : 328\*251\*175 mm

Quantity : 2 Small box/Big box

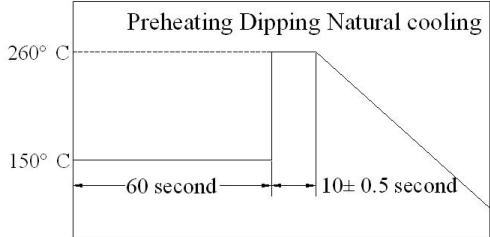
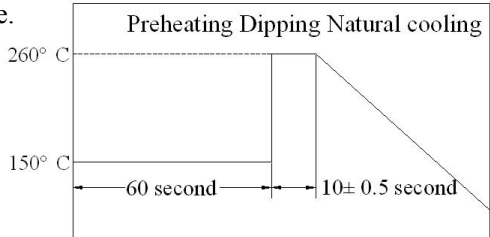
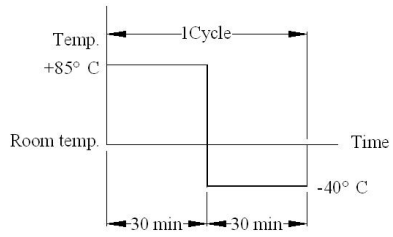
1 Big box/1800PCS



# 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

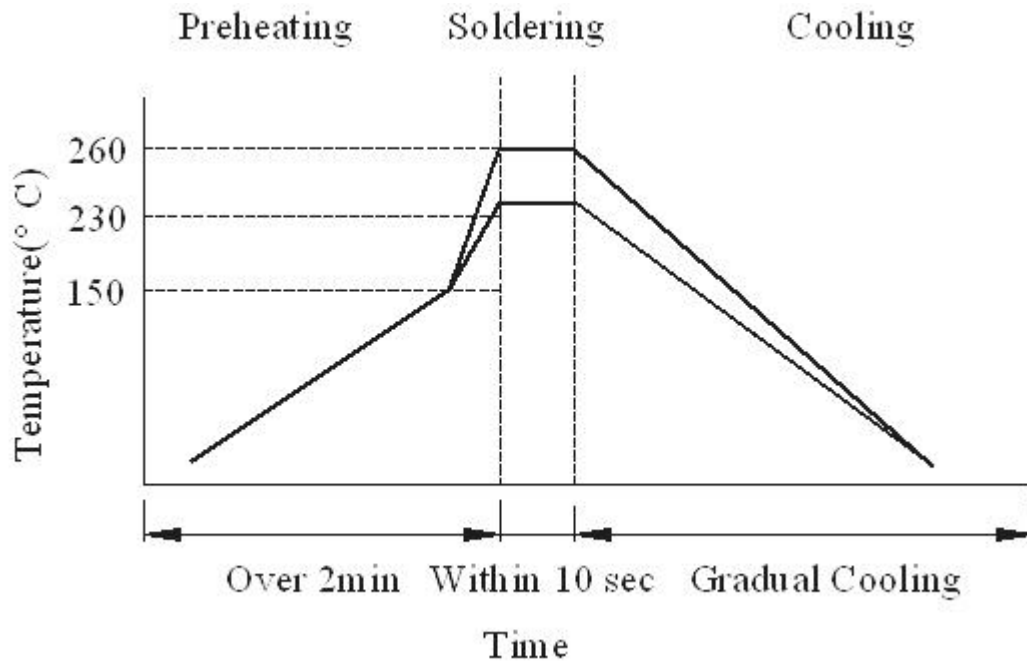
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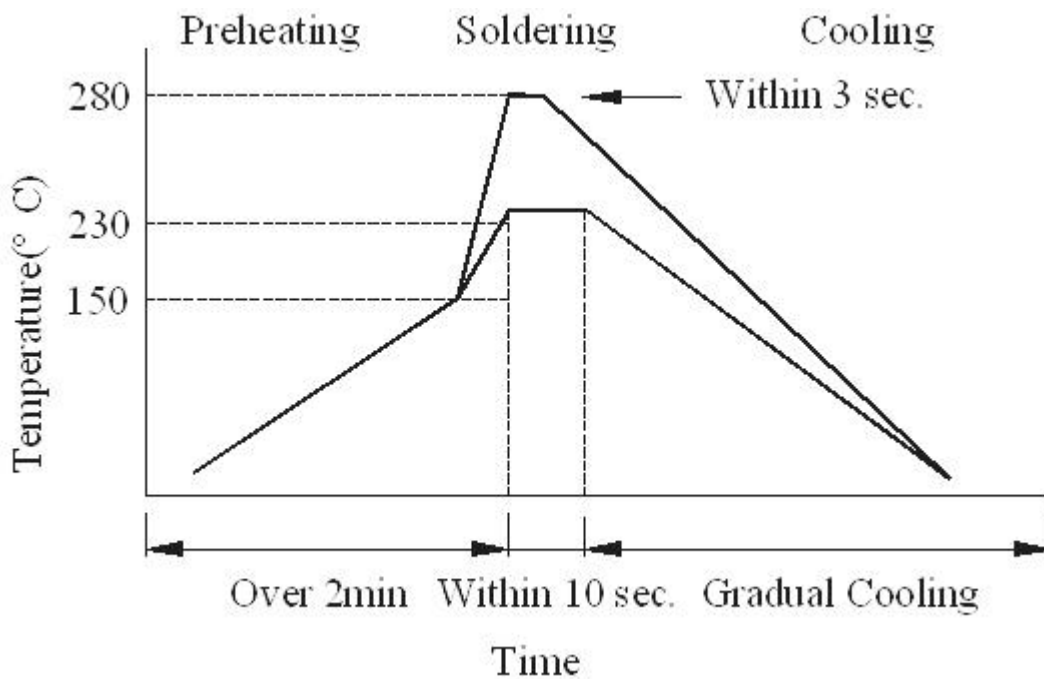
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## Wave Soldering



## Hand soldering



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