

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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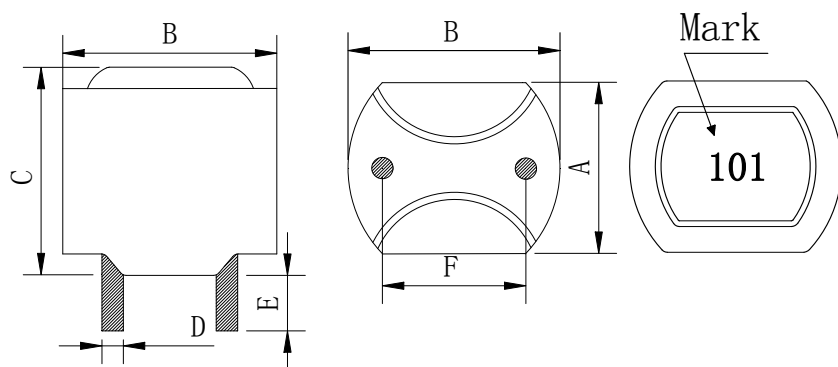
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SPECIFICATION

**RoHS
COMPLIANT**

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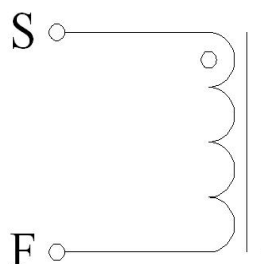
External Dimensions Unit (mm)



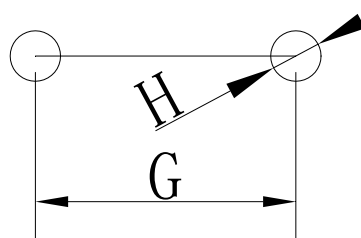
A	10.0± 0.5 (mm)
B	12.0± 0.5 (mm)
C	11.0Max (mm)
D	0.4± 0.1 (mm)
E	3.4± 0.5 (mm)
F	6.8± 0.5 (mm)
G	6.8± 0.5(mm)
H	0.8 (ref)

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		
σ	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
σ	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

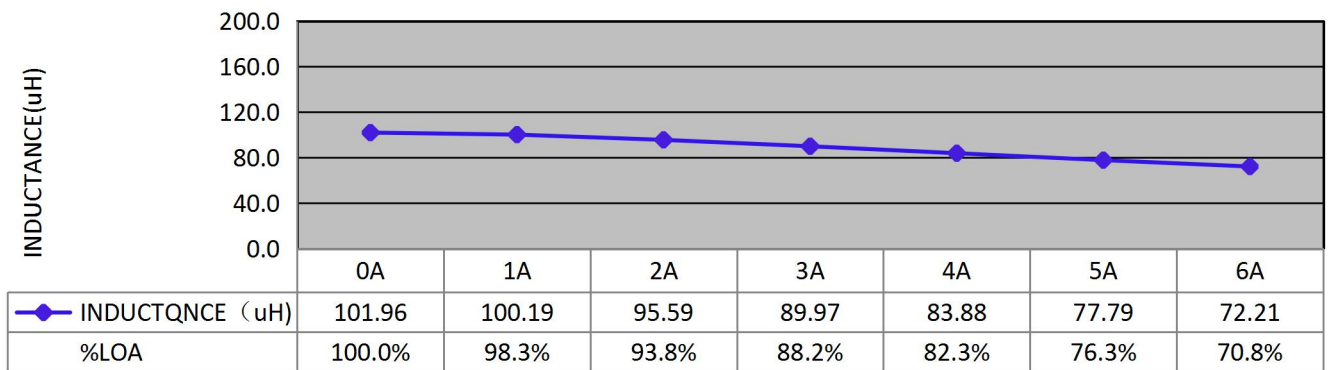
**RoHS
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Inductance VS DC current

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

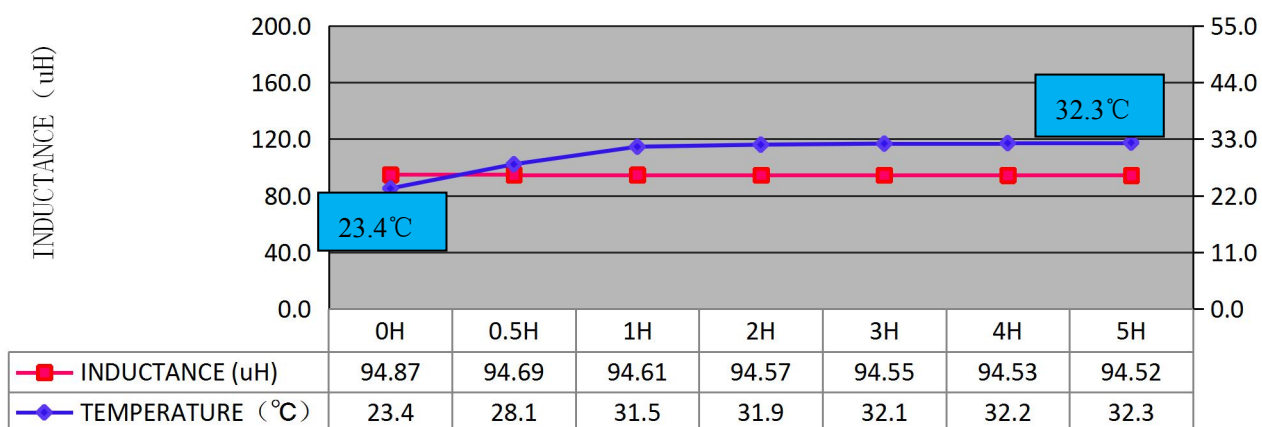
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DC current VS Temperature

Time	L (μH)	T (°C)	ΔT(°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

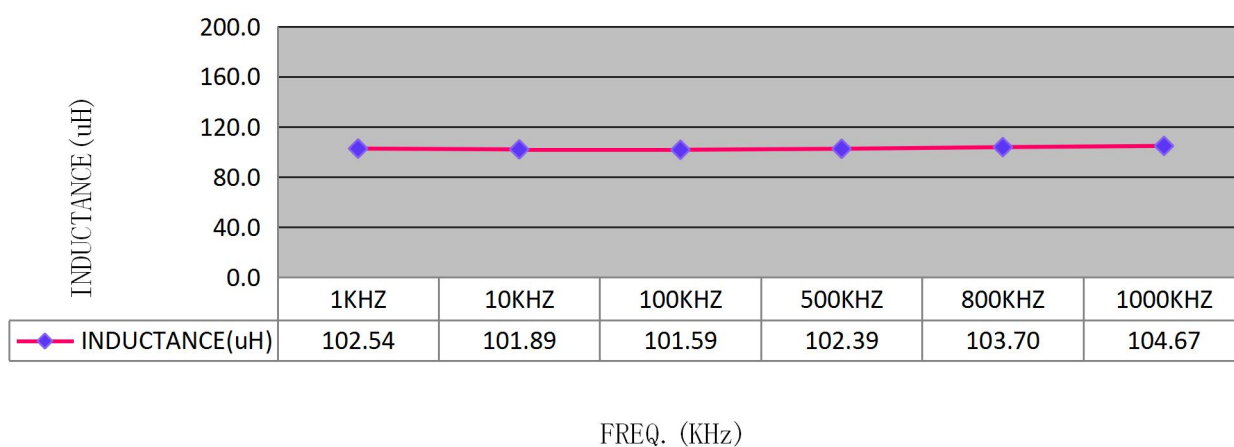
ELECTRICAL CHARACTERISTICS

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Inductance VS Frequency

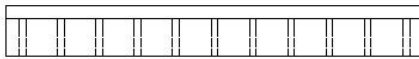
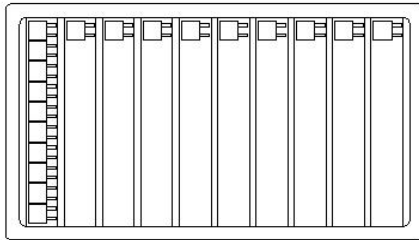
FREQ.	L (μ H)					
1KHZ	102.54					
10KHZ	101.89					
100KHZ	101.59					
500KHZ	102.39					
800KHZ	103.70					
1000KHZ	104.67					



PACKING FOR SPECIFICATION

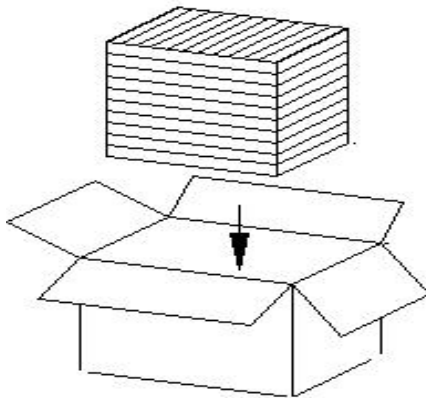
**RoHS
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PET Size : 215*148 *16 (C) mm

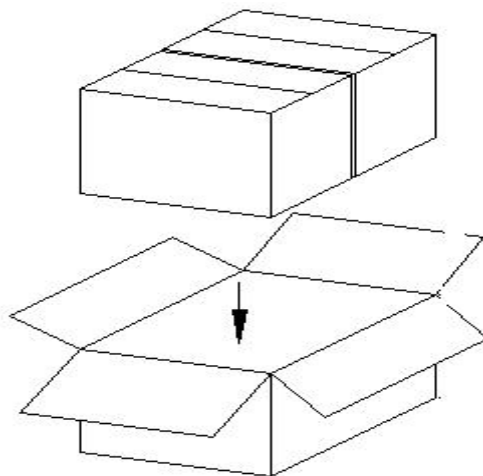
Quantity : 90PCS/PET



Small box Size : 238*156*165 mm

Quantity : 10PET/Small box

1Small box/900PCS



Big box Size : 328*251*175 mm

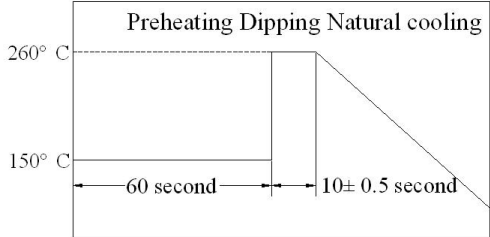
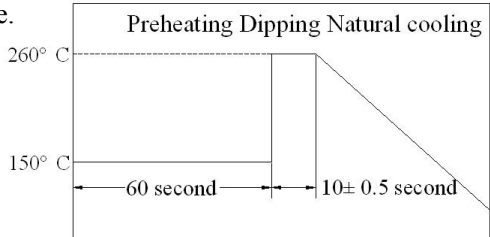
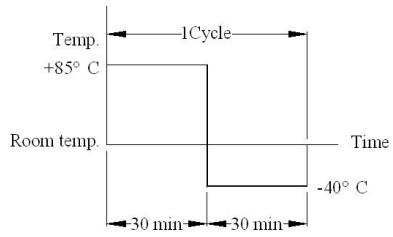
Quantity : 2 Small box/Big box

1 Big box/1800PCS

GENERAL CHARACTERISTICS

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

THE CONDITION OF REFLOW

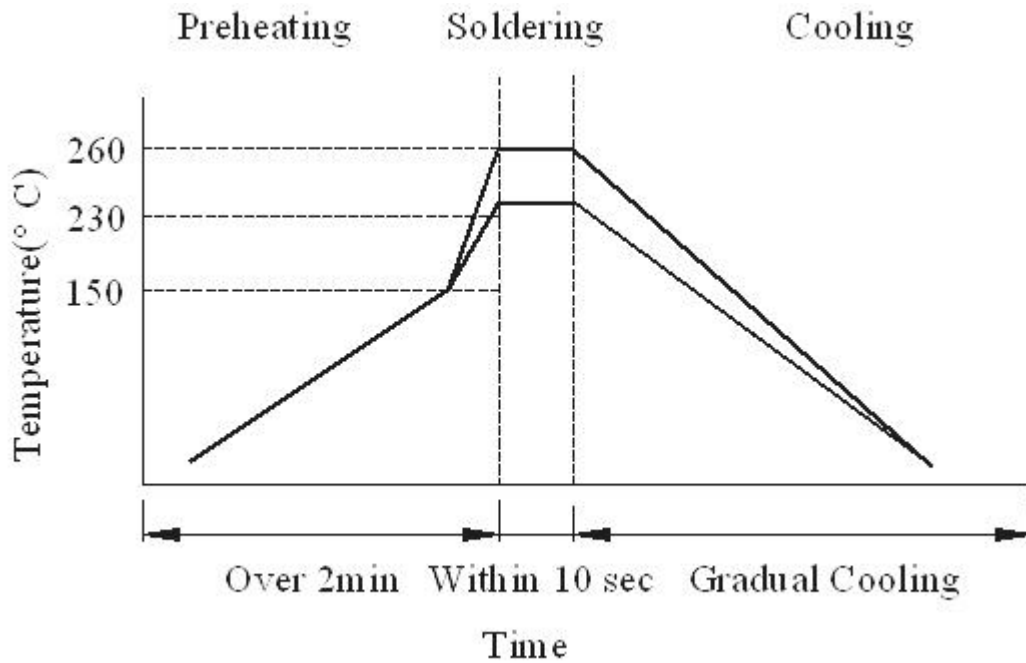
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Wave Soldering



Hand soldering

