CUSTOMER _____

CUSTOMER'S P/N _____

DESCRIPTION POWER INDUCTOR

SGTE PART NO. GPDB1312-100M03

SAMPLE NO. S11022503 REVISION NO. D DATE 25-Feb-11

SPECIFICATION FOR APPROVAL

FULLY APPROVED	REVISE APPROVED

SGTE 感通科技

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SPECIFICATION

RoHS COMPLIANT

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APPROVED BY	CHECKED BY	DRAWING BY
Jesse 2/25	Tony 2/25	Lily 2/25

SPECIFICATION

RoHS COMPLIANT

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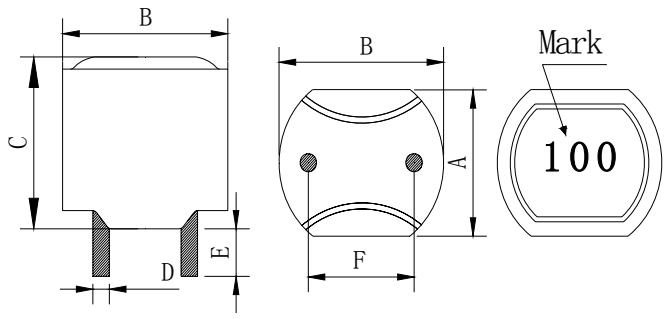
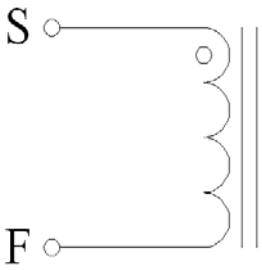
External Dimensions Unit (mm)



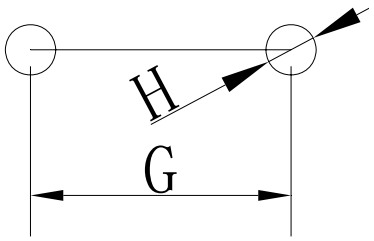
A	12.4± 0.5 (mm)
B	13.4± 0.5 (mm)
C	17.5Max (mm)
D	1.0± 0.1 (mm)
E	3.4± 0.5 (mm)
F	7.5± 0.5 (mm)
G	7.5± 0.5(mm)
H	1.2 (ref)

Coating:Black

Connection



Recommended Land Pattern



Electrical Specification

Measurement Item	Unit Tolerance	Specification	Test Frequency	Test Instrument
L	uH (±20%)	10uH ±20%	100KHz/1V	LCR Meter Agilent/4284A or Chroma /11300
DCR	mΩ	11mΩ(Max)		Chroma /16502
I rms	Amps	14A	100KHz/1V	LCR Meter Agilent/4284A+42841A
I sat	Amps	20A	100KHz/1V	or Chroma /11300+3302+1320+1320S

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

TEST REPORT

RoHS COMPLIANT

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Electrical Characteristic

Item	L0A	DCR	I rms	I sat
Specification	10uH	11mΩ	14Amps	20Amps
Tolerance	±20%	Max	△T≦40℃	L≧65%
1	8.68	8.13	28.6℃	86.3%
2	8.51	8.10		
3	8.59	8.20		
4	9.04	8.08		
5	8.92	8.24		
6	8.97	8.17		
7	8.98	8.09		
8	9.16	8.12		
9	8.59	8.09		
10	8.78	8.14		
$\bar{X}$	8.82	8.14		
σ	0.21	0.05		

External Dimensions

Item	A	B	C	D	E	F
Specification	12.4	13.4	17.5	1.0	3.4	7.5
Tolerance	± 0.5 (mm)	± 0.5 (mm)	Max (mm)	± 0.1 (mm)	± 0.5 (mm)	± 0.5 (mm)
1	12.26	13.24	15.56	1.00	3.52	7.66
2	12.27	13.22	15.51	0.98	3.49	7.55
3	12.29	13.27	15.18	1.02	3.57	7.61
4	12.26	13.26	15.56	1.01	3.46	7.63
5	12.25	13.24	15.23	0.99	3.59	7.57
6	12.28	13.25	15.66	0.97	3.60	7.60
7	12.27	13.23	15.68	1.03	3.40	7.68
8	12.24	13.27	15.37	1.00	3.48	7.49
9	12.26	13.25	15.29	1.01	3.51	7.58
10	12.25	13.26	15.48	0.99	3.53	7.51
$\bar{X}$	12.26	13.25	15.45	1.00	3.52	7.59
σ	0.01	0.02	0.17	0.02	0.06	0.06

Inductance measured at 100KHz/1Vrms.

Electrical specifications at 25℃. Humidity 60±10%

ELECTRICAL CHARACTERISTICS

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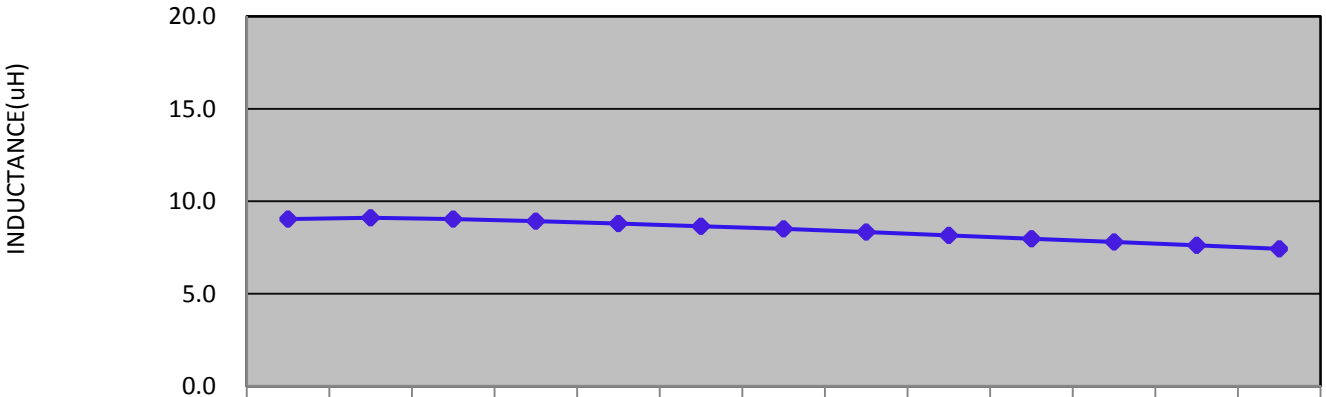
Inductance VS DC current

IDC	L	%LOA				
0A	9.04	100.0%				
2A	9.11	100.8%				
4A	9.04	100.0%				
6A	8.93	98.8%				
8A	8.80	97.3%				
10A	8.65	95.7%				
12A	8.51	94.1%				
14A	8.34	92.3%				
16A	8.16	90.3%				
18A	7.98	88.3%				
20A	7.80	86.3%				
22A	7.62	84.3%				
24A	7.43	82.2%				

CONDITTON:100KHZ/1.0Vrms



	0A	2A	4A	6A	8A	10A	12A	14A	16A	18A	20A	22A	24A
INDUCTQNCE（uH)	9.04	9.11	9.04	8.93	8.80	8.65	8.51	8.34	8.16	7.98	7.80	7.62	7.43
%LOA	100.0	100.8	100.0	98.8%	97.3%	95.7%	94.1%	92.3%	90.3%	88.3%	86.3%	84.3%	82.2%

DC BIAS(Amps)

ELECTRICAL CHARACTERISTICS

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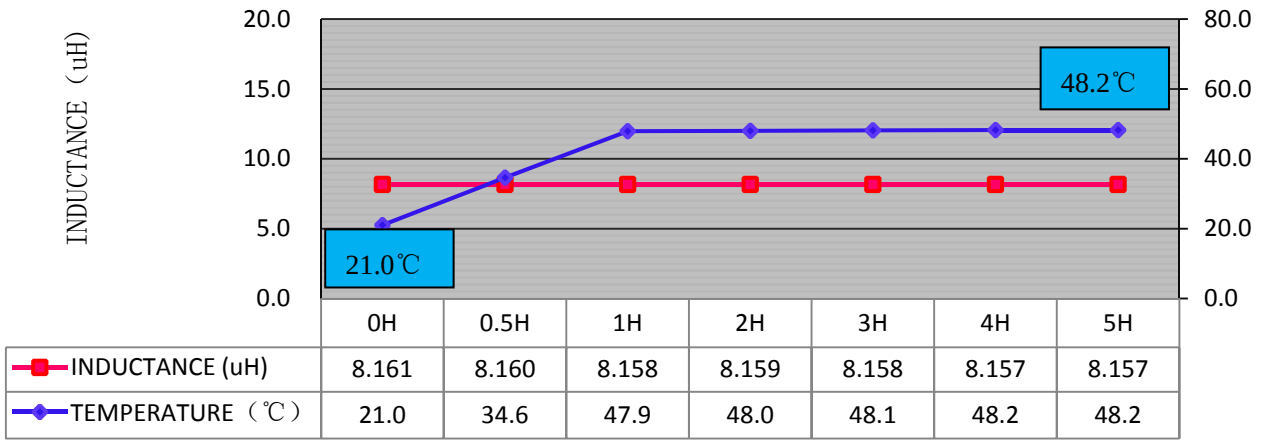
DC current VS Temperature

Time	L（μH）	T（℃）	△T(℃)			
0h	8.161	21.0				
0.5h	8.160	34.6	13.6			
1h	8.158	47.9	26.9			
2h	8.159	48.0	27.0			
3h	8.158	48.1	27.1	`		
4h	8.157	48.2	27.2			
5h	8.157	48.2	27.2			

CONDITTON: Load 16A



Inductance VS Temperature

ELECTRICAL CHARACTERISTICS

RoHS COMPLIANT

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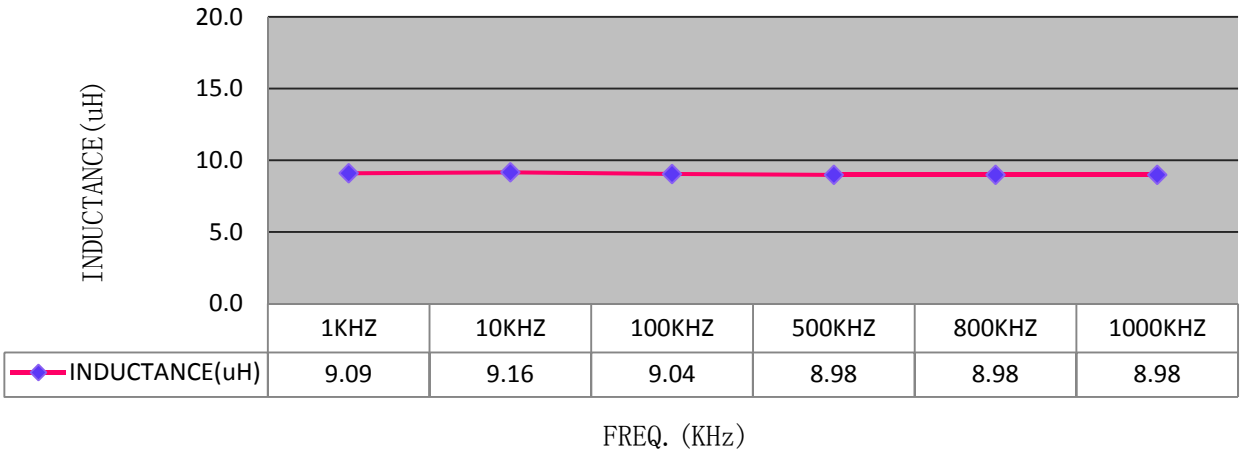
Inductance VS Frequency

FREQ.	L（μH）					
1KHZ	9.09					
10KHZ	9.16					
100KHZ	9.04					
500KHZ	8.98					
800KHZ	8.98					
1000KHZ	8.98					



PACKING FOR SPECIFICATION

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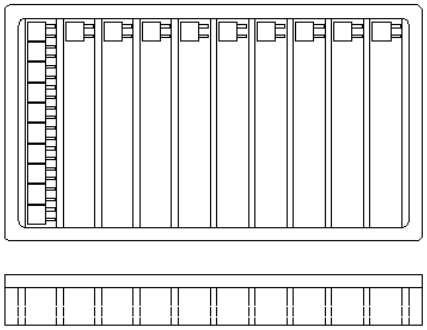
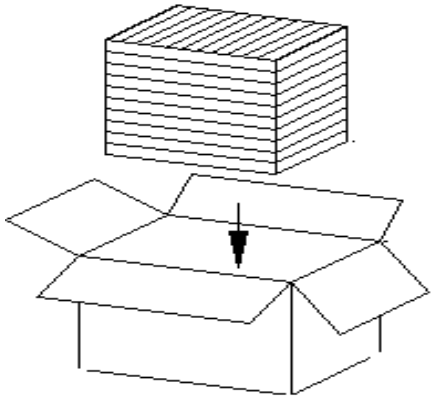
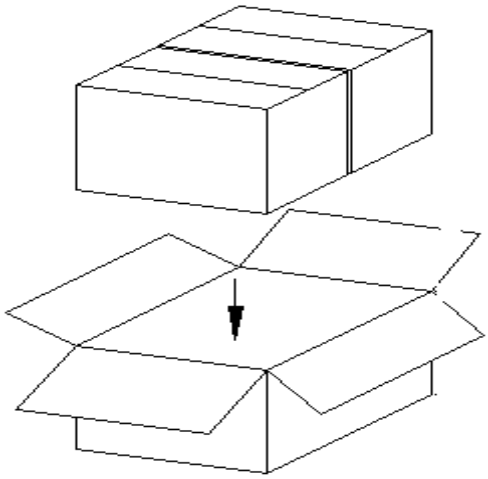


PET Size : 175*159*19mm
Quantity : 50PCS/PET



Small box Size : 324*178*114 mm
Quantity : 10PET/Small box
1Small box/500PCS



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

GENERAL CHARACTERISTICS

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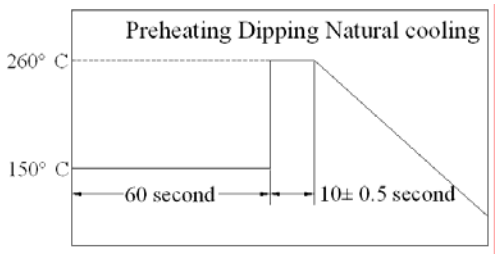
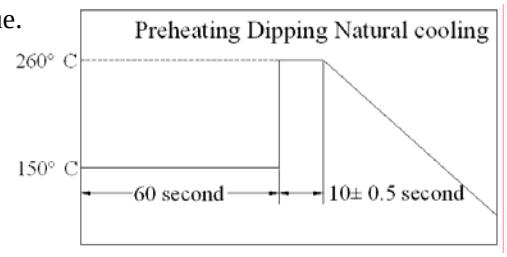
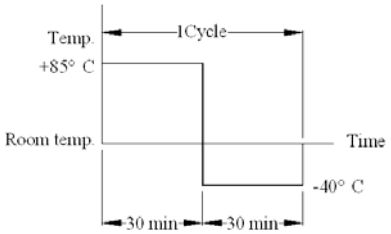
Item	Performance	Test Condition
Mechanical Performance Test		
Solder ability Test	More than 90% of terminal electrode should be covered with solder. After fluxing, component shall be dipped in a melted solder bath at 260±5℃ for 10 seconds 	
Solder Heat Resistance	Components should have not evidence of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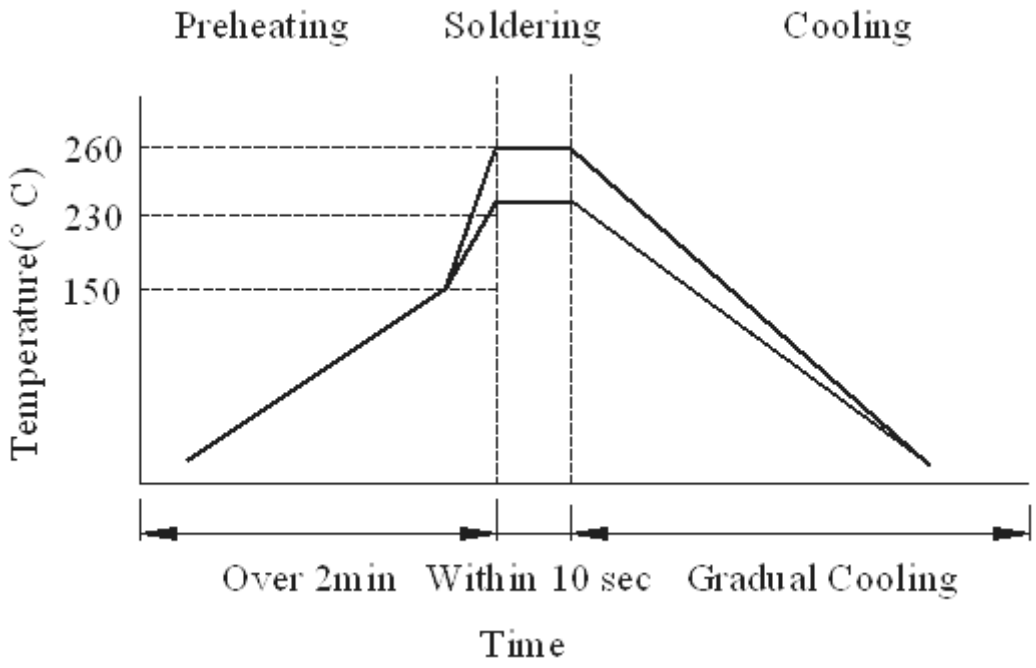
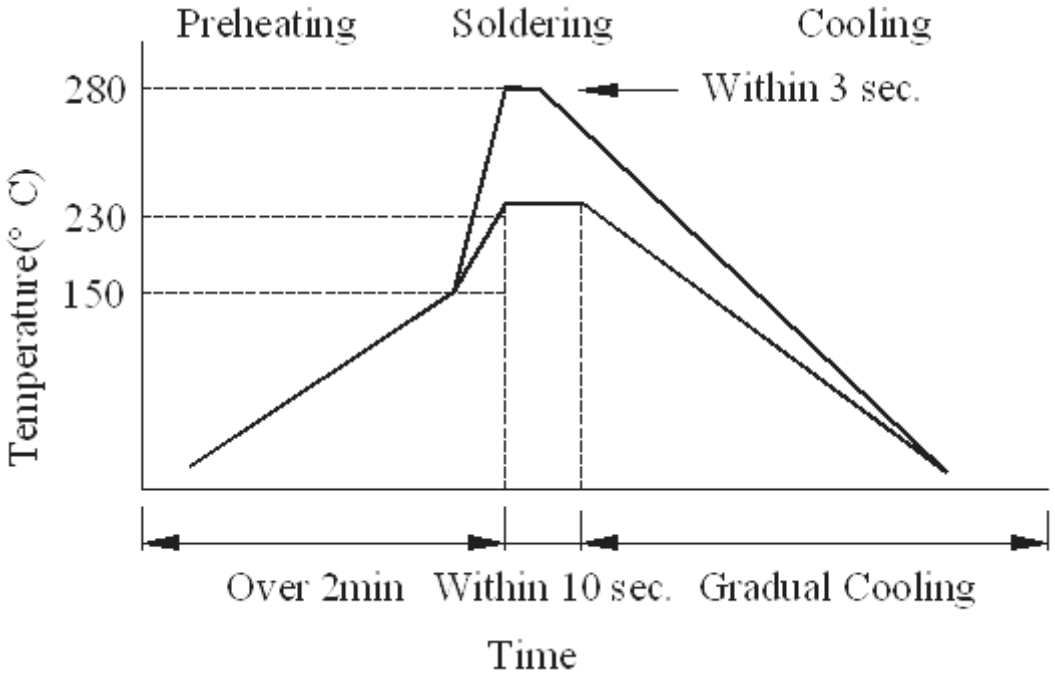
Wave Soldering



Hand soldering



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