

CUSTOMER _____

CUSTOMER'S P/N _____

DESCRIPTION _____ POWER INDUCTOR _____

SGTE PART NO. _____ GPDB1312-220M01 _____

SAMPLE NO.: S10090203 REVISION NO. A DATE 02-Sep-10

SPECIFICATION FOR APPROVAL

FULLY APPROVED	REVISE APPROVED

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SPECIFICATION

**RoHS
COMPLIANT**

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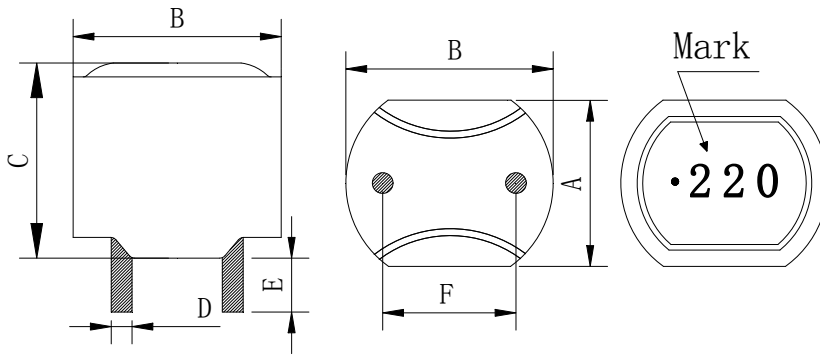
APPROVED BY	CHECKED BY	DRAWING BY
Jesse 9/2	Tony 9/2	Lily 9/2

SPECIFICATION

**RoHS
COMPLIANT**

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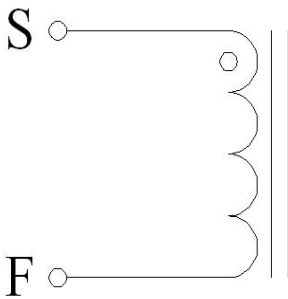
External Dimensions Unit (mm)



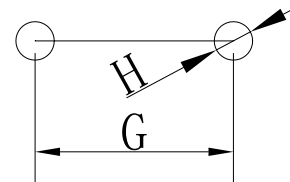
A	12.4± 0.5 (mm)
B	13.4± 0.5 (mm)
C	16.0± 0.5 (mm)
D	0.8± 0.1 (mm)
E	3.4± 0.5 (mm)
F	7.5± 0.5 (mm)
G	7.5± 0.5(mm)
H	1.0 (ref)

Coating:Black

Connection



Recommended Land Pattern



Electrical Specification

Measurement Item	Unit Tolerance	Specification	Test Frequency	Test Instrument
L	uH (±20%)	22uH ±20%	100KHz/1V	LCR Meter Agilent/4284A or Chroma /11300
DCR	mΩ	21.7mΩ (Max)		Chroma /16502
I rms	Amps	8A	100KHz/1V	LCR Meter Agilent/4284A+42841A
I sat	Amps	11A	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

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Electrical Characteristic

Item	L0A	DCR	I rms	I sat
Specification	22uH	21.7mΩ	8Amps	11Amps
Tolerance	±20%	Max	$\Delta T \leq 40^{\circ}\text{C}$	$L \geq 65\%$
1	19.54	16.77	24.5°C	87.4%
2	19.43	16.82		
3	19.25	16.69		
4	19.50	16.65		
5	20.03	16.70		
6	21.34	16.75		
7	22.42	16.78		
8	19.87	16.80		
9	19.39	16.68		
10	20.12	16.74		
\bar{X}	20.09	16.74		
σ	0.97	0.05		

External Dimensions

Item	A	B	C	D	E	F
Specification	12.4	13.4	16.0	0.8	3.4	7.5
Tolerance	± 0.5 (mm)	± 0.5 (mm)	± 0.5 (mm)	± 0.1 (mm)	± 0.5 (mm)	± 0.5 (mm)
1	12.58	13.57	16.01	0.81	3.52	7.46
2	12.60	13.51	15.96	0.80	3.51	7.50
3	12.51	13.53	16.05	0.82	3.47	7.44
4	12.59	13.50	15.87	0.81	3.46	7.47
5	12.56	13.51	16.01	0.80	3.60	7.52
6	12.61	13.54	16.00	0.79	3.64	7.45
7	12.57	13.50	15.92	0.83	3.59	7.50
8	12.55	13.56	15.98	0.78	3.57	7.54
9	12.59	13.58	16.02	0.80	3.49	7.51
10	12.56	13.55	15.95	0.82	3.53	7.53
\bar{X}	12.57	13.54	15.98	0.81	3.54	7.49
σ	0.02	0.03	0.04	0.02	0.03	0.04

Inductance measured at 100KHz/1Vrms.

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

ELECTRICAL CHARACTERISTICS

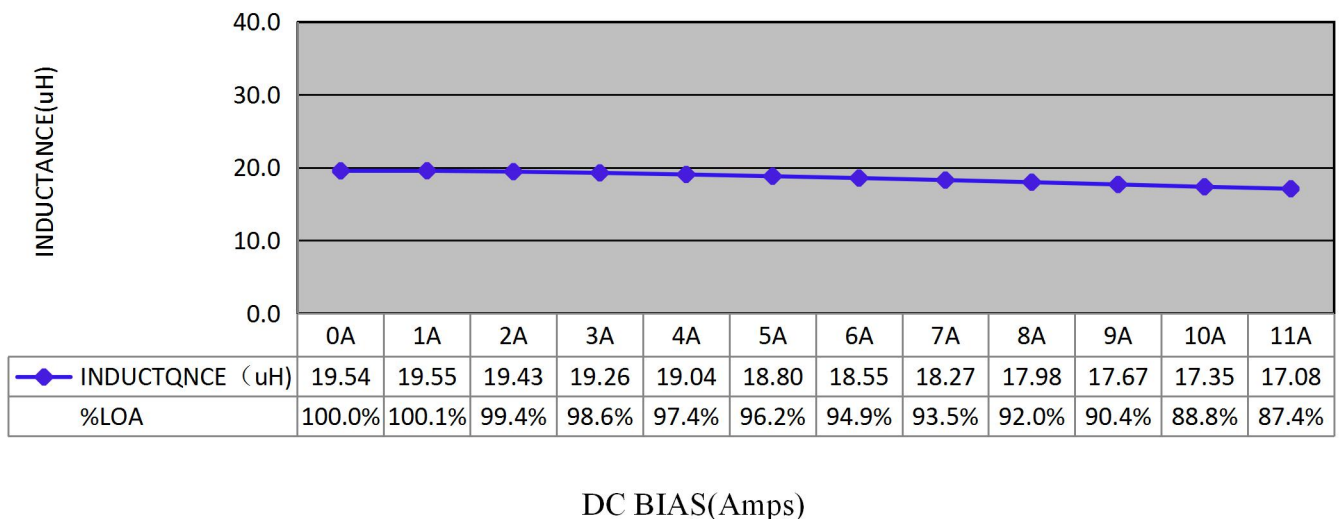
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Inductance VS DC current

IDC	L	%LOA				
0A	19.54	100.0%				
1A	19.55	100.1%				
2A	19.43	99.4%				
3A	19.26	98.6%				
4A	19.04	97.4%				
5A	18.80	96.2%				
6A	18.55	94.9%				
7A	18.27	93.5%				
8A	17.98	92.0%				
9A	17.67	90.4%				
10A	17.35	88.8%				
11A	17.08	87.4%				

CONDITION: 100KHz/1Vrms AMBIENT: 20°C, 69.8%



ELECTRICAL CHARACTERISTICS

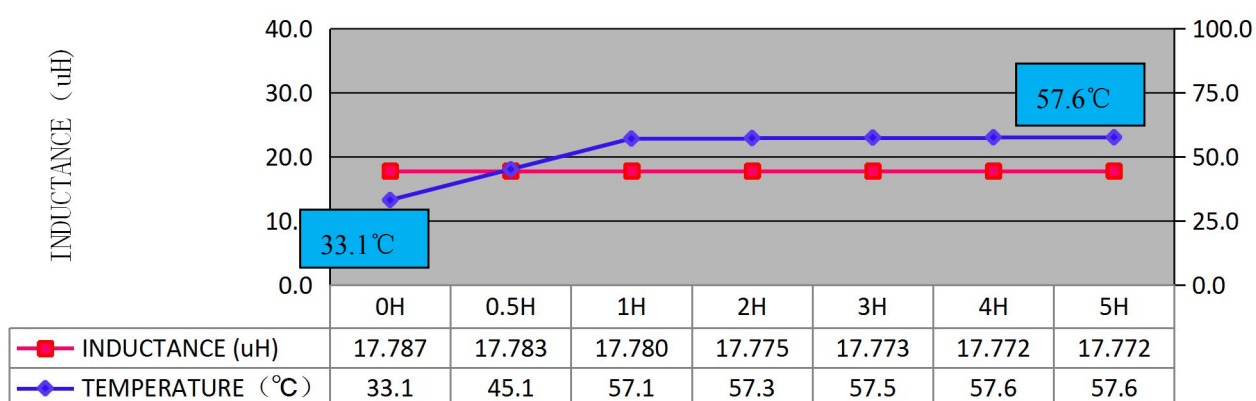
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DC current VS Temperature

Time	L (μ H)	T ($^{\circ}$ C)	Δ T($^{\circ}$ C)			
0H	17.787	33.1				
0.5H	17.783	45.1	12.0			
1H	17.780	57.1	24.0			
2H	17.775	57.3	24.2			
3H	17.773	57.5	24.4			
4H	17.772	57.6	24.5			
5H	17.772	57.6	24.5			

CONDITION: Load 8A AMBIENT: 20 $^{\circ}$ C, 69.8%



Inductance VS Temperature

ELECTRICAL CHARACTERISTICS

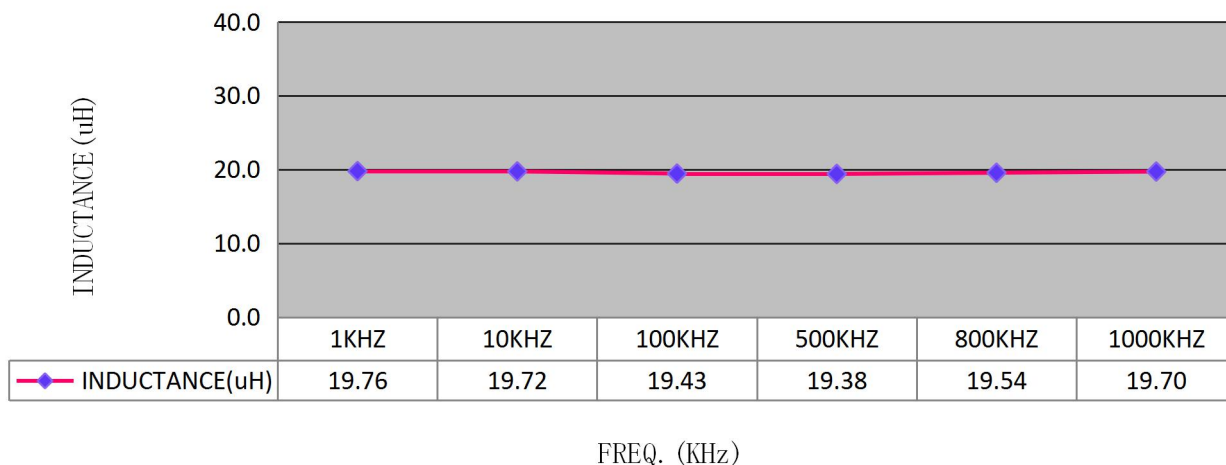
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Inductance VS Frequency

FREQ.	L (μ H)					
1KHZ	19.76					
10KHZ	19.72					
100KHZ	19.43					
500KHZ	19.38					
800KHZ	19.54					
1000KHZ	19.70					

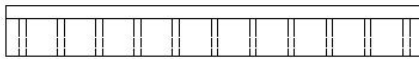
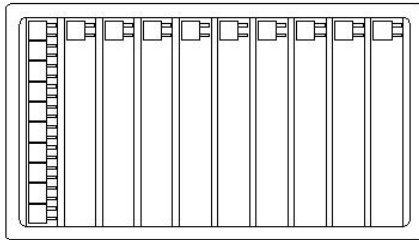
AMBIENT: 20°C, 69.8%



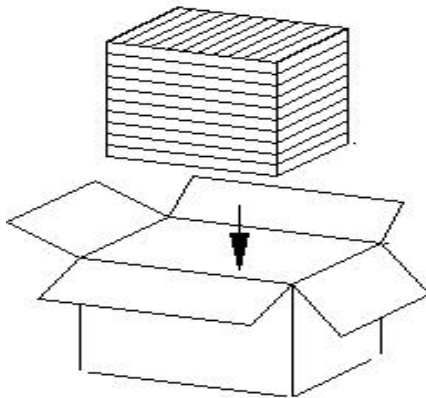
PACKING FOR SPECIFICATION

**RoHS
COMPLIANT**

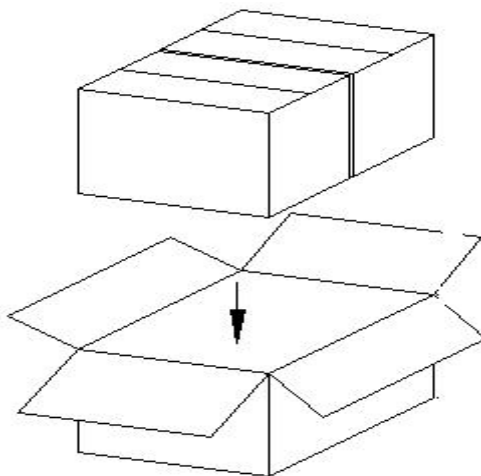
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PET Size : 175*159*19mm
Quantity : 50PCS/PET



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



Big box Size : 386*338*132mm
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	<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

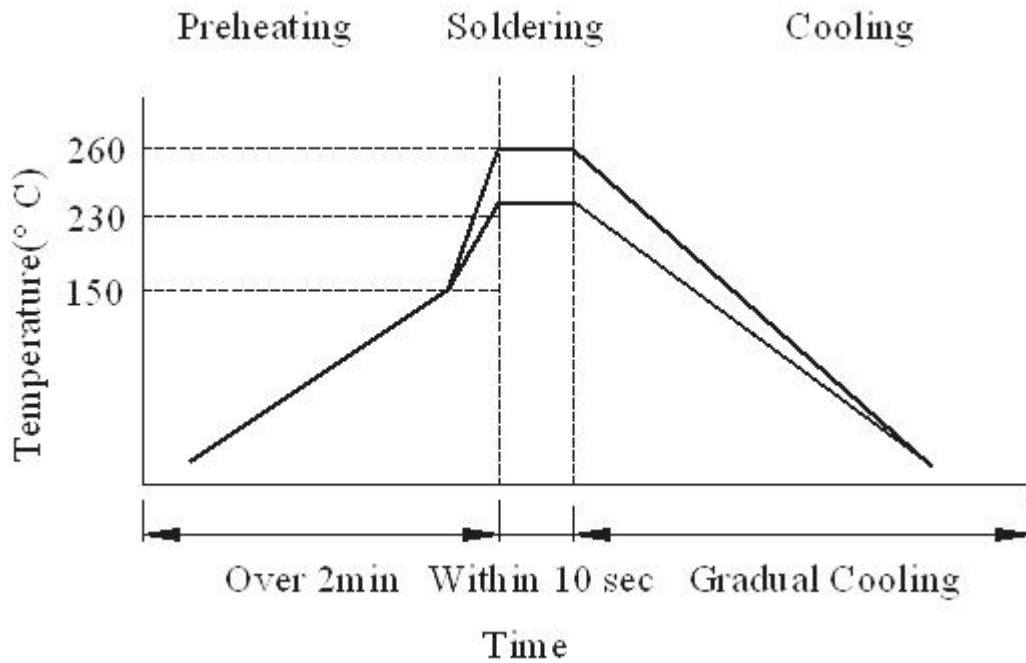
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Wave Soldering



Hand soldering

