

CUSTOMER _____

CUSTOMER'S P/N _____

DESCRIPTION _____ POWER INDUCTOR _____

SGTE PART NO. _____ GPDE1313-150M _____

SAMPLE NO. S11090803 REVISION NO. A DATE 8-Sep-11

SPECIFICATION FOR APPROVAL

FULLY APPROVED	REVISE APPROVED

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SPECIFICATION

**RoHS
COMPLIANT**

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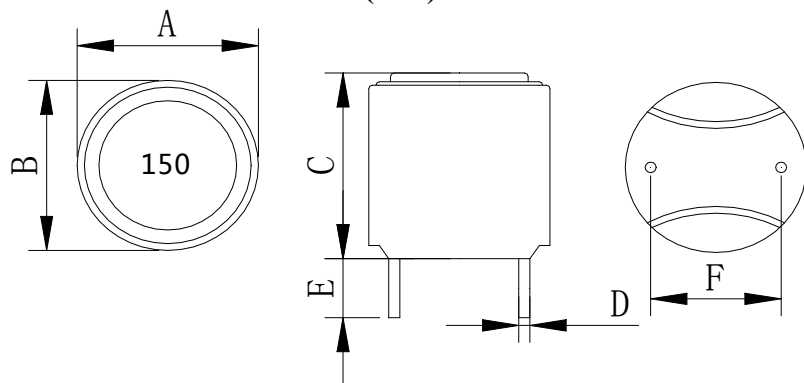
APPROVED BY	CHECKED BY	DRAWING BY
Jesse 9/8	Tony 9/8	you 9/8

SPECIFICATION

**RoHS
COMPLIANT**

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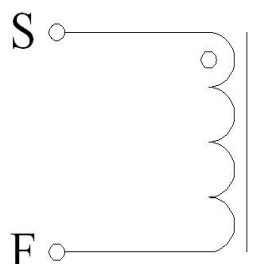
External Dimensions Unit (mm)



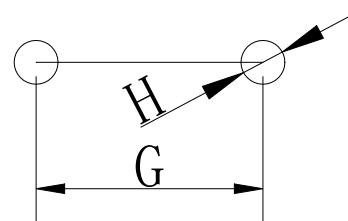
A	13.0± 0.5 (mm)
B	13.0± 0.5 (mm)
C	15.0Max (mm)
D	0.95± 0.1 (mm)
E	3.4± 0.5 (mm)
F	9.0± 0.5 (mm)
G	9.0± 0.5(mm)
H	1.15(ref)

Coating:Black

Connection



Recommended Land Pattern



Electrical Specification

Measurement Item	Unit Tolerance	Specification	Test Frequency	Test Instrument
L	uH (±20%)	15.0uH ±20%	100KHz/1V	LCR Meter Agilent/4284A or Chroma /11300
DCR	mΩ	17.0 mΩ (Max)		Chroma /16502
I rms	Amps	10A	100KHz/1V	LCR Meter Agilent/4284A+42841A
I sat	Amps	16A	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	15.0uH	17.0mΩ	10Amps	16Amps
Tolerance	±20%	Max	$\Delta T \leq 40^{\circ}\text{C}$	$L \geq 65\%$
1	15.82	13.13	9.20°C	78.9%
2	15.84	12.88		
3	15.83	12.78		
4	15.80	12.90		
5	15.91	12.78		
6	15.83	12.80		
7	15.74	12.81		
8	15.76	12.92		
9	15.69	12.86		
10	15.70	13.01		
\bar{X}	15.79	12.89		
σ	0.06	0.11		

External Dimensions

Item	A	B	C	D	E	F
Specification	13.0	13.0	15.0	0.95	3.4	9.0
Tolerance	± 0.5 (mm)	± 0.5 (mm)	Max (mm)	± 0.1 (mm)	± 0.5 (mm)	± 0.5 (mm)
1	13.16	13.16	12.41	0.95	3.58	8.83
2	13.16	13.16	12.35	0.92	3.52	9.10
3	13.17	13.17	12.36	0.93	3.60	8.90
4	13.19	13.19	12.47	0.96	3.55	8.93
5	13.18	13.18	12.37	0.94	3.59	8.95
6	13.18	13.08	12.35	0.93	3.50	8.92
7	13.10	13.00	12.40	0.94	3.54	8.99
8	13.09	13.09	12.37	0.95	3.60	9.10
9	13.11	13.11	12.42	0.96	3.53	9.05
10	13.08	13.08	12.33	0.94	3.58	9.02
\bar{X}	13.14	12.61	12.38	0.94	3.56	8.98
σ	0.04	0.06	0.04	0.01	0.03	0.08

Inductance measured at 100KHz/1Vrms.

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

ELECTRICAL CHARACTERISTICS

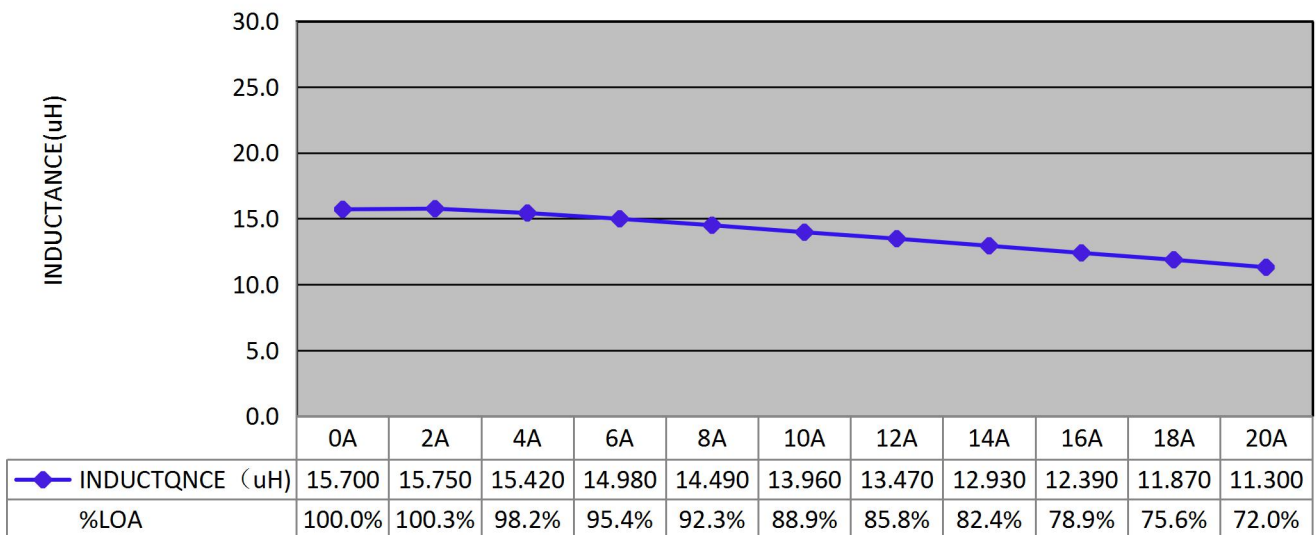
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Inductance VS DC current

IDC	L	%LOA				
0A	15.70	100.0%				
2A	15.75	100.3%				
4A	15.42	98.2%				
6A	14.98	95.4%				
8A	14.98	92.3%				
10A	14.49	88.9%				
12A	13.96	85.8%				
14A	13.47	82.4%				
16A	12.93	78.9%				
18A	11.87	75.6%				
20A	11.30	72.0%				

CONDITTON: 100KHZ/1.0Vrms



DC BIAS(Amps)

ELECTRICAL CHARACTERISTICS

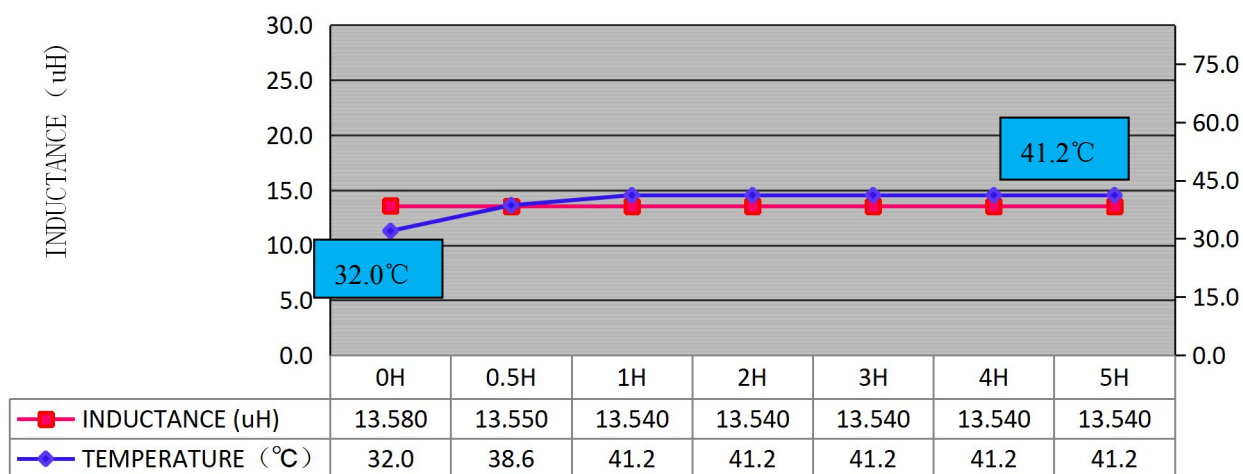
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DC current VS Temperature

Time	L (μ H)	T ($^{\circ}$ C)	Δ T($^{\circ}$ C)			
0h	13.58	32.0				
0.5h	13.55	38.6	6.6			
1h	13.54	41.2	25.7			
2h	13.54	41.2	9.2			
3h	13.54	41.2	9.2			
4h	13.54	41.2	9.2			
5h	13.54	41.2	9.2			

CONDITTON: Load 10A



Inductance VS Temperature

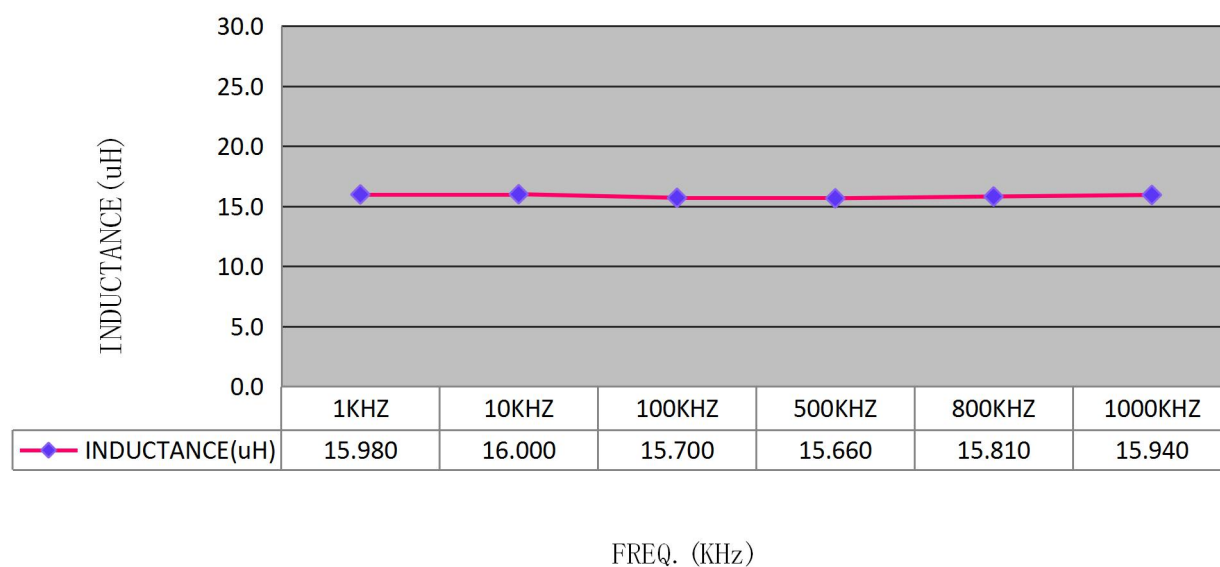
ELECTRICAL CHARACTERISTICS

**RoHS
COMPLIANT**

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Inductance VS Frequency

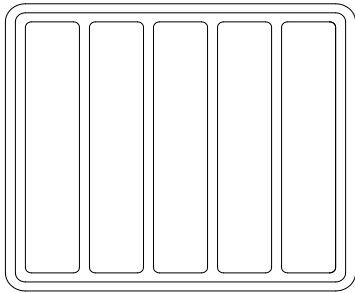
FREQ.	L (μ H)					
1KHZ	15.98					
10KHZ	16.00					
100KHZ	15.70					
500KHZ	15.66					
800KHZ	15.81					
1000KHZ	15.94					



PACKING FOR SPECIFICATION

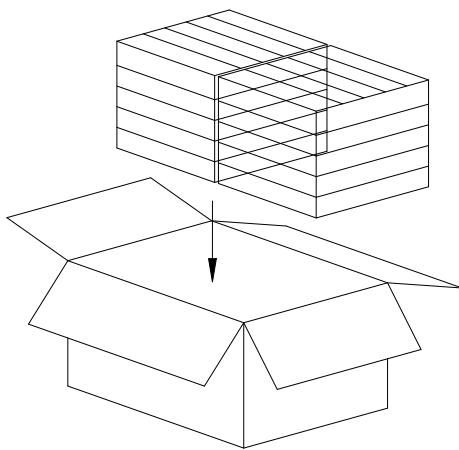
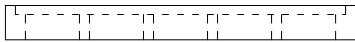
**RoHS
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PET Size : 175*159*19mm

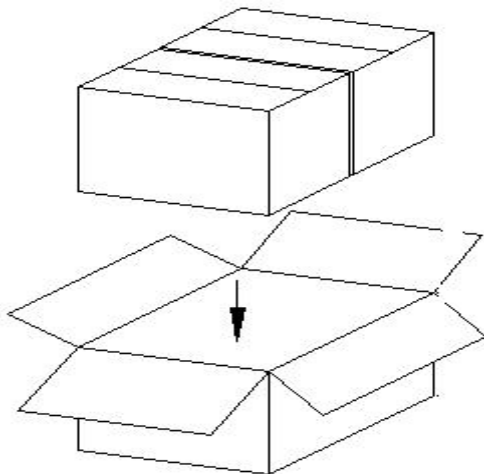
Quantity : 50PCS/PET



Small box Size : 324*178*114 mm

Quantity : 10PET/Small box

1 Small box/500PCS



Big box Size : 386*338*132 mm

Quantity : 2 Small box/Big box

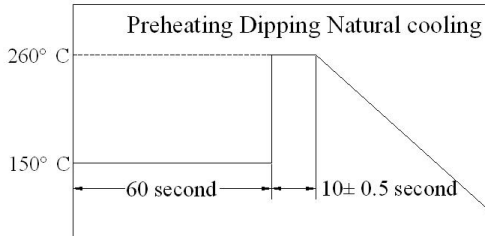
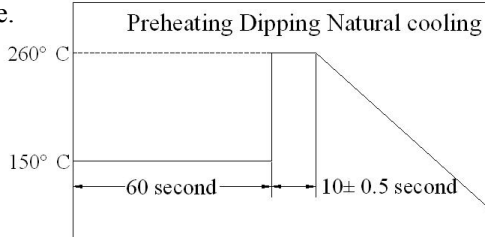
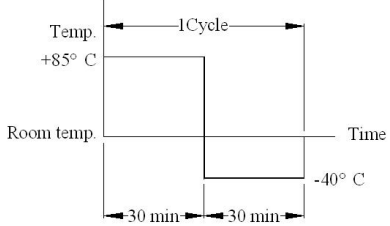
1 Big box/1000PCS

GENERAL CHARACTERISTICS

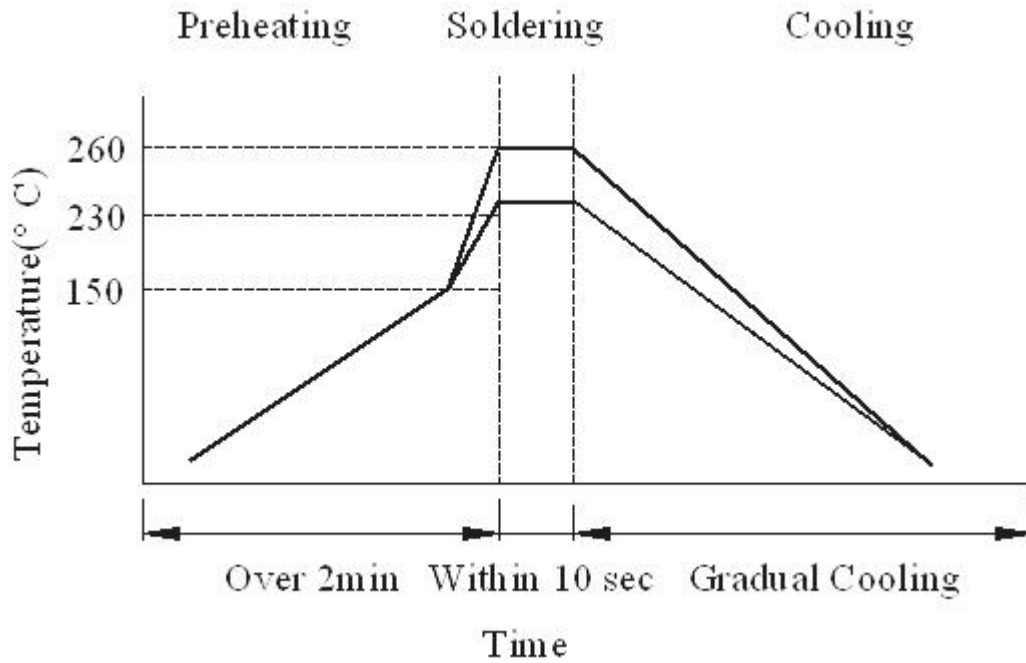
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Item	Performance	Test Condition
Mechanical Performance Test		
Solder ability Test	<p>More than 90% of terminal electrode should be covered with solder.</p> <p>After fluxing, component shall be dipped in a melted solder bath at $260\pm 5^{\circ}\text{C}$ 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>

Wave Soldering



Hand soldering

