

CUSTOMER 0002

CUSTOMER'S P/N _____

DESCRIPTION POWER INDUCTOR

SGTE PART NO. GPDC1111-150M

SAMPLE NO. S09122402 REVISION NO. A DATE 24-Dec-09

SPECIFICATION FOR APPROVAL

FULLY APPROVED	REVISE APPROVED

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SPECIFICATION

**RoHS
COMPLIANT**

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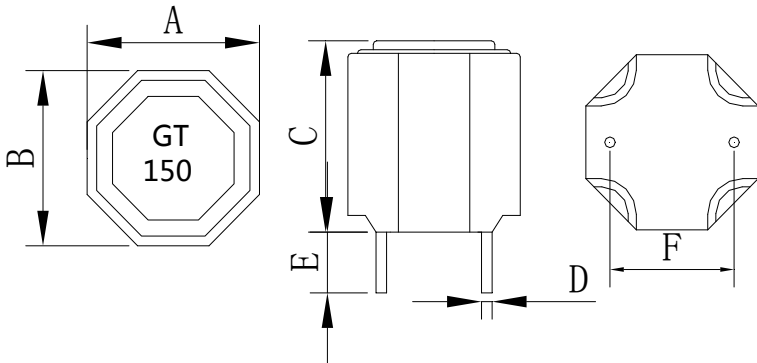
APPROVED BY	CHECKED BY	DRAWING BY
Andy	Alex	Gary 12/24

SPECIFICATION

**RoHS
COMPLIANT**

Customers Part Number	Item Name	Date
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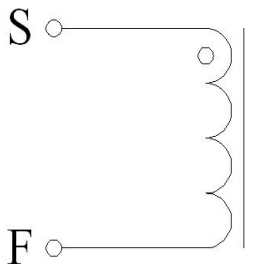
External Dimensions Unit (mm)



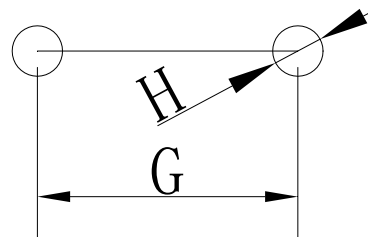
A	11.0± 0.5 (mm)
B	11.0± 0.5 (mm)
C	12.0Max (mm)
D	0.8± 0.1 (mm)
E	3.4± 0.5 (mm)
F	7.5± 0.5 (mm)
G	7.5 (ref)
H	1.2 (ref)

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	17mΩ (Max)		Chroma /16502
I rms	Amps	9A	100KHz/1V	LCR Meter Agilent/4284A+42841A
I sat	Amps	12A	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	17.0m Ω	9Amps	12Amps
Tolerance	$\pm 20\%$	Max	$\Delta T \leq 40^{\circ}\text{C}$	$L \geq 65\%$
1	14.826	15.79	38.3 $^{\circ}\text{C}$	76.3%
2	14.934	15.85		
3	15.172	15.74		
4	14.926	15.75		
5	14.738	15.79		
6	15.126	15.73		
7	15.047	15.81		
8	15.136	15.76		
9	14.892	15.79		
10	14.699	15.80		
\bar{X}	14.950	15.78		
σ	0.16	0.03		

External Dimensions

Item	A	B	C	D	E	F
Specification	11.0	11.0	12.0	0.8	3.4	7.5
Tolerance	± 0.5 (mm)	± 0.5 (mm)	Max (mm)	± 0.1 (mm)	± 0.5 (mm)	± 0.5 (mm)
1	11.67	11.73	10.43	0.80	3.64	7.5
2	11.74	11.65	10.49	0.79	3.57	7.47
3	11.65	11.68	10.40	0.81	3.66	7.52
4	11.70	11.67	10.45	0.81	3.61	7.55
5	11.68	11.67	10.42	0.80	3.59	7.46
6	11.69	11.71	10.46	0.79	3.66	7.48
7	11.69	11.68	10.40	0.80	3.65	7.49
8	11.64	11.69	10.41	0.80	3.60	7.49
9	11.72	11.72	10.42	0.80	3.57	7.51
10	11.65	11.70	10.46	0.81	3.62	7.5
\bar{X}	11.68	11.69	10.43	0.80	3.62	7.50
σ	0.03	0.02	0.03	0.01	0.03	0.02

Inductance measured at 100KHz/1Vrms.

Electrical specifications at 25 $\pm 5^{\circ}\text{C}$. Humidity 60 $\pm 10\%$

ELECTRICAL CHARACTERISTICS

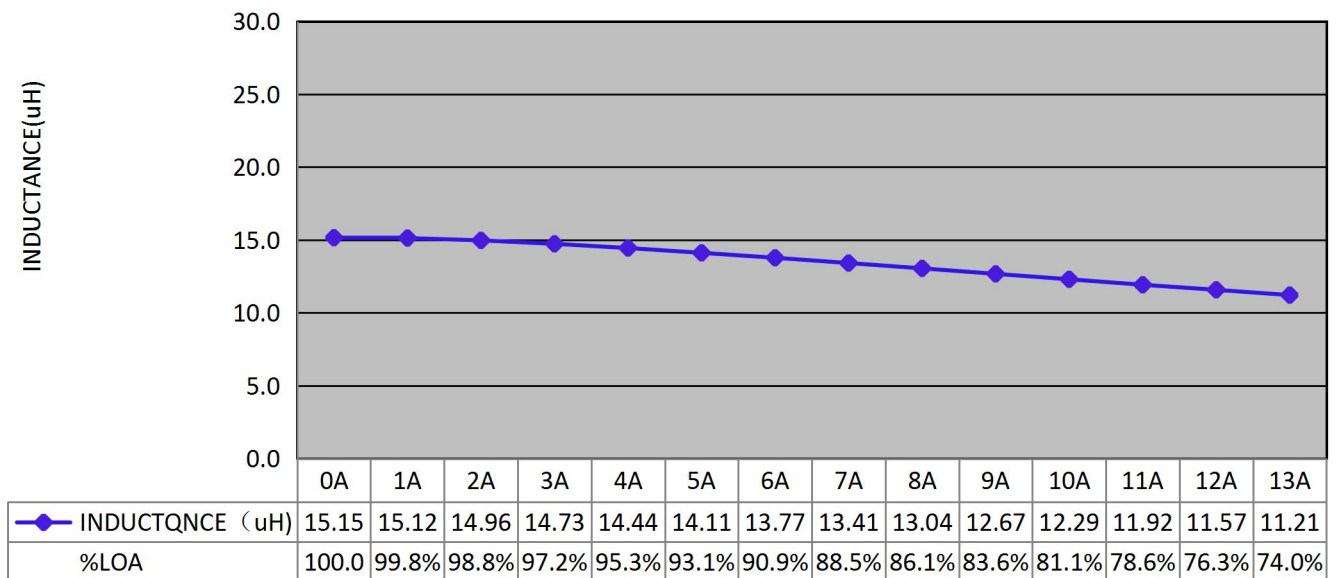
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Inductance VS DC current

IDC	L	%LOA				
0A	15.15	100%				
1A	15.12	99.8%				
2A	14.96	98.8%				
3A	14.73	97.2%				
4A	14.44	95.3%				
5A	14.11	93.1%				
6A	13.77	90.9%				
7A	13.41	88.5%				
8A	13.04	86.1%				
9A	12.67	83.6%				
10A	12.29	81.1%				
11A	11.92	78.6%				
12A	11.57	76.3%				
13A	11.21	74.0%				

CONDITION: 100KHZ/1.0Vrms AMBIENT: 20°C, 69.8%



DC BIAS(Amps)

ELECTRICAL CHARACTERISTICS

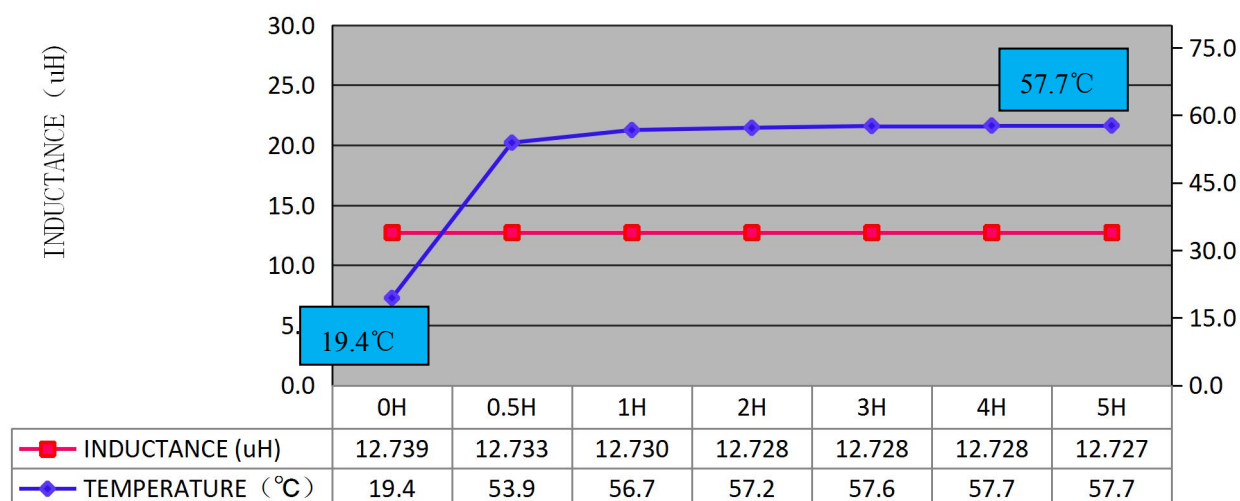
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DC current VS Temperature

Time	L (μH)	T (°C)	ΔT(°C)			
0H	12.739	19.4				
0.5H	12.733	53.9	34.5			
1H	12.730	56.7	37.3			
2H	12.728	57.2	37.8			
3H	12.728	57.6	38.2			
4H	12.728	57.7	38.3			
5H	12.727	57.7	38.3			

CONDITION: Load 9A AMBIENT: 20°C, 69.8%



Inductance VS Temperature

ELECTRICAL CHARACTERISTICS

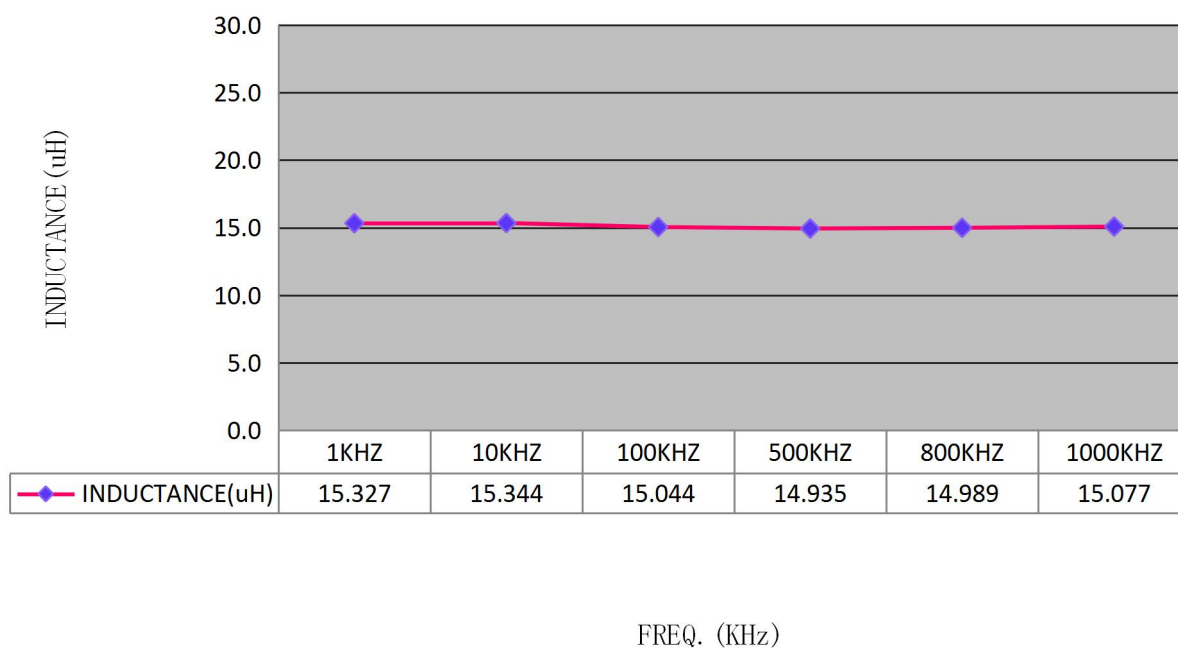
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Inductance VS Frequency

FREQ.	L (μH)					
1KHZ	15.327					
10KHZ	15.344					
100KHZ	15.044					
500KHZ	14.935					
800KHZ	14.989					
1000KHZ	15.077					

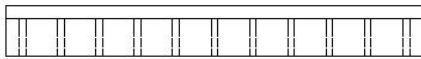
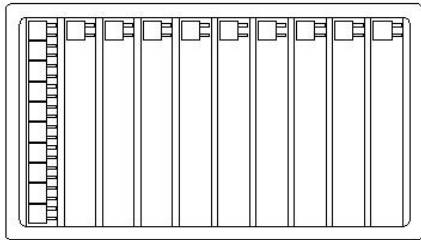
AMBIENT: 20°C, 69.8%



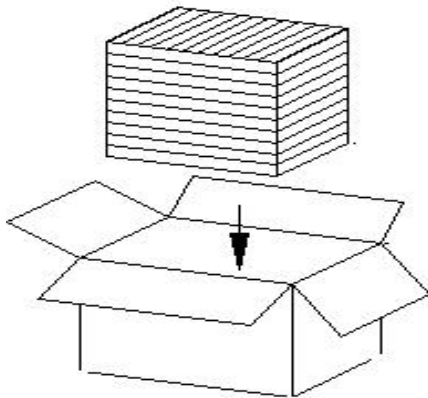
PACKING FOR SPECIFICATION

**RoHS
COMPLIANT**

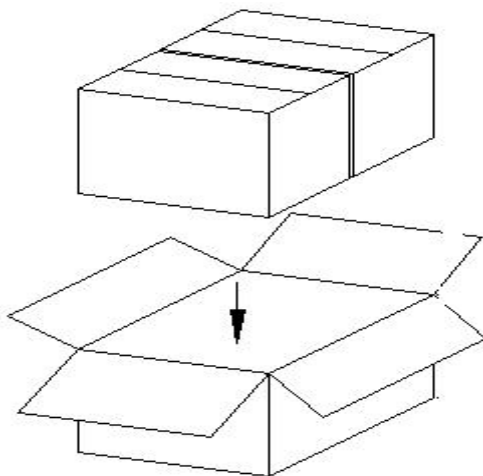
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PET Size :215*148 *16(C)mm
Quantity : 100PCS/PET



Small box Size : 238*156*165 mm
Quantity : 10PET/Small box
1Small box/1000PCS



Big box Size : 328*251*175 mm
Quantity : 2 Small box/Big box
1 Big box/2000PCS

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

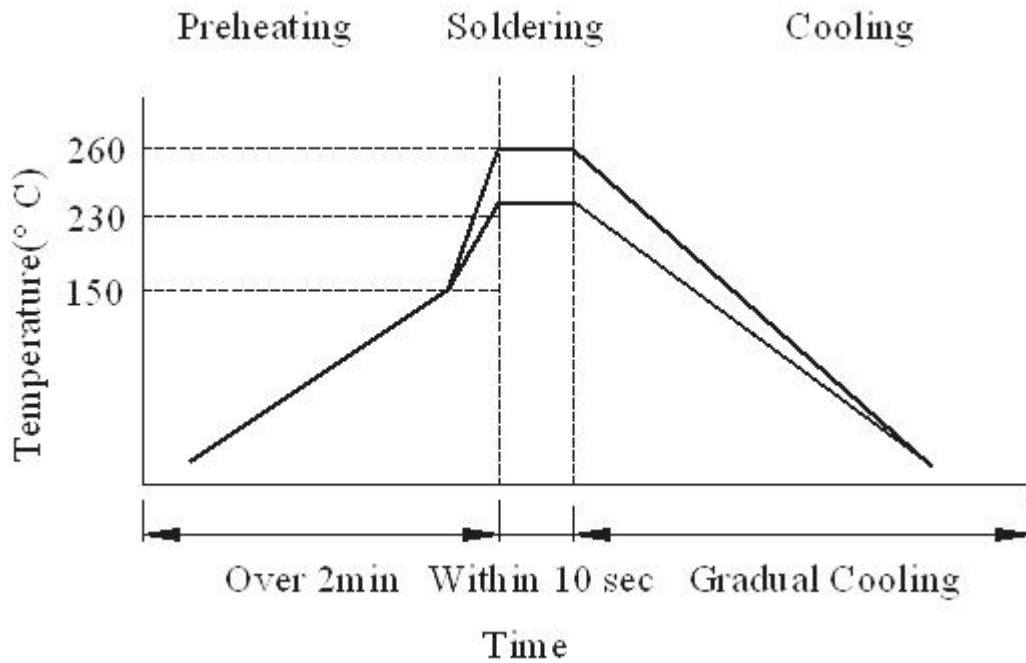
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Wave Soldering



Hand soldering

