

CUSTOMER _____

CUSTOMER'S P/N _____

DESCRIPTION _____ POWER INDUCTOR _____

SGTE PART NO. _____ GPDC1010-150M _____

SAMPLE NO. S09100907 REVISION NO. A DATE 30-Jun-09

SPECIFICATION FOR APPROVAL

FULLY APPROVED	REVISE APPROVED

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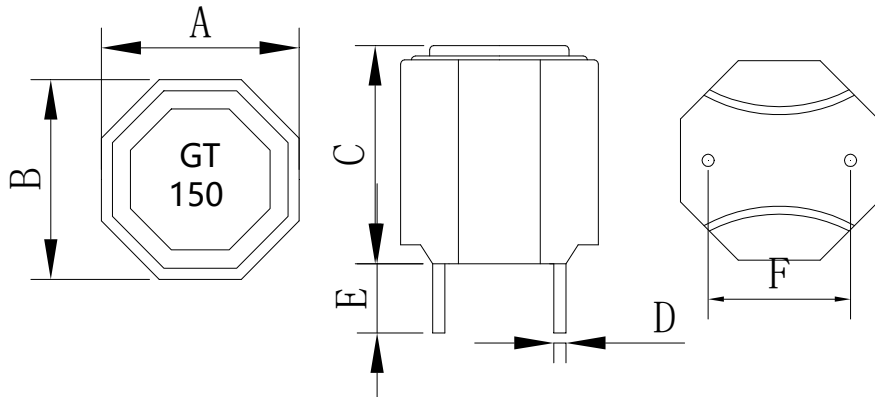
APPROVED BY	CHECKED BY	DRAWING BY
		<i>Lisa</i> 10/9

SPECIFICATION

**RoHS
COMPLIANT**

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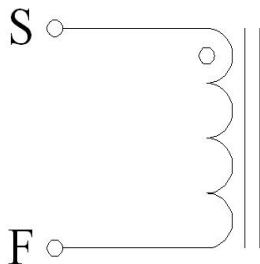
External Dimensions Unit (mm)



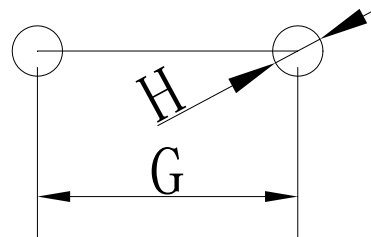
A	10.3± 0.5 (mm)
B	10.3± 0.5 (mm)
C	11.0Max (mm)
D	0.6± 0.1 (mm)
E	3.4± 0.5 (mm)
F	6.0± 0.5 (mm)
G	6.0 (ref)
H	1.0 (ref)

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	34mΩ (Max)		Chroma /16502
I rms	Amps	4.5A	100KHz/1V	LCR Meter Agilent/4284A+42841A
I sat	Amps	7 A	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

**RoHS
COMPLIANT**

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Electrical Characteristic

Item	L0A	DCR	I rms	I sat
Specification	15.0uH	34mΩ	4.5Amps	7Amps
Tolerance	±20%	Max	$\Delta T \leq 40^{\circ}\text{C}$	$L \geq 65\%$
1	15.54	27.44	28.4°C	82.1%
2	15.58	27.50		
3	15.60	27.43		
4	15.70	27.25		
5	15.39	26.88		
6	15.28	27.55		
7	15.15	27.50		
8	15.10	27.30		
9	15.27	27.34		
10	15.30	27.52		
\bar{X}	15.39	27.37		
σ	0.19	0.19		

External Dimensions

Item	A	B	C	D	E	F
Specification	10.3	10.3	10.0	0.6	3.4	6.0
Tolerance	± 0.5 (mm)	± 0.5 (mm)	Max (mm)	± 0.1 (mm)	± 0.5 (mm)	± 0.5 (mm)
1	10.28	10.23	9.23	0.61	3.62	6.38
2	10.25	10.27	9.30	0.62	3.64	6.40
3	10.32	10.26	9.28	0.59	3.59	6.41
4	10.31	10.28	9.27	0.60	3.60	6.42
5	10.30	10.29	9.15	0.61	3.61	6.43
6	10.32	10.29	9.20	0.62	3.65	6.40
7	10.29	10.28	9.18	0.61	3.63	6.39
8	10.28	10.27	9.16	0.62	3.64	6.38
9	10.28	10.29	9.23	0.59	3.62	6.45
10	10.30	10.28	9.25	0.60	3.63	6.43
\bar{X}	10.29	10.27	9.23	0.61	3.62	6.41
σ	0.02	0.04	0.05	0.01	0.02	0.02

Inductance measured at 100KHz/1Vrms.

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

ELECTRICAL CHARACTERISTICS

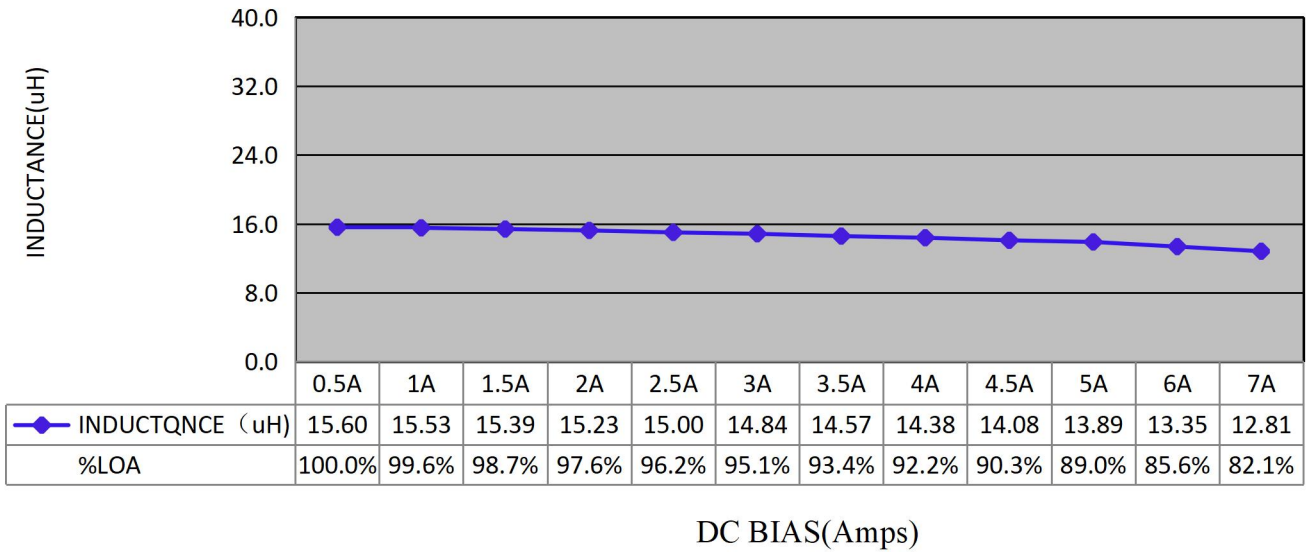


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Inductance VS DC current

IDC	L	%LOA				
0.5A	15.60	100%				
1A	15.53	99.6%				
1.5A	15.39	98.7%				
2A	15.23	97.6%				
2.5A	15.00	96.2%				
3A	14.84	95.1%				
3.5A	14.57	93.4%				
4A	14.38	92.2%				
4.5A	14.08	90.3%				
5A	13.89	89.0%				
6A	13.35	85.6%				
7A	12.81	82.1%				

CONDITTON: 100KHZ/1.0Vrms



DC BIAS(Amps)

ELECTRICAL CHARACTERISTICS

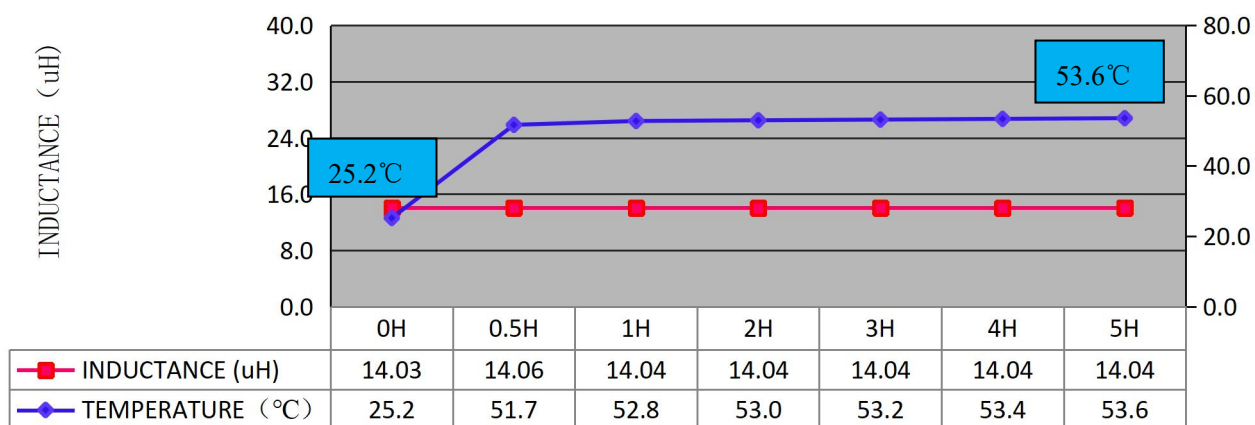
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DC current VS Temperature

Time	L (μH)	T (°C)	ΔT(°C)			
0h	14.03	25.2				
0.5h	14.06	51.7	26.5			
1h	14.04	52.8	27.6			
2h	14.04	53.0	27.8			
3h	14.04	53.2	28.0			
4h	14.04	53.4	28.2			
5h	14.04	53.6	28.4			

CONDITTON: Load 4.5A



Inductance VS Temperature

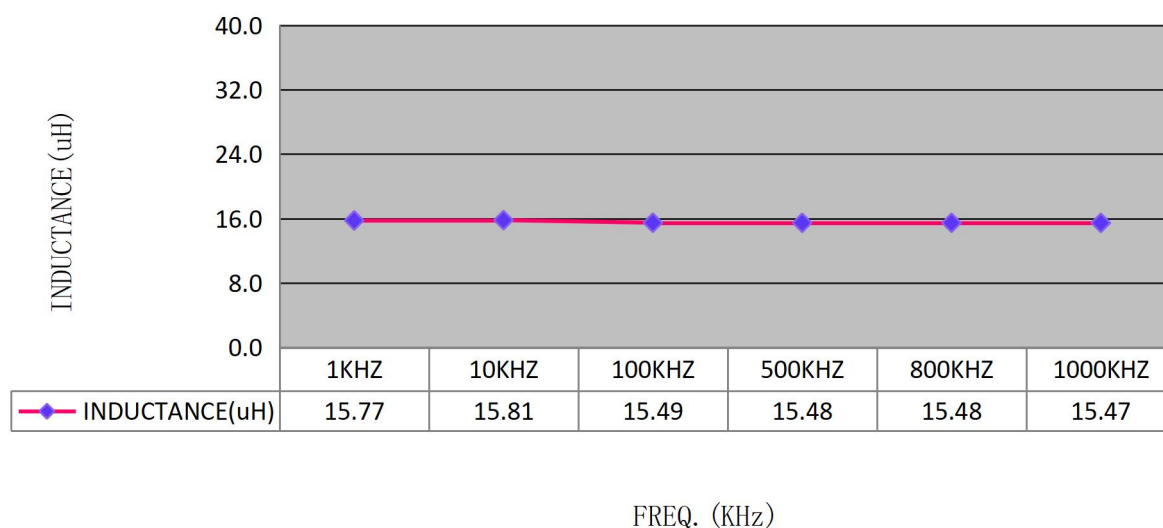
ELECTRICAL CHARACTERISTICS

**RoHS
COMPLIANT**

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Inductance VS Frequency

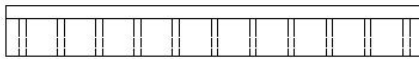
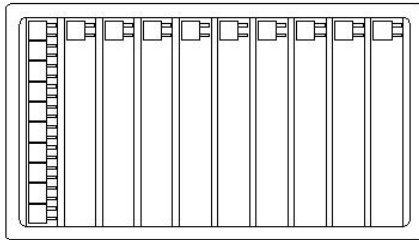
FREQ.	L (μH)					
1KHZ	15.77					
10KHZ	15.81					
100KHZ	15.49					
500KHZ	15.48					
800KHZ	15.48					
1000KHZ	15.47					



PACKING FOR SPECIFICATION

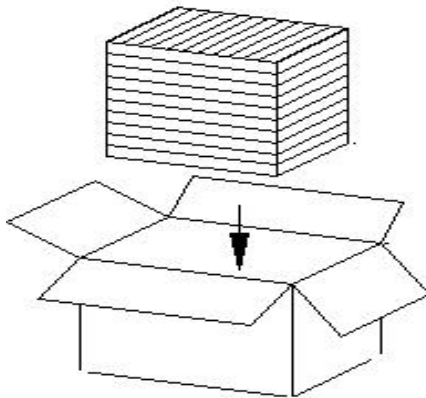
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PET Size : 215*148 *16 (D) mm

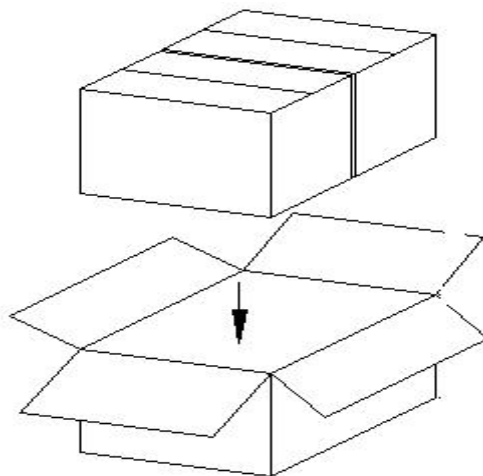
Quantity : 130PCS/PET



Small box Size : 238*156*165 mm

Quantity : 10PET/Small box

1Small box/1300PCS



Big box Size : 328*251*175 mm

Quantity : 2 Small box/Big box

1 Big box/2600PCS

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>	<p style="text-align: center;">Preheating Dipping Natural cooling</p> <p style="text-align: center;">260° C 150° C 60 second 10± 0.5 second</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>	<p style="text-align: center;">Preheating Dipping Natural cooling</p> <p style="text-align: center;">260° C 150° C 60 second 10± 0.5 second</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> <p style="text-align: center;">Temp. +85° C Room temp. -40° C Time 30 min 30 min 1 Cycle</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

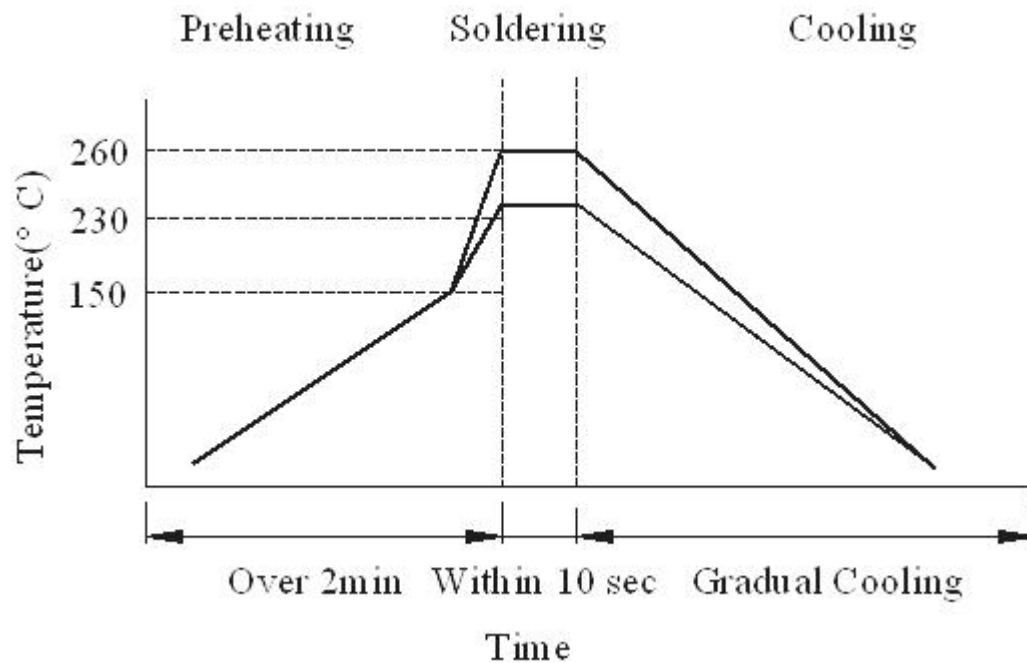
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Wave Soldering



Hand soldering

