

CUSTOMER \_\_\_\_\_

CUSTOMER'S P/N \_\_\_\_\_

DESCRIPTION \_\_\_\_\_ POWER INDUCTOR \_\_\_\_\_

SGTE PART NO. \_\_\_\_\_ GPDC1010-150M \_\_\_\_\_

SAMPLE NO.: S10083004 REVISION NO. A DATE 30-Aug-10

## SPECIFICATION FOR APPROVAL

FULLY APPROVED	REVISE APPROVED

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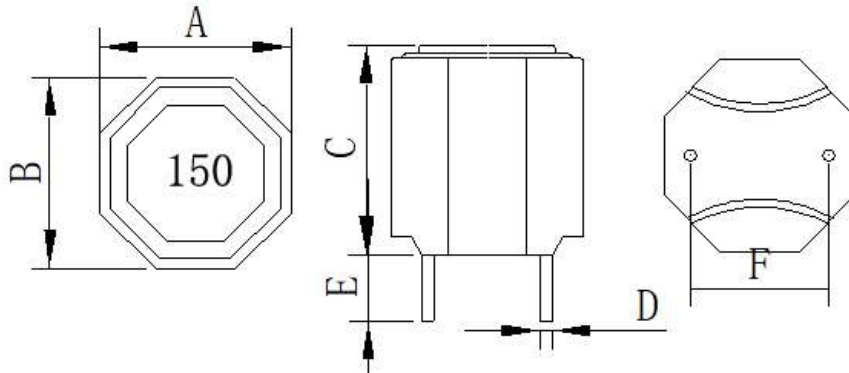
APPROVED BY	CHECKED BY	DRAWING BY
<i>Jesse</i> 8/30	<i>Tony</i> 8/30	<i>Lily</i> 8/30

# SPECIFICATION

**RoHS  
COMPLIANT**

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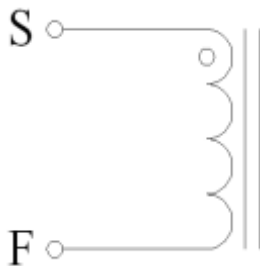
## External Dimensions Unit (mm)



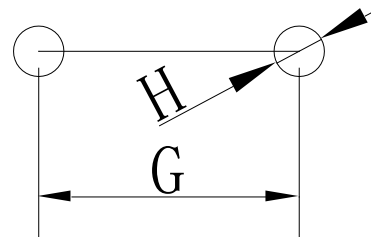
A	10.0±0.5 (mm)
B	10.0±0.5 (mm)
C	11.0Max (mm)
D	0.6±0.1 (mm)
E	3.4±0.5 (mm)
F	6.0±0.5 (mm)
G	6.0±0.5(mm)
H	1.0 (ref)

Coating:Black

## Connection



## Recommended Land Pattern



## Electrical Specification

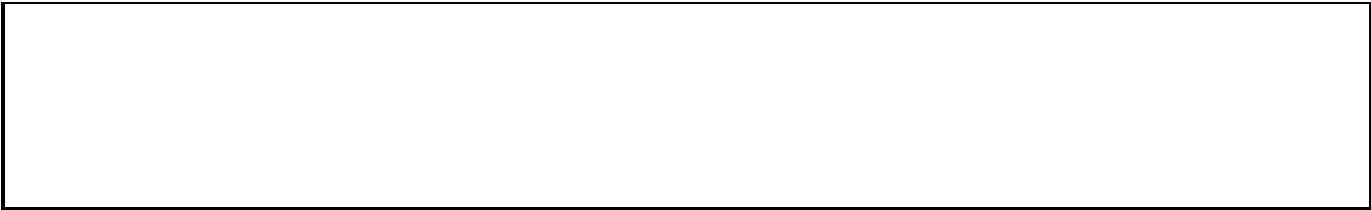
Measurement Item	Unit Tolerance	Specification	Test Frequency	Test Instrument
L	uH (±20%)	15.0uH ±20%	100KHz/1V	LCR Meter Agilent/4284A or Chroma /11300
DCR	mΩ	34mΩ(Max)		Chroma /16502
I rms	Amps	4.5A	100KHz/1V	LCR Meter Agilent/4284A+42841A
I sat	Amps	7A	100KHz/1V	or Chroma /11300+3302+1320+1320S

·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	LOA	DCR	I rms	I sat
Specification	15.0uH	34mΩ	4.5Amps	7Amps
Tolerance	±20%	Max	ΔT≤40°C	L≥65%
1	15.54	26.12	17.2°C	85.0%
2	15.58	25.89		
3	15.60	26.02		
4	15.70	26.05		
5	15.39	25.97		
6	15.28	26.05		
7	15.15	26.13		
8	15.10	25.85		
9	15.27	26.04		
10	15.30	25.87		
$\bar{X}$	15.39	26.00		
$\sigma$	0.19	0.04		

### External Dimensions

Item	A	B	C	D	E	F
Specification	10.0	10.0	11.0	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	10.03	10.02	9.14	0.60	3.41	6.13
2	10.09	10.08	9.04	0.58	3.51	6.08
3	10.09	10.10	9.26	0.56	3.52	6.09
4	10.07	10.11	8.92	0.58	3.48	5.98
5	10.08	10.09	9.38	0.57	3.50	6.07
6	10.09	10.11	9.34	0.60	3.49	5.99

7	10.07	10.04	9.01	0.59	3.41	6.08
8	10.06	10.09	9.27	0.59	3.47	6.09
9	10.05	10.08	9.18	0.58	3.50	6.07
10	10.04	10.07	9.15	0.59	3.42	6.07
$\bar{X}$	10.08	10.09	9.17	0.58	3.47	6.08
$\sigma$	0.02	0.02	0.04	0.01	0.04	0.01

Inductance measured at 100KHz/1Vrms.

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

# ELECTRICAL CHARACTERISTICS

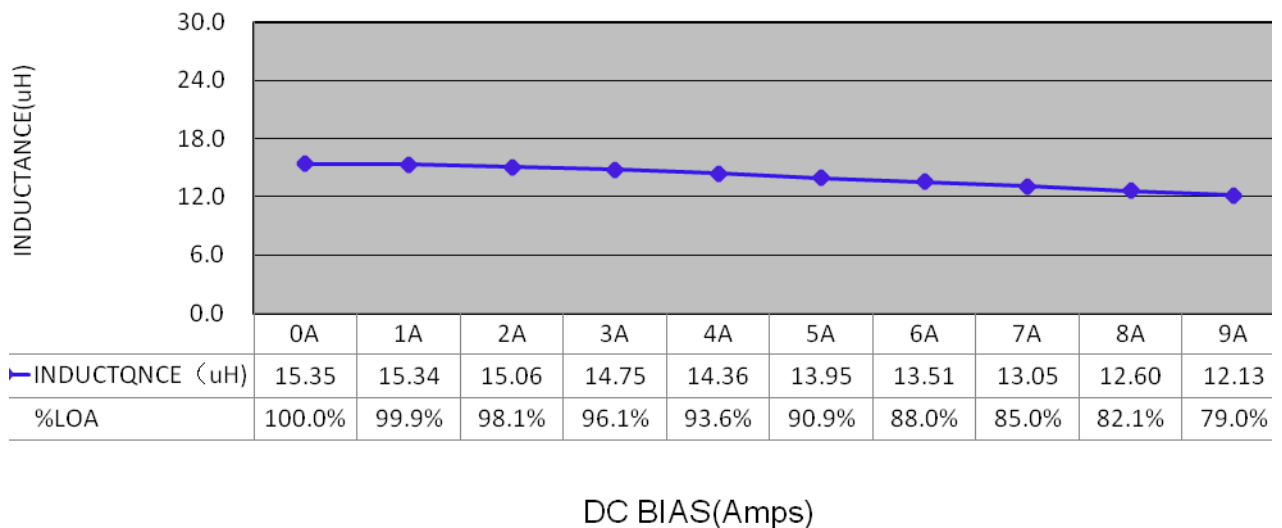
**RoHS  
COMPLIANT**

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## Inductance VS DC current

IDC	L	%LOA				
0A	15.35	100.0%				
1A	15.34	99.9%				
2A	15.06	98.1%				
3A	14.75	96.1%				
4A	14.36	93.6%				
5A	13.95	90.9%				
6A	13.51	88.0%				
7A	13.05	85.0%				
8A	12.60	82.1%				
9A	12.13	79.0%				

CONDITTON: 100KHZ/1.0Vrms



## ELECTRICAL CHARACTERISTICS

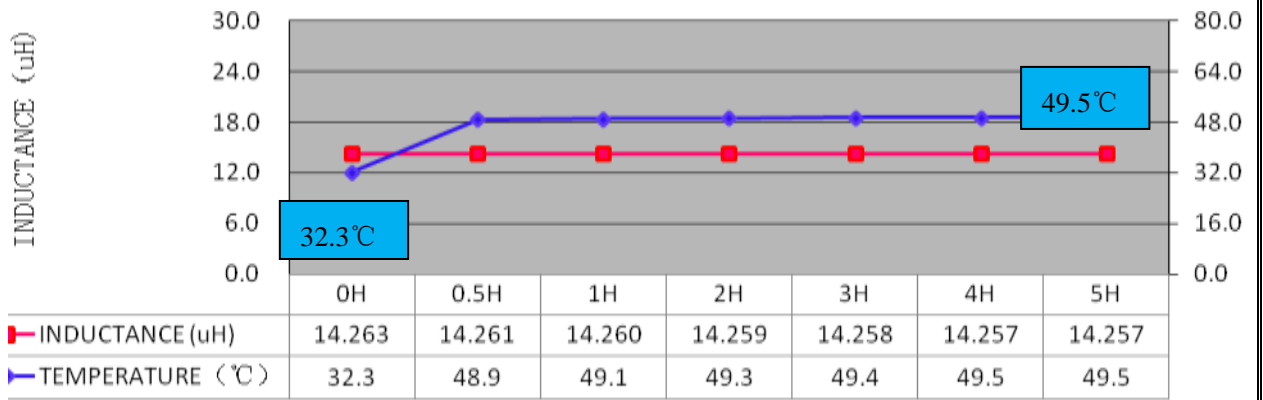
**RoHS  
COMPLIANT**

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## DC current VS Temperature

Time	L (μH)	T (°C)	ΔT(°C)			
0h	14.263	32.3				
0.5h	14.261	48.9	16.6			
1h	14.260	49.1	16.8			
2h	14.259	49.3	17.0			
3h	14.258	49.4	17.1			
4h	14.257	49.5	17.2			
5h	14.257	49.5	17.2			

CONDITTON: Load 4A



Inductance VS Temperature

# ELECTRICAL CHARACTERISTICS

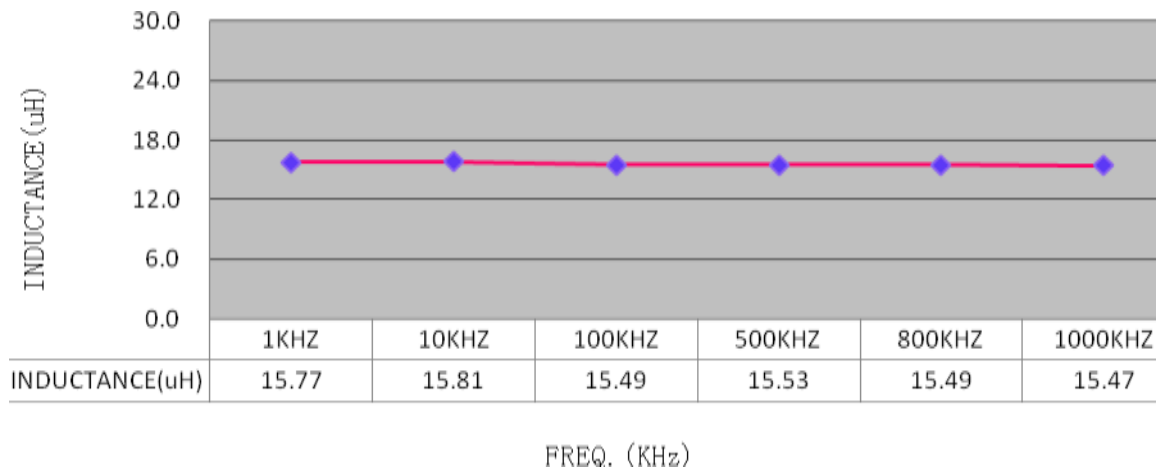
RoHS  
COMPLIANT

Customers Part Number	Item Name	Date
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## Inductance VS Frequency

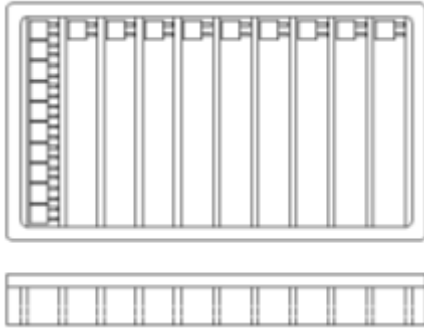
FREQ.	L ( $\mu$ H )					
1KHZ	15.77					
10KHZ	15.81					
100KHZ	15.49					
500KHZ	15.53					
800KHZ	15.49					
1000KHZ	15.47					



# PACKING FOR SPECIFICATION

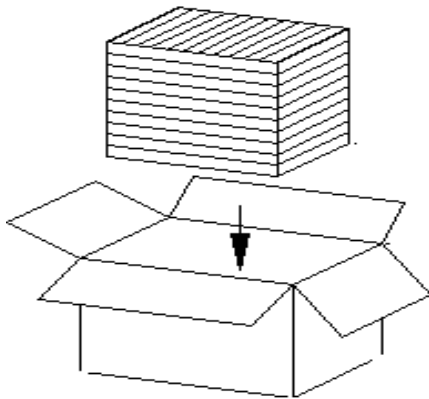
**RoHS  
COMPLIANT**

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

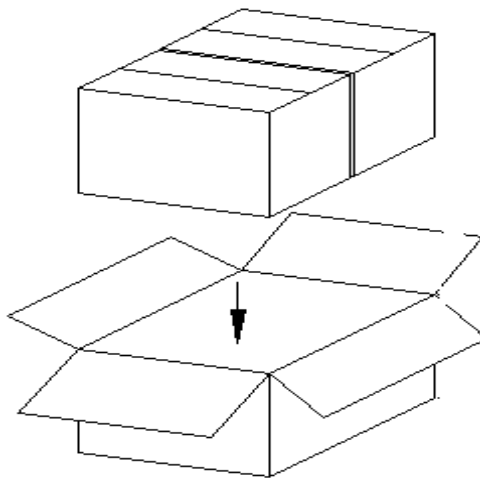
Quantity : 130PCS/PET



Small box Size : 238\*156\*165 mm

Quantity : 10PET/Small box

1Small box/1300PCS

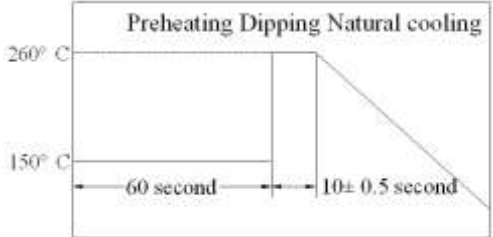
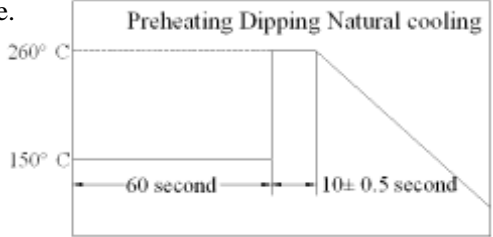
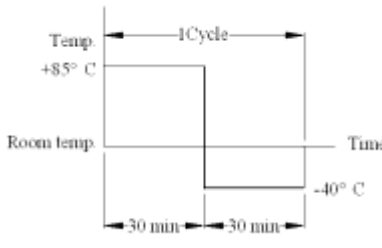


Big box Size : 328\*251\*175 mm

Quantity : 2 Small box/Big box

1 Big box/2600PCS

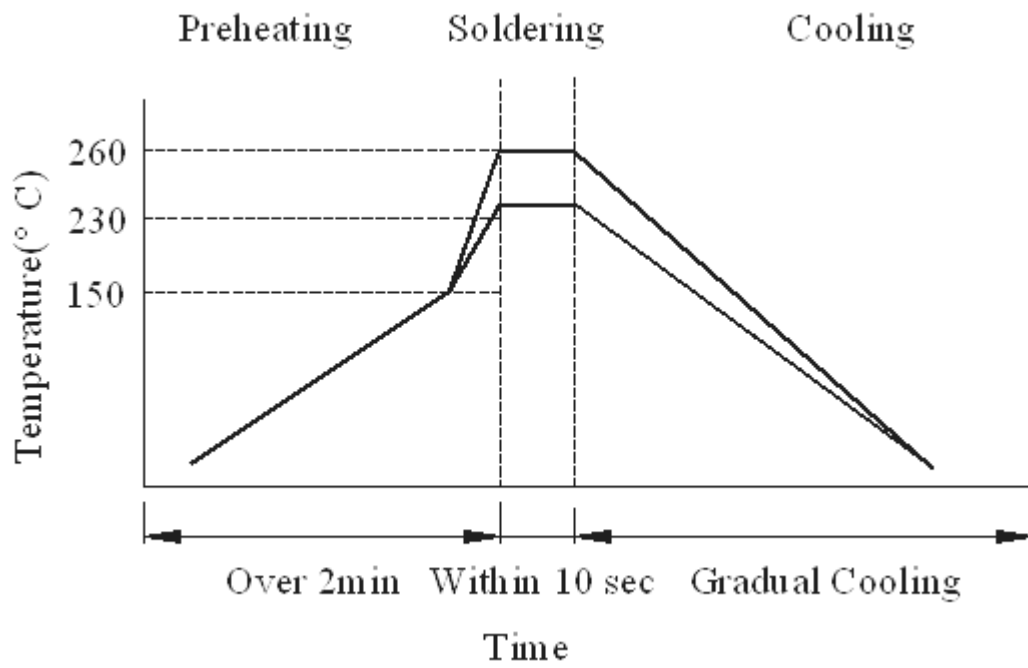
## GENERAL CHARACTERISTICS

Item	Performance	Test Condition
<b>Mechanical Performance Test</b>		
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 <math>260\pm 5^{\circ}\text{C}</math> for 10 seconds</p>	
Solder Heat Resistance	<p>Components should have not evidence of electrical and mechanical damage.</p> <p>Inductance: within <math>\pm 20\%</math> of initial value.</p> <p>Preheat: <math>150^{\circ}\text{C}</math> 60 seconds</p> <p>Solder: (SnCu0.7)</p> <p>Solder Temperature: <math>260\pm 5^{\circ}\text{C}</math></p> <p>Flux: Rosin.</p> <p>Dip time: <math>10\pm 0.5</math> seconds</p>	
Low temperature storage test		<p>Temperature: <math>-40^{\circ}\text{C}\pm 5^{\circ}\text{C}</math> Time: <math>500\pm 12</math> Hours</p> <p>Recovery: 4to24hrs of recovery under the standard condition after the removal from test chamber.</p>
High temperature storage test	<p>1. Appearance: No damage.</p>	<p>Temperature: <math>85^{\circ}\text{C}\pm 5^{\circ}\text{C}</math> Time: <math>500\pm 2</math> Hours</p> <p>Recovery: 4to24hrs of recovery under the standard condition after the removal from test chamber.</p>
Thermal Shock Test (Temperature cycle)	<p>2. Inductance: within <math>\pm 20\%</math> of initial value.</p> <p>3.No disconnection or short circuit.</p>	<p><math>-40\pm 5^{\circ}\text{C}</math> for 30 Minutes. <math>+85\pm 5^{\circ}\text{C}</math> for 30 Minutes.</p> <p>Total: 10 Cycles</p> 
Humidity load life test		<p>Temperature: <math>40\pm 5^{\circ}\text{C}</math> Humidity: 90-95%</p> <p>Time: <math>500\pm 12</math> Hours Load: Allowed DC current</p> <p>Recovery: 4to24hrs of recovery under the standard condition after the removal from test chamber.</p>

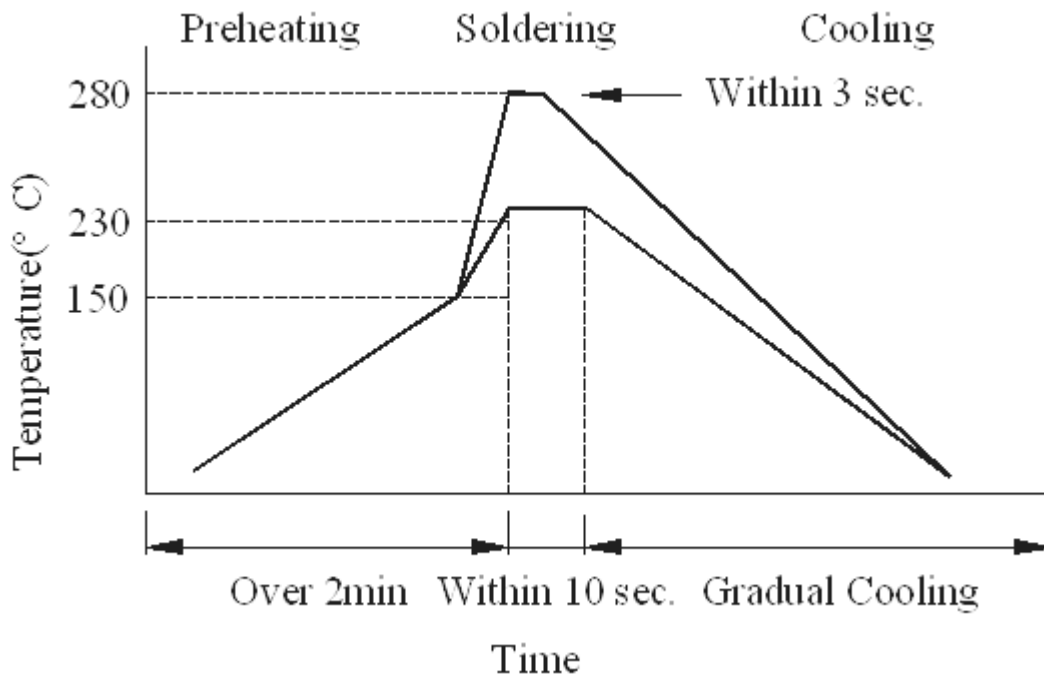
# THE CONDITION OF REFLOW

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## Wave Soldering



## Hand soldering



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