

0002

CUSTOMER _____

CUSTOMER'S P/N _____

DESCRIPTION _____ POWER INDUCTOR _____

SGTE PART NO. _____ GPDC1111-140M _____

SAMPLE NO. S09072101 REVISION NO. A DATE 21-Jul-09

SPECIFICATION FOR APPROVAL

FULLY APPROVED	REVISE APPROVED

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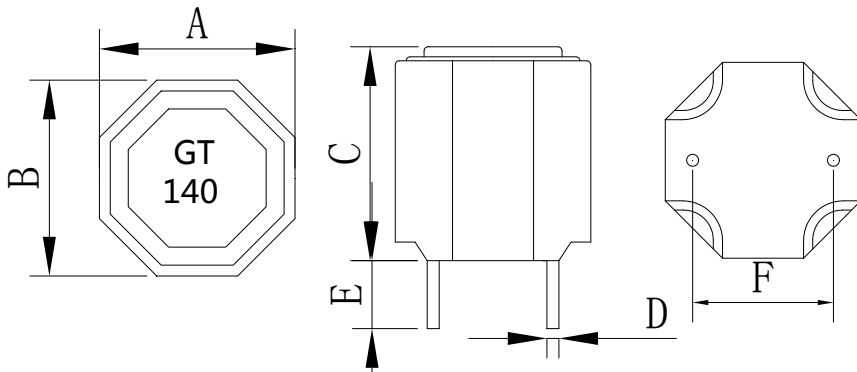
APPROVED BY	CHECKED BY	DRAWING BY
		Lisa 7/21

SPECIFICATION

**RoHS
COMPLIANT**

Customers Part Number	Item Name	Date
	Power Inductor	21-Jul-09
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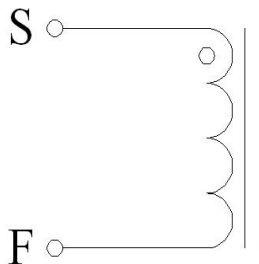
External Dimensions Unit (mm)



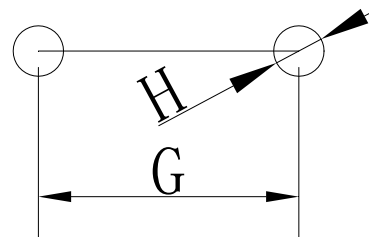
A	11.6± 0.5 (mm)
B	11.6± 0.5 (mm)
C	11.5Max (mm)
D	0.7± 0.1 (mm)
E	3.4± 0.5 (mm)
F	7.5± 0.5 (mm)
G	7.5± 0.5(mm)
H	1.1 (ref)

Coating:Black

Connection



Recommended Land Pattern



Electrical Specification

Measurement Item	Unit Tolerance	Specification	Test Frequency	Test Instrument
L	uH (±20%)	14.0uH ±20%	100KHz/1V	LCR Meter Agilent/4284A or Chroma /11300
DCR	mΩ	24mΩ (Max)		Chroma /16502
I rms	Amps	4A	100KHz/1V	LCR Meter Agilent/4284A+42841A
I sat	Amps	8A	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	14.0uH	24mΩ	4Amps	8Amps
Tolerance	±20%	Max	$\Delta T \leq 40^{\circ}\text{C}$	$L \geq 65\%$
1	14.51	18.42	8.1°C	85.4%
2	14.43	18.48		
3	14.51	18.39		
4	14.48	18.45		
5	14.47	18.40		
6	14.43	18.43		
7	14.31	18.41		
8	14.25	18.42		
9	14.41	18.44		
10	14.29	18.41		
\bar{X}	14.409	18.43		
σ	0.089	0.03		

External Dimensions

Item	A	B	C	D	E	F
Specification	11.6	11.6	11.5	0.7	3.4	7.5
Tolerance	± 0.5 (mm)	± 0.5 (mm)	Max (mm)	± 0.1 (mm)	± 0.5 (mm)	± 0.5 (mm)
1	11.68	11.64	9.67	0.68	3.52	7.43
2	11.63	11.68	9.64	0.67	3.44	7.50
3	11.64	11.65	9.82	0.68	3.46	7.42
4	11.63	11.65	9.91	0.66	3.50	7.49
5	11.65	11.65	9.84	0.68	3.52	7.56
6	11.67	11.63	9.79	0.67	3.49	7.44
7	11.66	11.68	9.95	0.69	3.44	7.51
8	11.64	11.67	9.97	0.69	3.61	7.59
9	11.63	11.66	9.82	0.69	3.46	7.46
10	11.64	11.66	9.89	0.70	3.44	7.50
\bar{X}	11.65	11.66	9.83	0.68	3.49	7.49
σ	0.02	0.02	0.10	0.01	0.05	0.05

Inductance measured at 100KHz/1Vrms.

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

ELECTRICAL CHARACTERISTICS

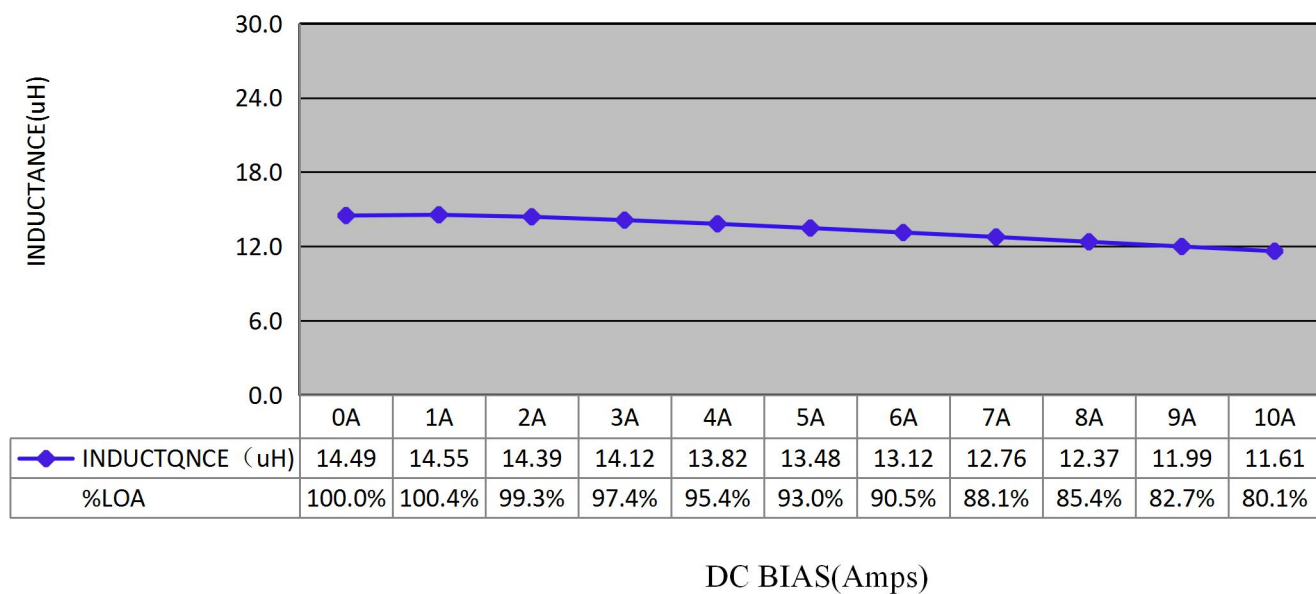
**RoHS
COMPLIANT**

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Inductance VS DC current

IDC	L	%LOA				
0A	14.49	100%				
1A	14.55	100.4%				
2A	14.39	99.3%				
3A	14.12	97.4%				
4A	13.82	95.4%				
5A	13.48	93.0%				
6A	13.12	90.5%				
7A	12.76	88.1%				
8A	12.37	85.4%				
9A	11.99	82.7%				
10A	11.61	80.1%				

CONDITTON: 100KHZ/1.0Vrms



ELECTRICAL CHARACTERISTICS

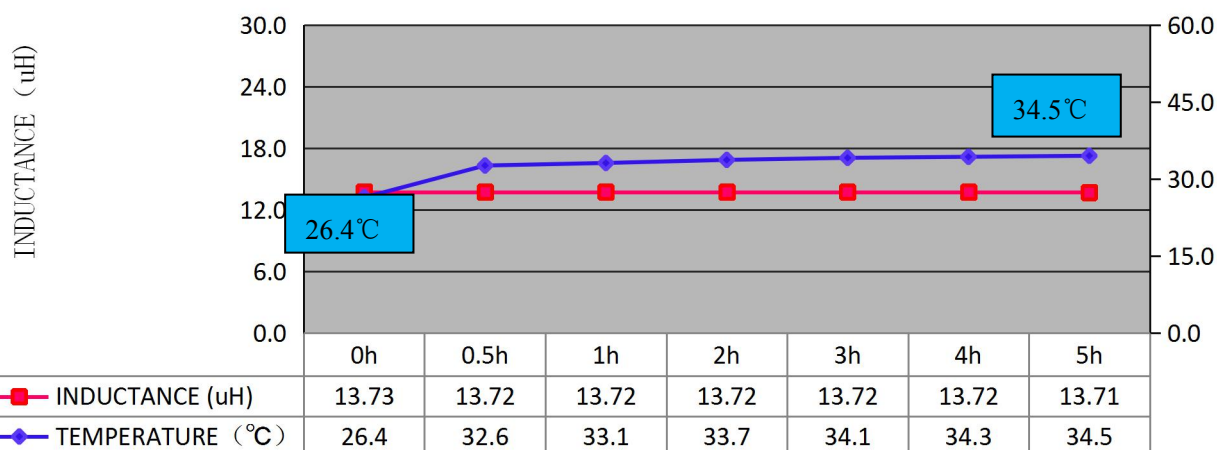
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COMPLIANT

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DC current VS Temperature

Time	L (μ H)	T ($^{\circ}$ C)	Δ T($^{\circ}$ C)			
0h	13.73	26.4				
0.5h	13.72	32.6	6.2			
1h	13.72	33.1	6.7			
2h	13.72	33.7	7.3			
3h	13.72	34.1	7.7			
4h	13.72	34.3	7.9			
5h	13.71	34.5	8.1			

CONDITTON: Load 4A



Inductance VS Temperature

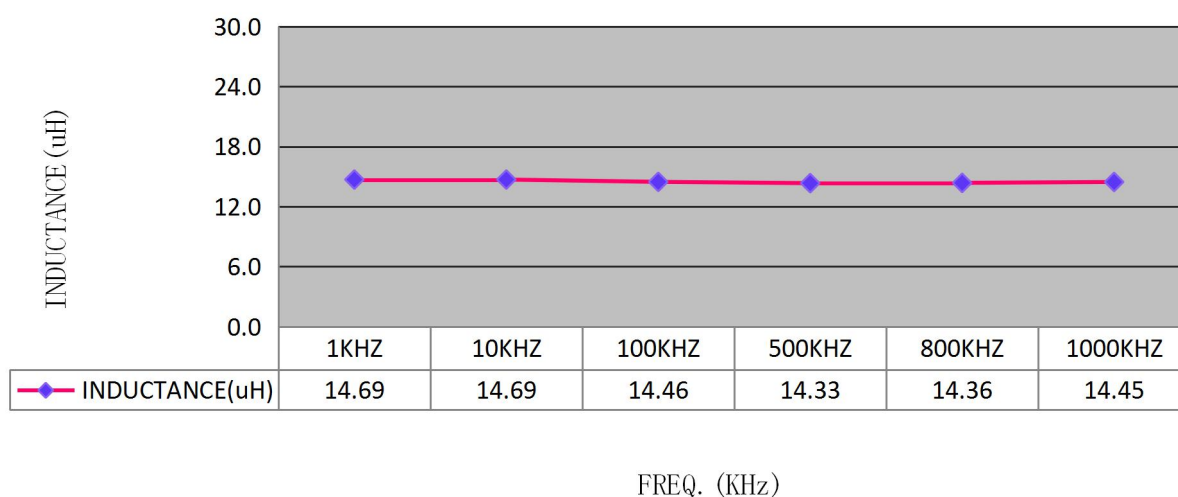
ELECTRICAL CHARACTERISTICS

**RoHS
COMPLIANT**

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Inductance VS Frequency

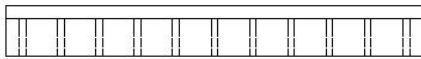
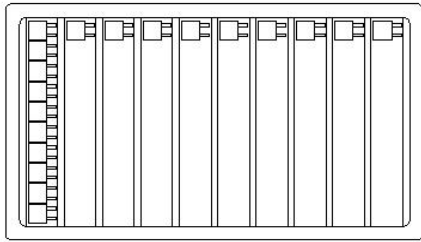
FREQ.	L (μH)					
1KHZ	14.69					
10KHZ	14.69					
100KHZ	14.46					
500KHZ	14.33					
800KHZ	14.36					
1000KHZ	14.45					



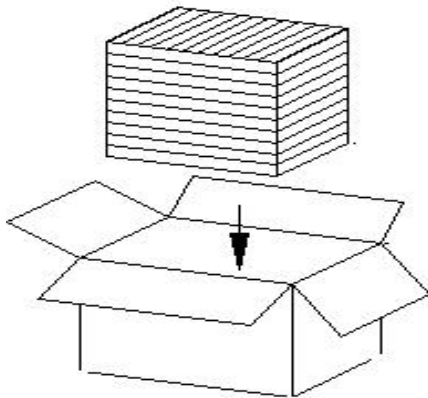
PACKING FOR SPECIFICATION

**RoHS
COMPLIANT**

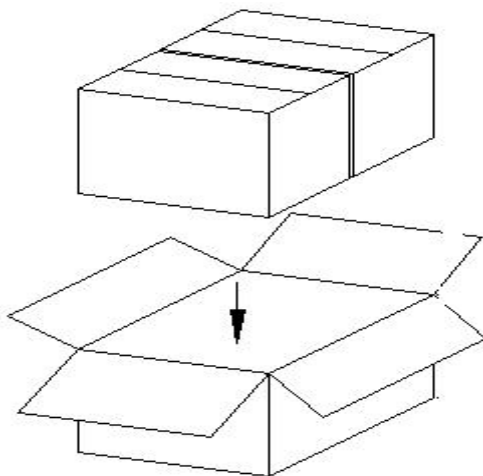
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PET Size : 215*148 *16(C)mm
Quantity : 100PCS/PET



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

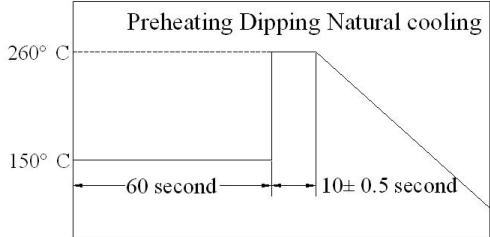
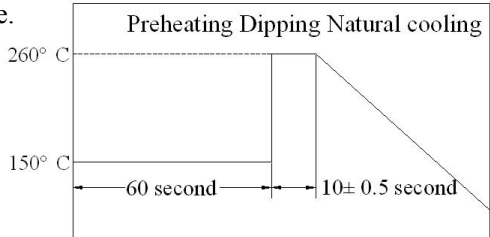
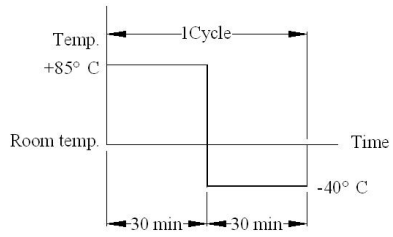


Big box Size : 328*251*175 mm
Quantity : 2 Small box/Big box
1 Big box/2000PCS

GENERAL CHARACTERISTICS

Gan Tong Part NO.: GPDC1111-140M

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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

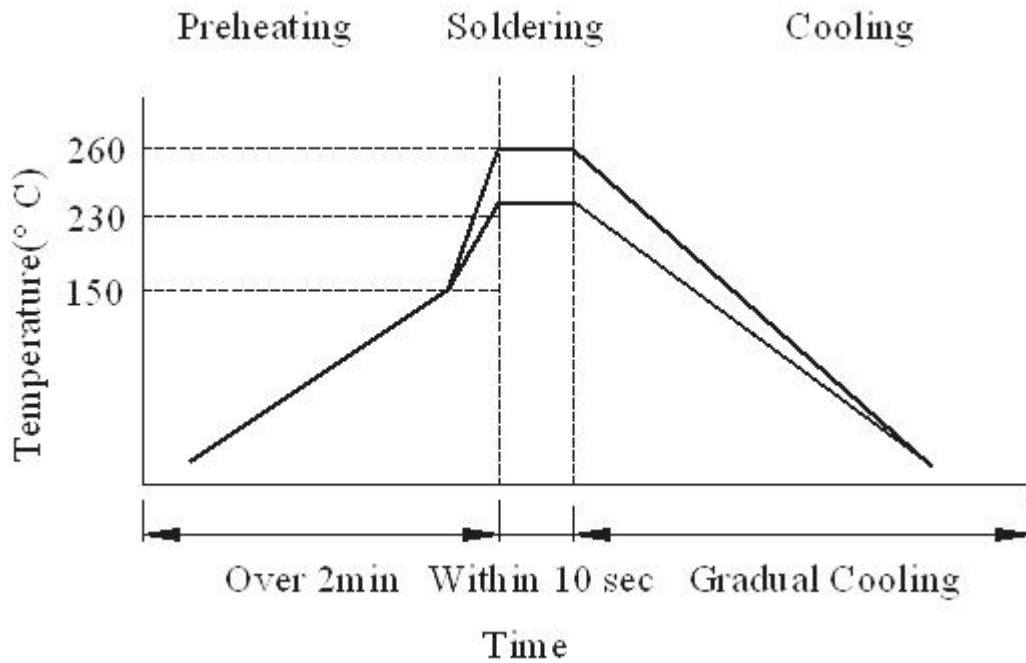
RoHS
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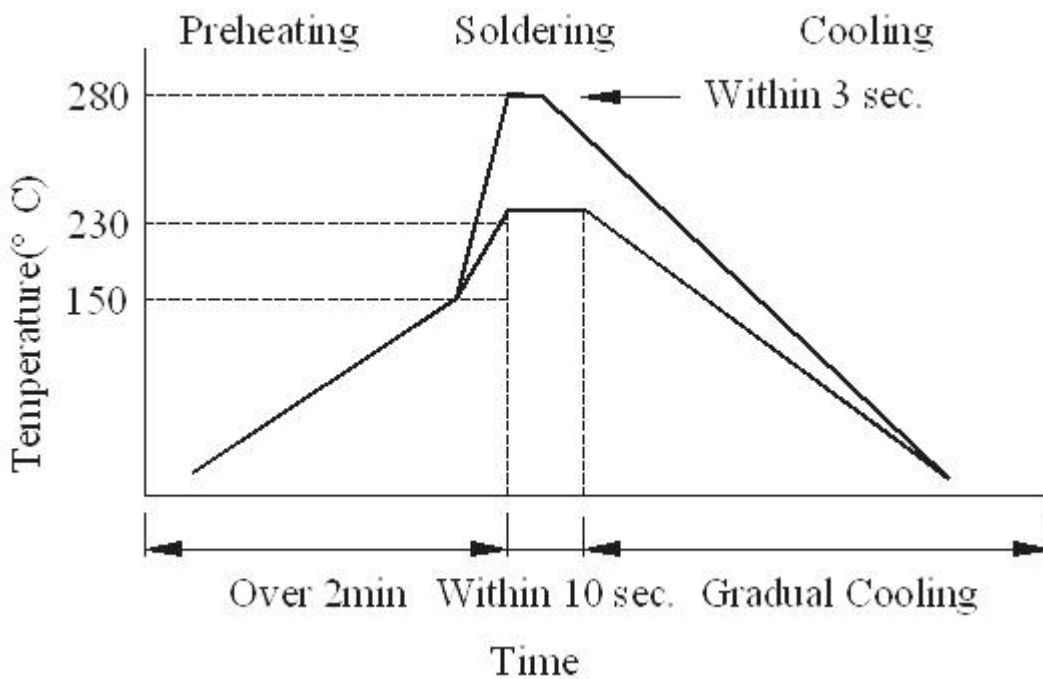
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Wave Soldering



Hand soldering



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