

CUSTOMER _____

CUSTOMER'S P/N _____

DESCRIPTION _____ POWER INDUCTOR _____

SGTE PART NO. _____ GPDC1111-4R7M _____

SAMPLE NO. S09061402 REVISION NO. A DATE 14-Jun-09

SPECIFICATION FOR APPROVAL

FULLY APPROVED	REVISE APPROVED

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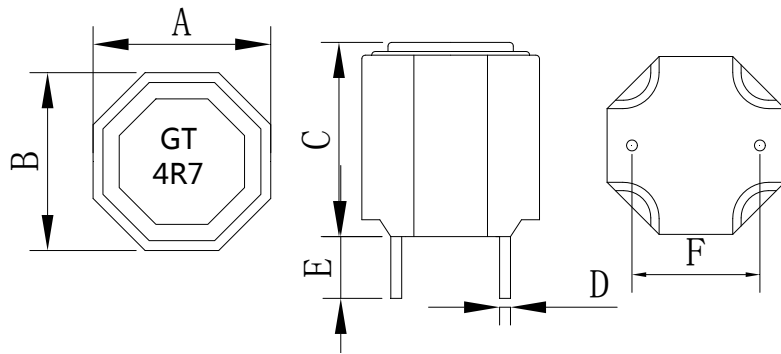
APPROVED BY	CHECKED BY	DRAWING BY
		Lisa 6/14

SPECIFICATION

**RoHS
COMPLIANT**

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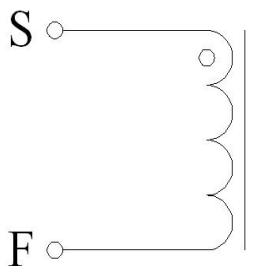
External Dimensions Unit (mm)



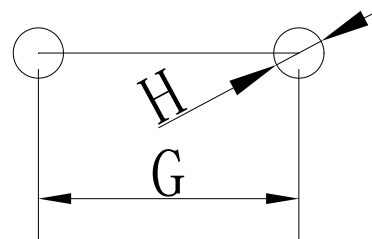
A	11.5± 0.5 (mm)
B	11.5± 0.5 (mm)
C	12.5Max (mm)
D	1.0± 0.1 (mm)
E	3.4± 0.5 (mm)
F	6.5± 0.5 (mm)
G	7.5± 0.5(mm)
H	1.4 (ref)

Coating:Black

Connection



Recommended Land Pattern



Electrical Specification

Measurement Item	Unit Tolerance	Specification	Test Frequency	Test Instrument
L	uH (±20%)	4.7uH ±20%	100KHz/1V	LCR Meter Agilent/4284A or Chroma /11300
DCR	mΩ	7.5mΩ (Max)		Chroma /16502
I rms	Amps	7A	100KHz/1V	LCR Meter Agilent/4284A+42841A
I sat	Amps	14A	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	4.7uH	7.5mΩ	7Amps	14Amps
Tolerance	±20%	Max	$\Delta T \leq 40^{\circ}\text{C}$	$L \geq 65\%$
1	4.64	5.81	6.1°C	87.6%
2	4.73	5.76		
3	4.74	5.78		
4	4.70	5.76		
5	4.65	5.80		
6	7.67	5.79		
7	4.72	5.74		
8	4.68	5.81		
9	4.70	5.79		
10	4.74	5.78		
\bar{X}	4.997	5.78		
σ	0.89	0.02		

External Dimensions

Item	A	B	C	D	E	F
Specification	11.5	11.5	12.5	1.0	3.4	6.5
Tolerance	± 0.5 (mm)	± 0.5 (mm)	Max (mm)	± 0.1 (mm)	± 0.5 (mm)	± 0.5 (mm)
1	11.63	11.65	11.29	1.00	3.64	6.50
2	11.61	11.62	11.41	0.97	3.42	6.67
3	11.63	11.64	11.11	0.98	3.54	6.68
4	11.63	11.66	11.27	0.98	3.56	6.83
5	11.61	11.63	11.27	0.99	3.48	6.71
6	11.61	11.62	11.34	0.97	3.47	6.86
7	11.63	11.66	11.43	0.99	3.46	6.60
8	11.65	11.64	11.17	0.97	3.52	6.56
9	11.62	11.62	11.17	0.96	3.40	6.61
10	11.63	11.64	11.32	1.00	3.49	6.72
\bar{X}	11.63	11.64	11.28	0.98	3.50	6.67
σ	0.01	0.01	0.10	0.01	0.07	0.11

Inductance measured at 100KHz/1Vrms.

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

ELECTRICAL CHARACTERISTICS

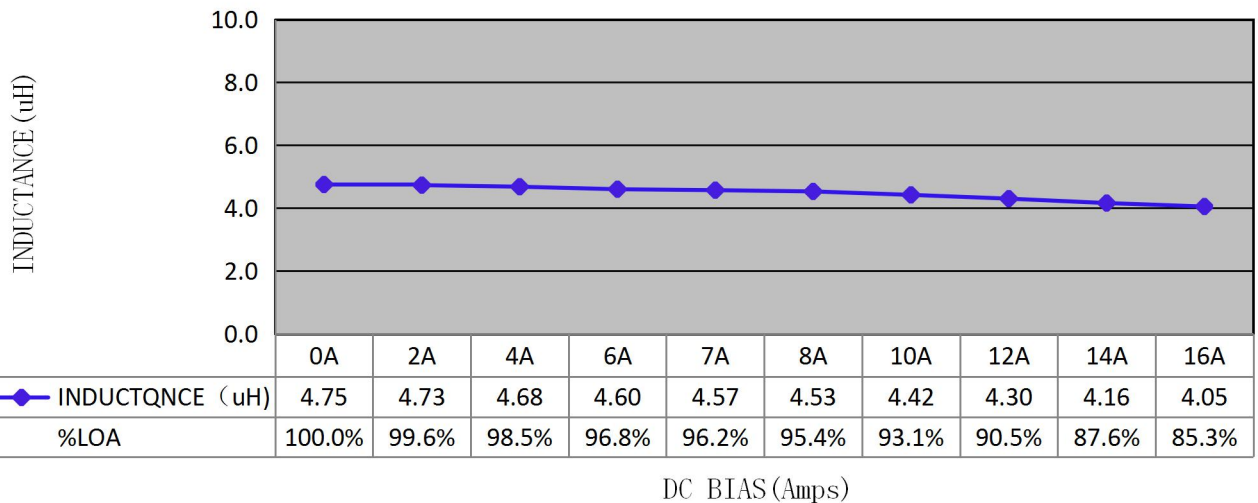
**RoHS
COMPLIANT**

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Inductance VS DC current

IDC	L	%LOA				
0A	4.75	100%				
2A	4.73	99.6%				
4A	4.68	98.5%				
6A	4.60	96.8%				
7A	4.57	96.2%				
8A	4.53	95.4%				
10A	4.42	93.1%				
12A	4.30	90.5%				
14A	4.16	87.6%				
16A	4.05	85.3%				

CONDITTON: 100KHZ/1.0Vrms



ELECTRICAL CHARACTERISTICS

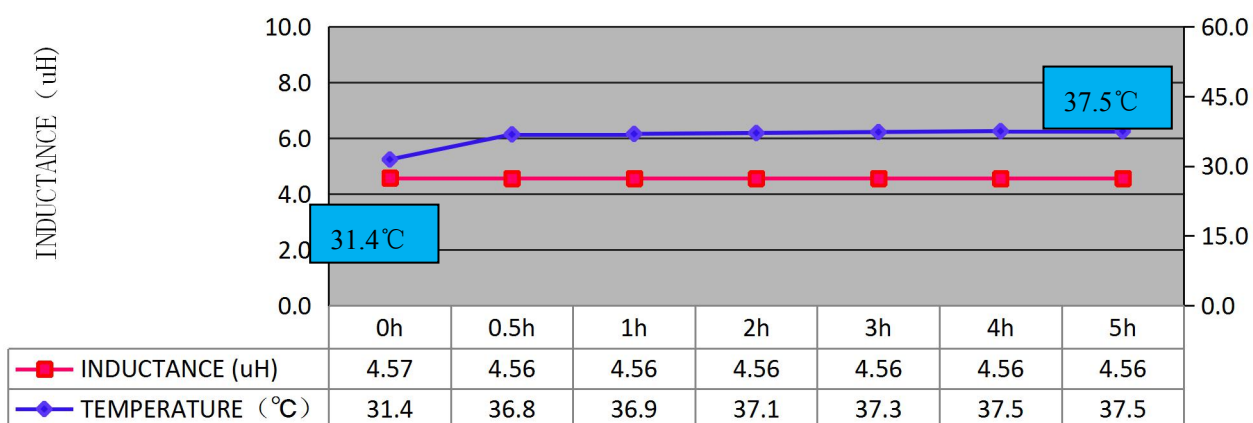
RoHS
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DC current VS Temperature

Time	L (μH)	T (°C)	ΔT(°C)			
0h	4.57	31.4				
0.5h	4.56	36.8	5.4			
1h	4.56	36.9	5.5			
2h	4.56	37.1	5.7			
3h	4.56	37.3	5.9			
4h	4.56	37.5	6.1			
5h	4.56	37.5	6.1			

CONDITTON: Load 7A



Inductance VS Temperature

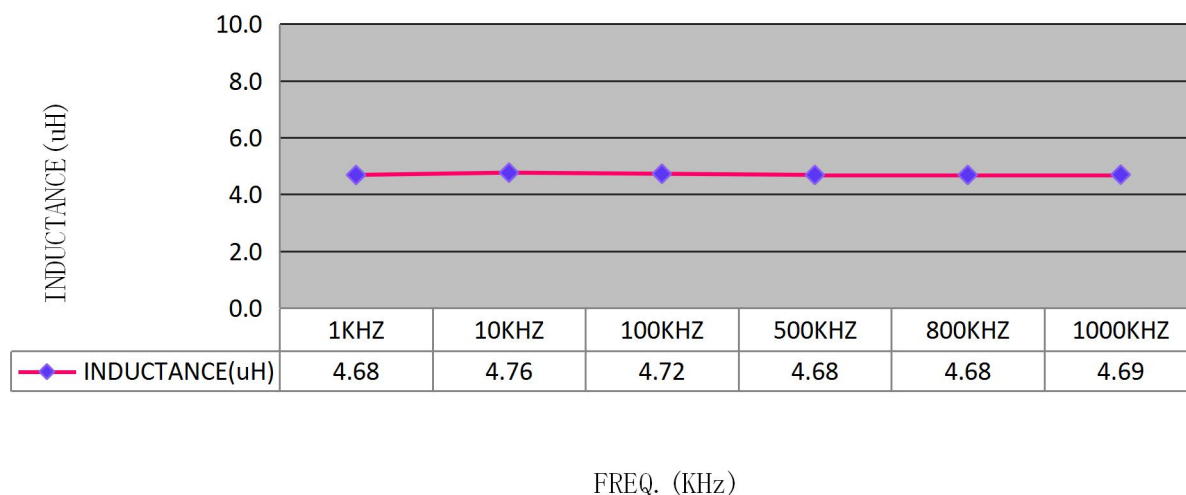
ELECTRICAL CHARACTERISTICS

RoHS
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Inductance VS Frequency

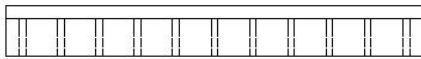
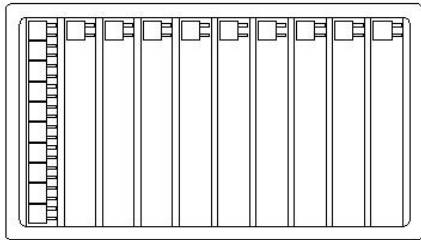
FREQ.	L (μH)					
1KHZ	4.68					
10KHZ	4.76					
100KHZ	4.72					
500KHZ	4.68					
800KHZ	4.68					
1000KHZ	4.69					



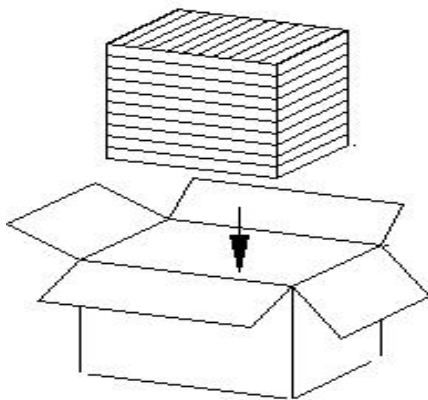
PACKING FOR SPECIFICATION

**RoHS
COMPLIANT**

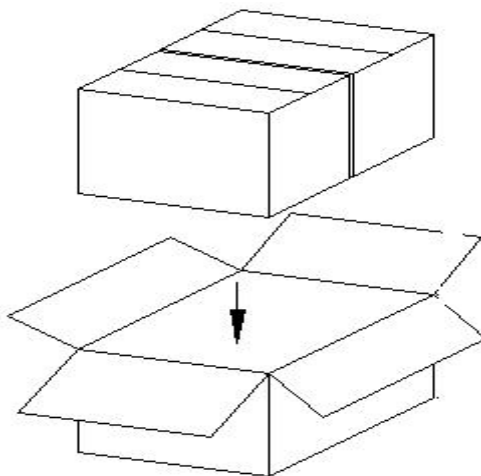
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PET Size : 214.5*148.5 *16mm
Quantity : 110PCS/PET



Small box Size : 238*156*165 mm
Quantity : 10PET/Small box
1Small box/1100PCS

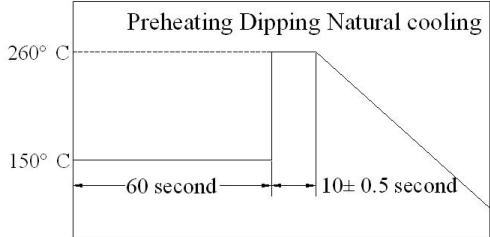
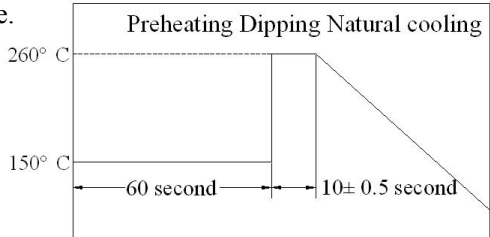
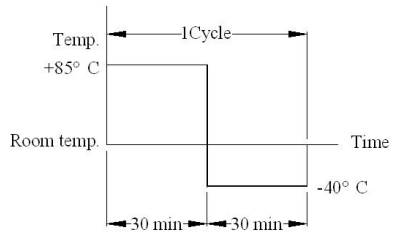


Big box Size : 328*251*175 mm
Quantity : 2 Small box/Big box
1 Big box/2200PCS

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

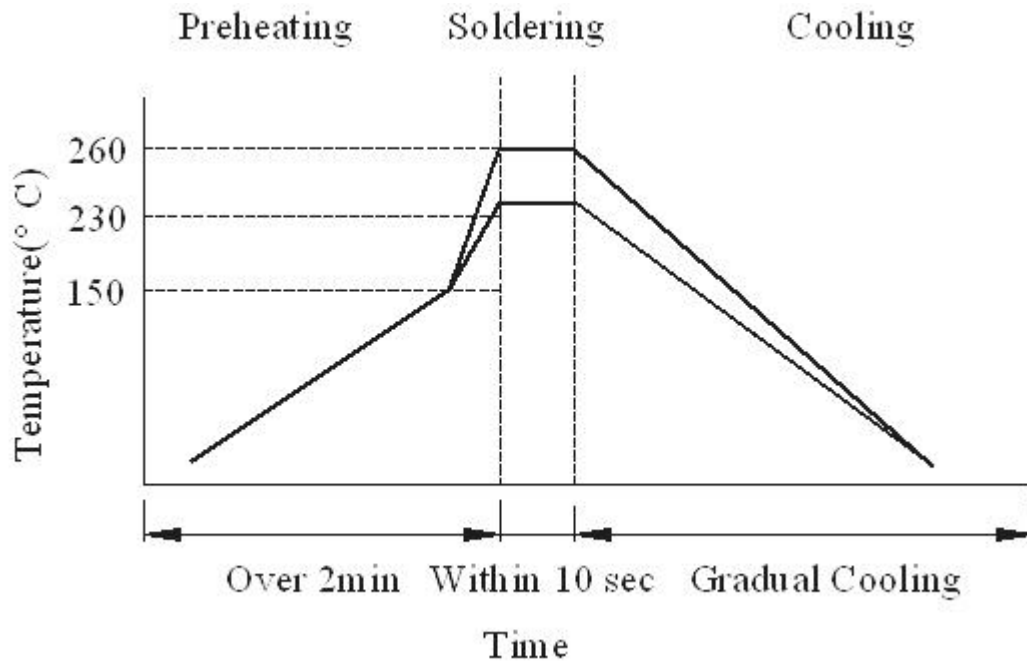
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Wave Soldering



Hand soldering

