

5009

CUSTOMER _____

CUSTOMER'S P/N _____

DESCRIPTION _____ POWER INDUCTOR _____

SGTE PART NO. _____ GPDC1010-100M02 _____

SAMPLE NO. S10083001 REVISION NO. A DATE 30-Aug-10

SPECIFICATION FOR APPROVAL

FULLY APPROVED	REVISE APPROVED

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SPECIFICATION

**RoHS
COMPLIANT**

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8/30

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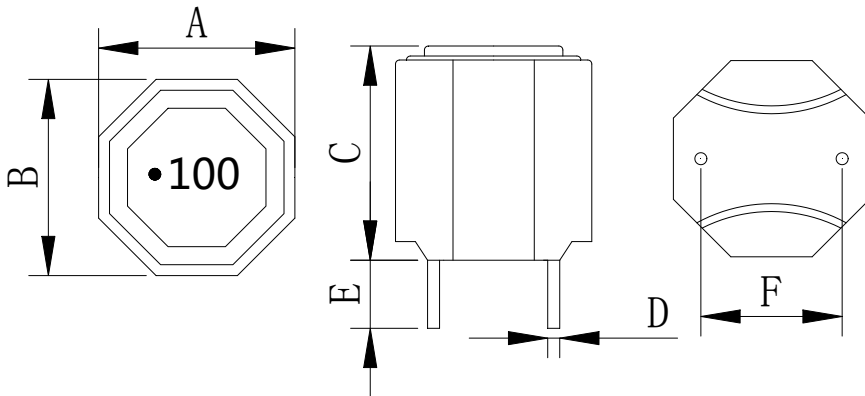
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SPECIFICATION

**RoHS
COMPLIANT**

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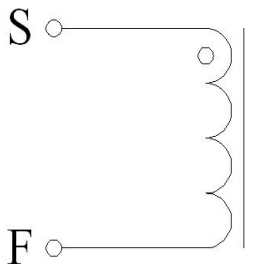
External Dimensions Unit (mm)



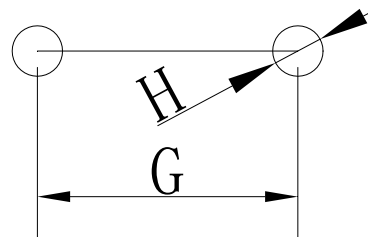
A	10.0± 0.5 (mm)
B	10.0± 0.5 (mm)
C	10.0Max (mm)
D	0.6± 0.1 (mm)
E	3.4± 0.5 (mm)
F	6.0± 0.5 (mm)
G	6.0± 0.5(mm)
H	1.0 (ref)

Coating:Black

Connection



Recommended Land Pattern



Electrical Specification

Measurement Item	Unit Tolerance	Specification	Test Frequency	Test Instrument
L	uH (±20%)	10.0uH ±20%	100KHz/1V	LCR Meter Agilent/4284A or Chroma /11300
DCR	mΩ	25mΩ (Max)		Chroma /16502
I rms	Amps	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
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Electrical Characteristic

Item	L0A	DCR	I rms	I sat
Specification	10.0uH	25mΩ	5Amps	7Amps
Tolerance	±20%	Max	$\Delta T \leq 40^{\circ}\text{C}$	$L \geq 65\%$
1	10.83	18.45	15.5°C	87.5%
2	10.59	18.52		
3	10.53	18.38		
4	10.43	18.29		
5	10.53	18.60		
6	10.37	18.54		
7	10.43	18.50		
8	10.30	18.47		
9	10.29	18.53		
10	10.43	18.45		
\bar{X}	10.473	18.47		
σ	0.15	0.08		

External Dimensions

Item	A	B	C	D	E	F
Specification	10.0	10.0	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	10.23	10.21	8.76	0.58	3.43	6.07
2	10.31	10.25	8.61	0.59	3.44	6.08
3	10.32	10.25	8.72	0.57	3.54	6.09
4	10.32	10.25	9.19	0.58	3.36	6.09
5	10.21	10.22	8.89	0.59	3.37	6.07
6	10.31	10.22	8.70	0.59	3.46	6.09
7	10.23	10.21	8.65	0.59	3.44	6.08
8	10.25	10.20	8.73	0.58	3.43	6.09
9	10.28	10.23	8.82	0.59	3.42	6.07
10	10.30	10.25	8.76	0.58	3.47	6.07
\bar{X}	10.28	10.23	8.78	0.58	3.44	6.08
σ	0.04	0.02	0.04	0.01	0.05	0.01

Inductance measured at 100KHz/1Vrms.

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

ELECTRICAL CHARACTERISTICS

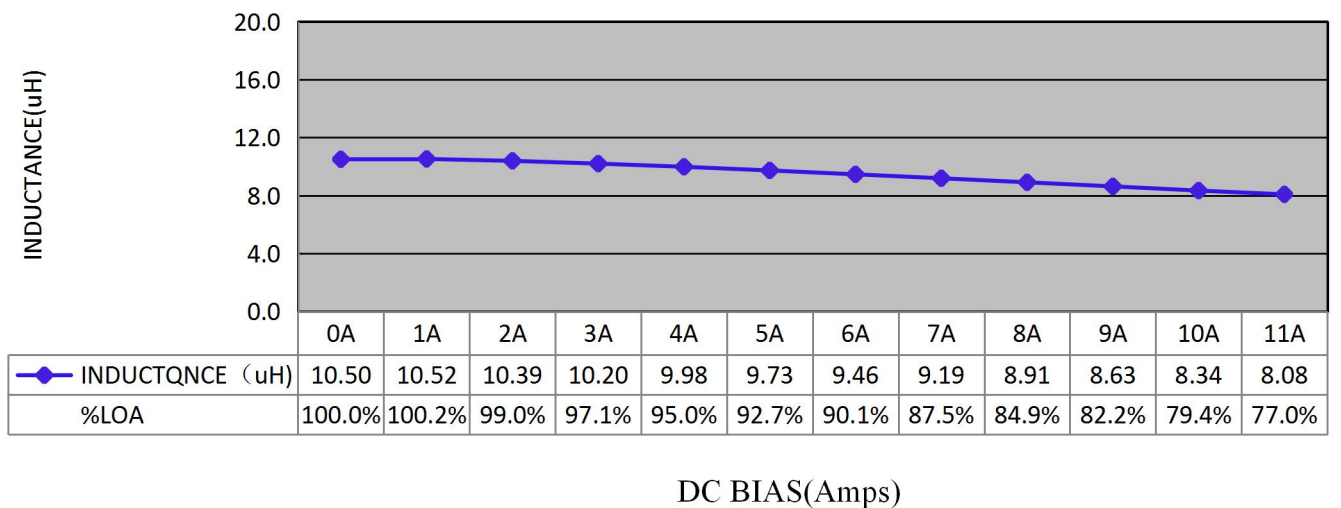
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Inductance VS DC current

IDC	L	%LOA				
0A	10.50	100%				
1A	10.52	100.2%				
2A	10.39	99.0%				
3A	10.20	97.1%				
4A	9.98	95.0%				
5A	9.73	92.7%				
6A	9.46	90.1%				
7A	9.19	87.5%				
8A	8.91	84.9%				
9A	8.63	82.2%				
10A	8.34	79.4%				
11A	8.08	77.0%				

CONDITTON: 100KHZ/1.0Vrms



DC BIAS(Amps)

ELECTRICAL CHARACTERISTICS

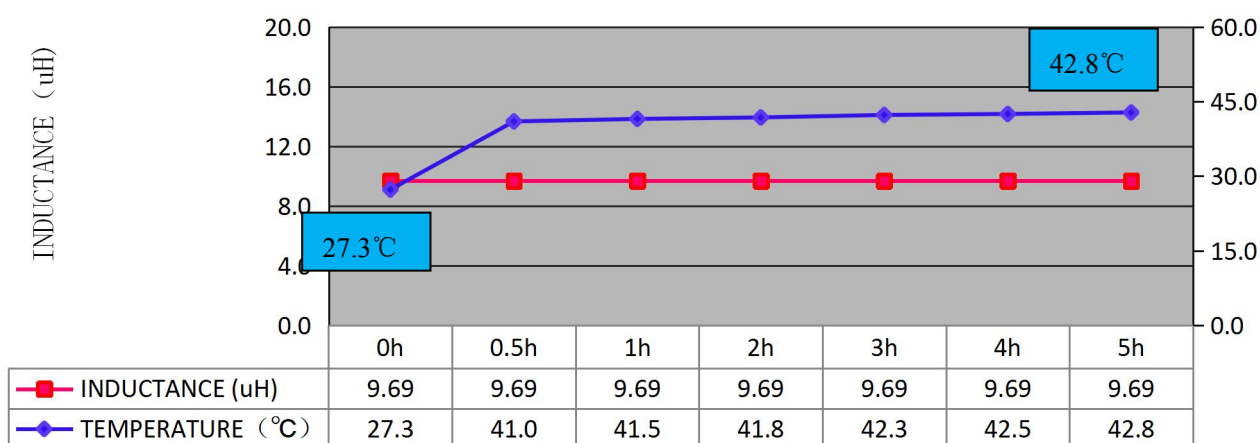
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DC current VS Temperature

Time	L (μH)	T (°C)	ΔT(°C)			
0h	9.69	27.3				
0.5h	9.69	41.0	13.7			
1h	9.69	41.5	14.2			
2h	9.69	41.8	14.5			
3h	9.69	42.3	15.0			
4h	9.69	42.5	15.2			
5h	9.69	42.8	15.5			

CONDITTON: Load 5A



Inductance VS Temperature

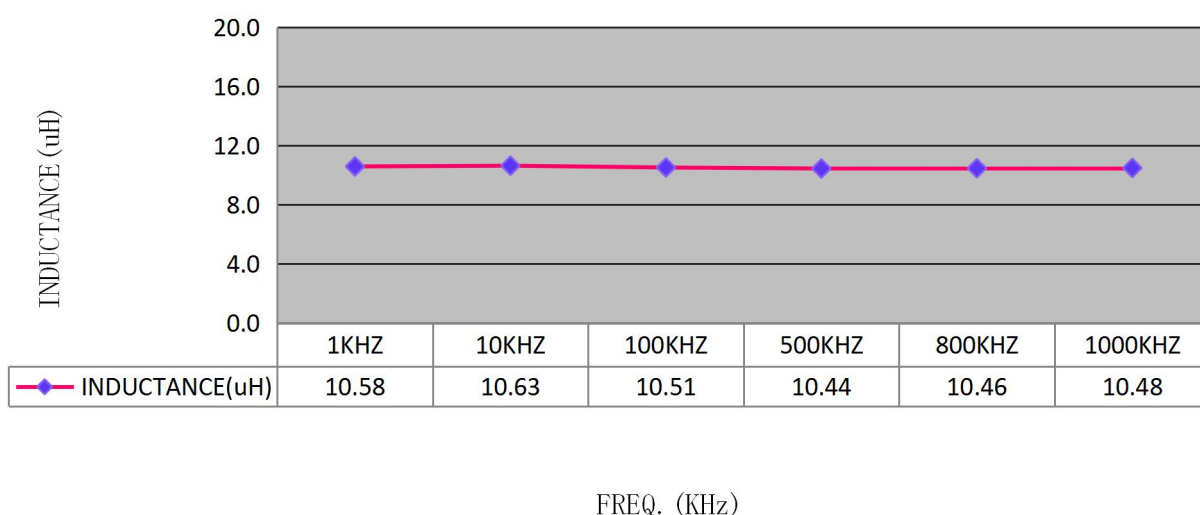
ELECTRICAL CHARACTERISTICS

**RoHS
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Inductance VS Frequency

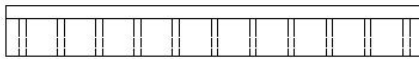
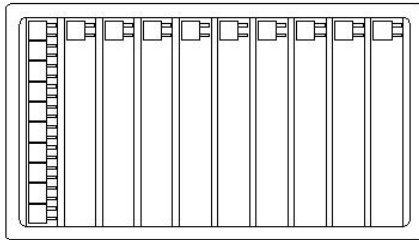
FREQ.	L (μH)					
1KHZ	10.58					
10KHZ	10.63					
100KHZ	10.51					
500KHZ	10.44					
800KHZ	10.46					
1000KHZ	10.48					



PACKING FOR SPECIFICATION

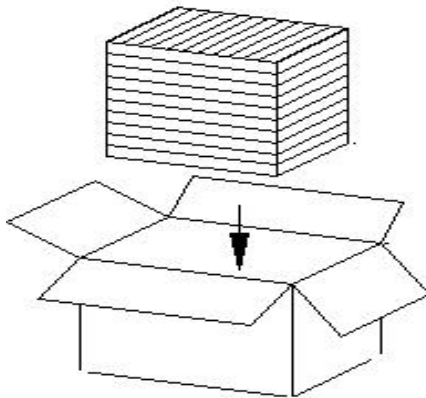
**RoHS
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PET Size : 215*148 *16 (D) mm

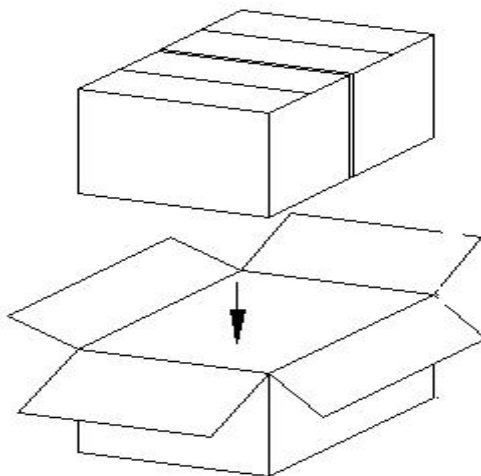
Quantity : 130PCS/PET



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>	
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

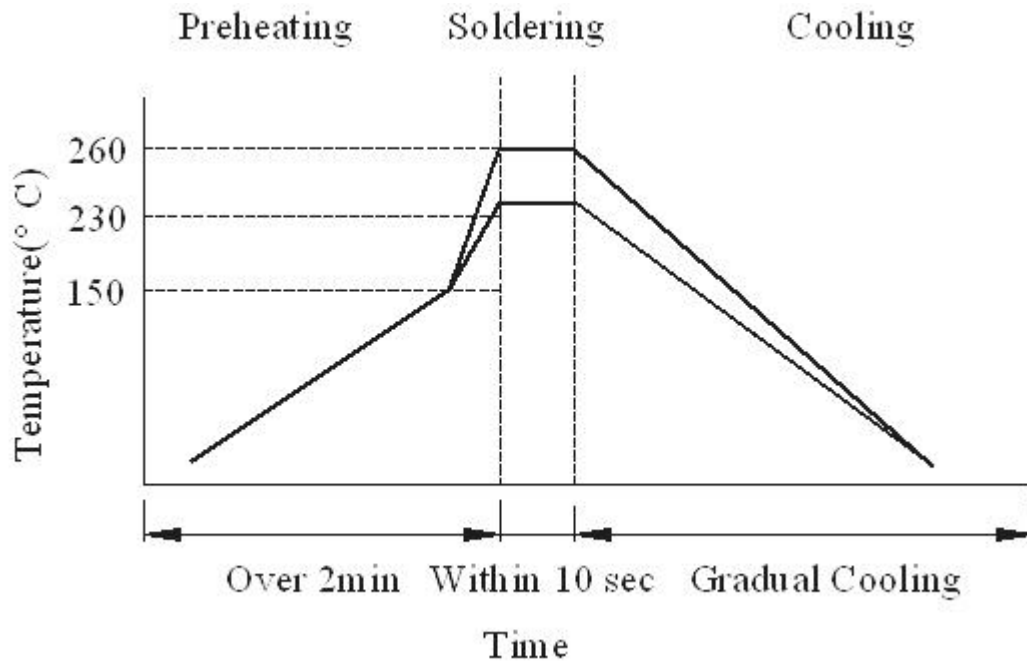
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Wave Soldering



Hand soldering

