

CUSTOMER _____

CUSTOMER'S P/N _____

DESCRIPTION _____ POWER INDUCTOR _____

SGTE PART NO. _____ GPDC1010-100M04 _____

SAMPLE NO. S10091001 REVISION NO. A DATE 10-Sep-10

SPECIFICATION FOR APPROVAL

FULLY APPROVED	REVISE APPROVED

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SPECIFICATION

**RoHS
COMPLIANT**

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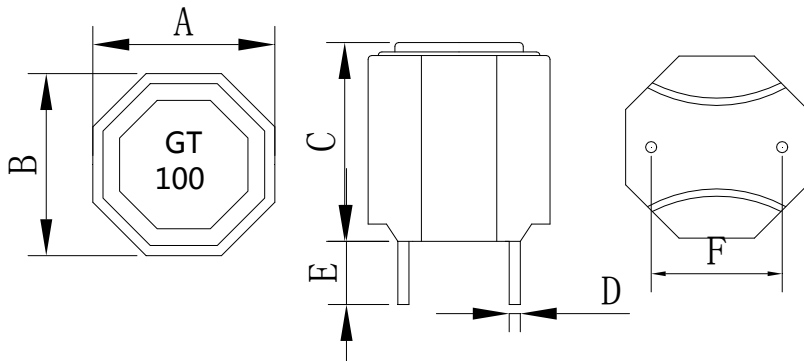
APPROVED BY	CHECKED BY	DRAWING BY
Jesse 9/10	Tony 9/10	Lily 9/10

SPECIFICATION

**RoHS
COMPLIANT**

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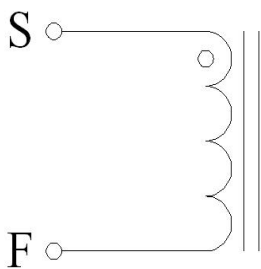
External Dimensions Unit (mm)



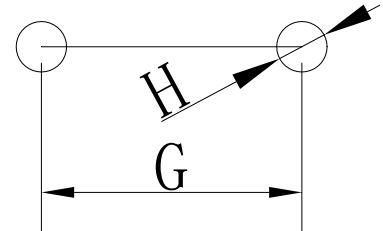
A	10.0± 0.5 (mm)
B	10.0± 0.5 (mm)
C	10.5Max (mm)
D	0.6± 0.1 (mm)
E	3.4± 0.5 (mm)
F	5.0± 0.5 (mm)
G	5.0± 0.5(mm)
H	0.8 (ref)

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	10.20	18.25	15.0°C	86.2%
2	10.19	18.33		
3	10.60	18.27		
4	10.12	18.28		
5	9.91	18.30		
6	10.27	18.27		
7	10.30	18.50		
8	10.34	18.32		
9	10.24	18.61		
10	10.32	18.40		
\bar{X}	10.25	18.35		
σ	0.17	0.11		

External Dimensions

Item	A	B	C	D	E	F
Specification	10.0	10.0	10.0	0.6	3.4	5.0
Tolerance	± 0.5 (mm)	± 0.5 (mm)	Max (mm)	± 0.1 (mm)	± 0.5 (mm)	± 0.5 (mm)
1	10.17	10.09	8.96	0.60	3.58	5.29
2	10.07	10.06	8.84	0.62	3.57	5.17
3	10.09	10.08	8.85	0.58	3.51	5.17
4	10.11	10.11	8.75	0.59	3.60	5.13
5	10.12	10.10	8.90	0.62	3.63	5.14
6	10.11	10.10	8.91	0.58	3.56	5.14
7	10.13	10.12	8.99	0.59	3.60	5.13
8	10.12	10.11	8.74	0.59	3.48	5.17
9	10.11	10.11	8.89	0.57	3.49	5.18
10	10.11	10.08	8.92	0.58	3.48	5.14
\bar{X}	10.11	10.10	8.88	0.59	3.55	5.17
σ	0.03	0.02	0.04	0.02	0.03	0.04

Inductance measured at 100KHz/1Vrms.

Electrical specifications at 25±5°C. Humidity 60±10%

ELECTRICAL CHARACTERISTICS

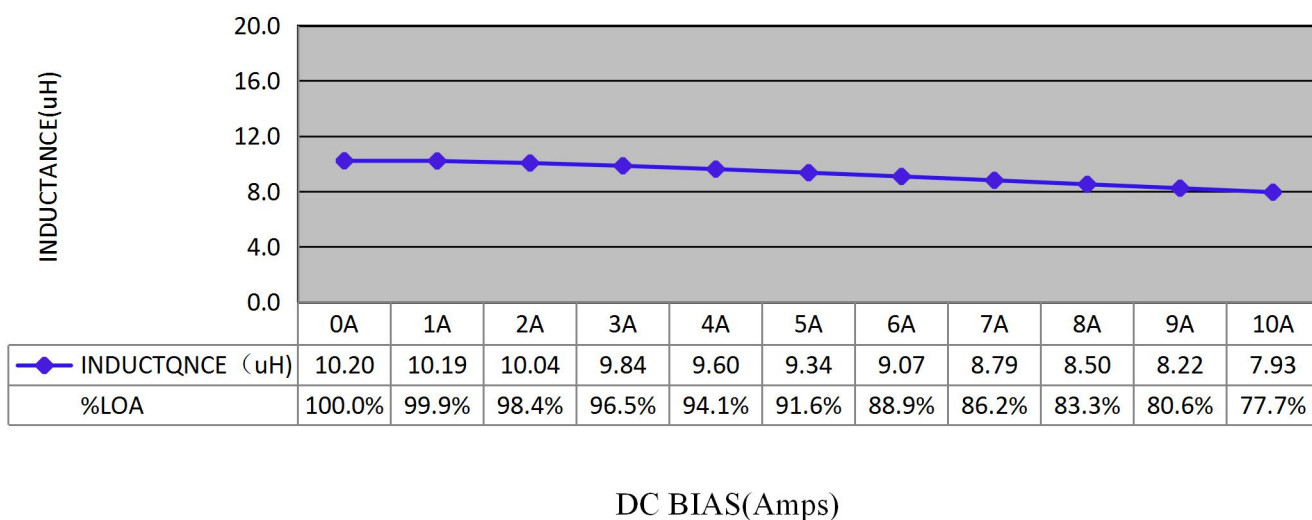
**RoHS
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Inductance VS DC current

IDC	L	%LOA				
0A	10.20	100.0%				
1A	10.19	99.9%				
2A	10.04	98.4%				
3A	9.84	96.5%				
4A	9.60	94.1%				
5A	9.34	91.6%				
6A	9.07	88.9%				
7A	8.79	86.2%				
8A	8.50	83.3%				
9A	8.22	80.6%				
10A	7.93	77.7%				

CONDITION: 100KHZ/1.0V_{rms} AMBIENT: 20°C, 69.8%



ELECTRICAL CHARACTERISTICS

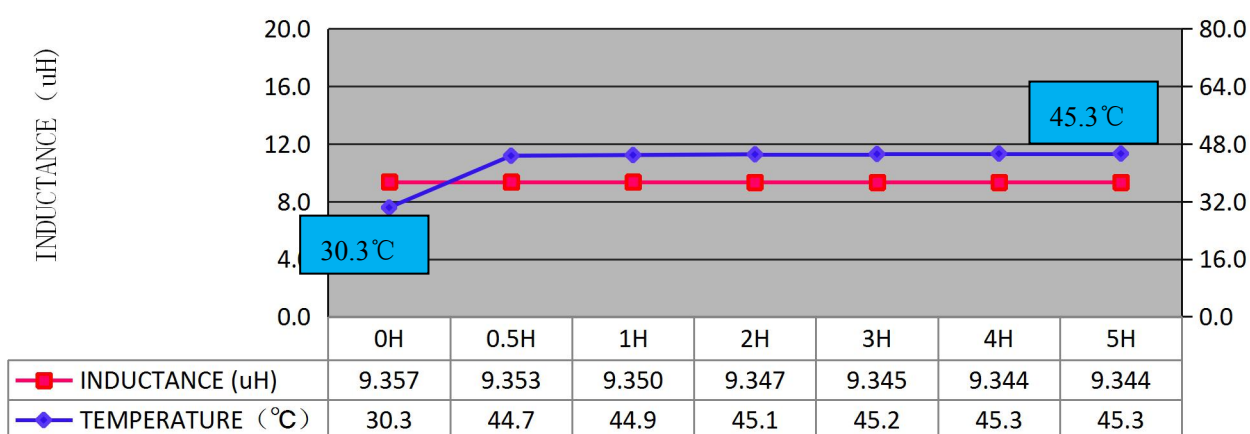
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DC current VS Temperature

Time	L (μ H)	T ($^{\circ}$ C)	Δ T($^{\circ}$ C)			
0h	9.357	30.3				
0.5h	9.353	44.7	14.4			
1h	9.350	44.9	14.6			
2h	9.347	45.1	14.8			
3h	9.345	45.2	14.9			
4h	9.344	45.3	15.0			
5h	9.344	45.3	15.0			

CONDITION: Load 5A AMBIENT: 20 $^{\circ}$ C, 69.8%



Inductance VS Temperature

ELECTRICAL CHARACTERISTICS

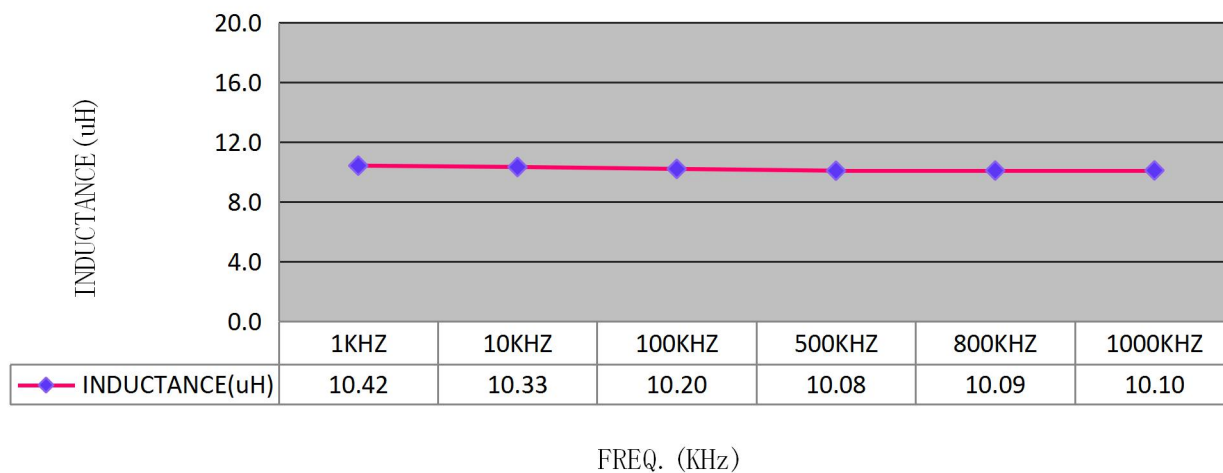
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Inductance VS Frequency

FREQ.	L (μ H)					
1KHZ	10.42					
10KHZ	10.33					
100KHZ	10.20					
500KHZ	10.08					
800KHZ	10.09					
1000KHZ	10.10					

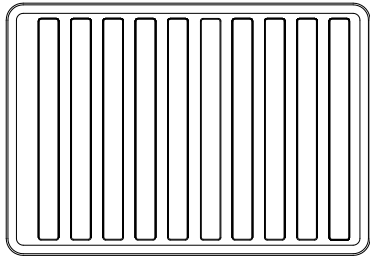
AMBIENT: 20°C, 69.8%



PACKING FOR SPECIFICATION

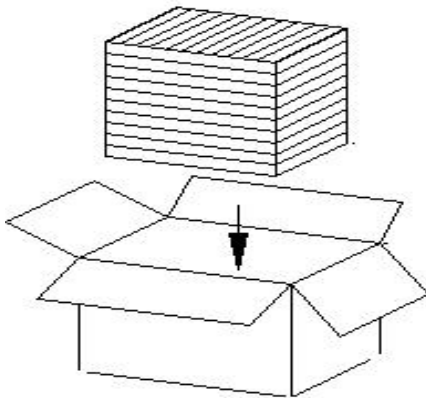
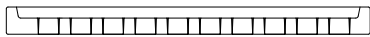
**RoHS
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PET Size : 215*148 *16 (C) mm

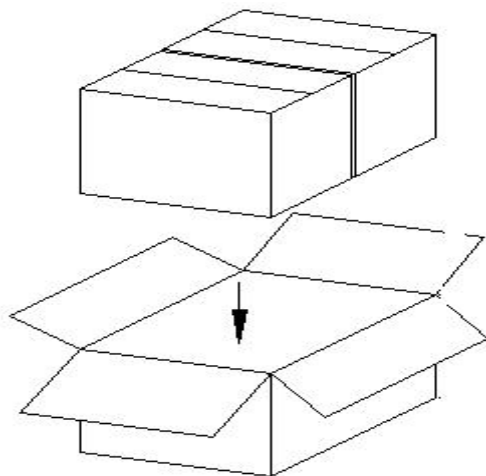
Quantity : 110PCS/PET



Small box Size : 238*156*165 mm

Quantity : 10PET/Small box

1 Small box/1100PCS



Big box Size : 328*251*175 mm

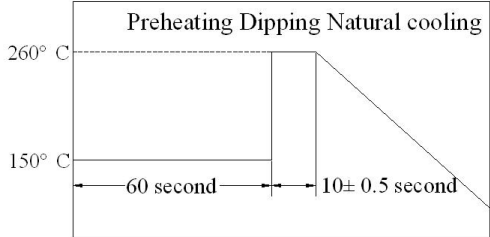
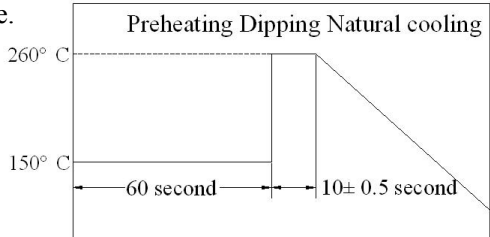
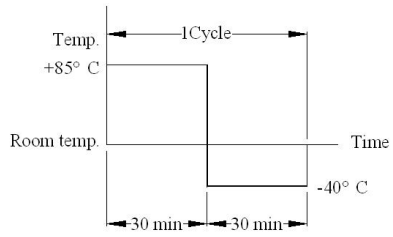
Quantity : 2 Small box/Big box

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: 4 to 24 hours 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: 4 to 24 hours 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: 4 to 24 hours of recovery under the standard condition after the removal from test chamber.</p>

THE CONDITION OF REFLOW

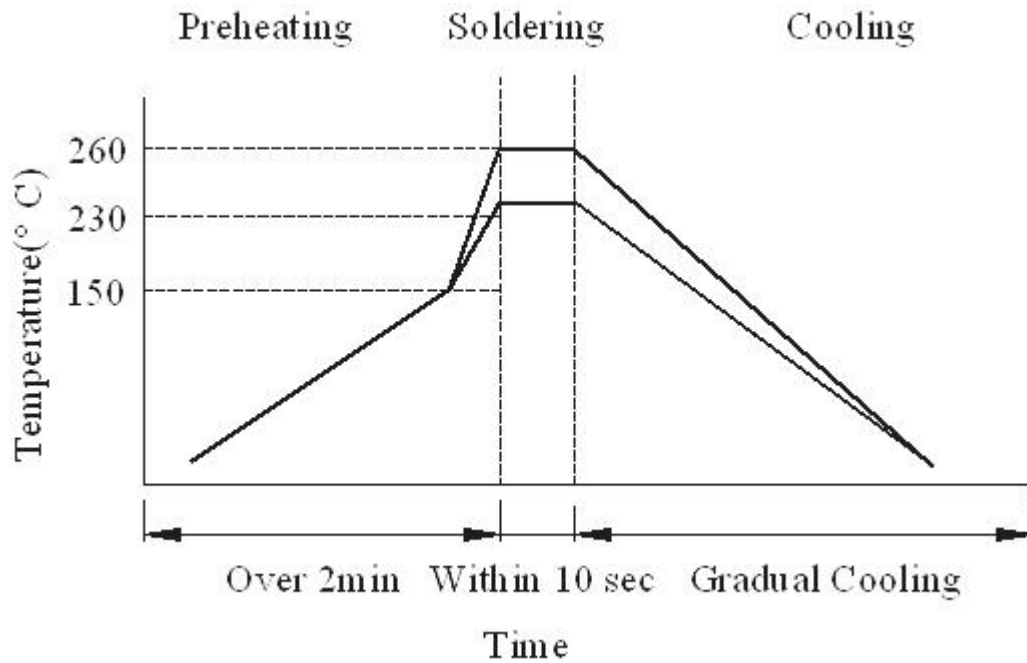
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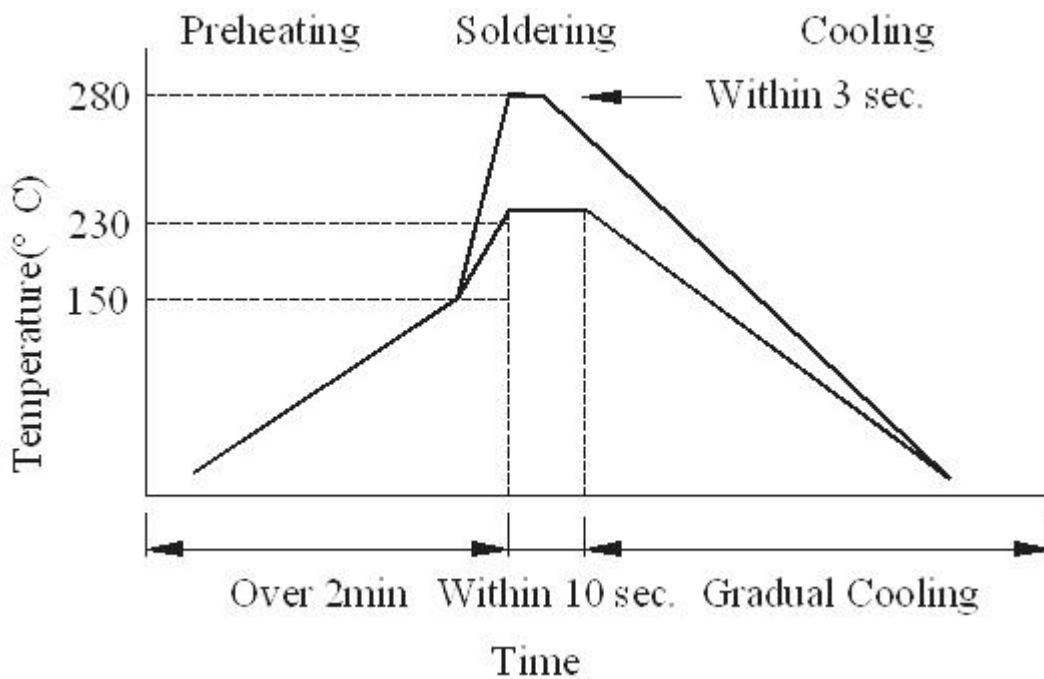
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Wave Soldering



Hand soldering



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