

CUSTOMER _____

CUSTOMER'S P/N _____

DESCRIPTION _____ POWER INDUCTOR _____

SGTE PART NO. _____ GPDC1111-220M02 _____

SAMPLE NO.: S10072303 REVISION NO. A DATE 23-July-10

SPECIFICATION FOR APPROVAL

FULLY APPROVED	REVISE APPROVED

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SPECIFICATION

**RoHS
COMPLIANT**

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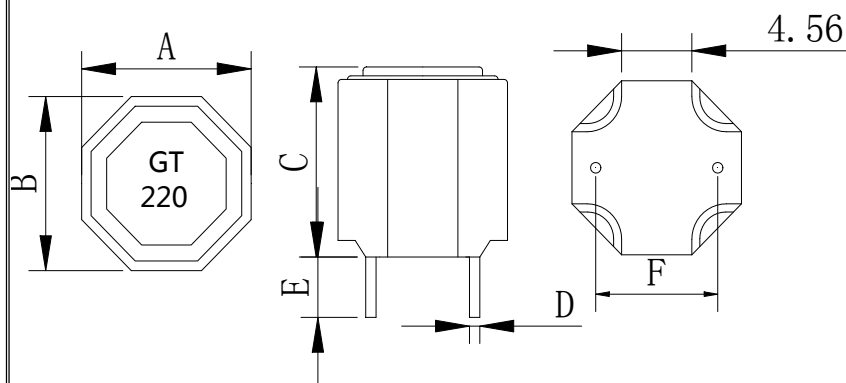
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SPECIFICATION

**RoHS
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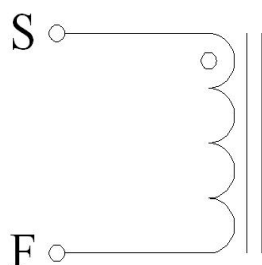
External Dimensions Unit (mm)



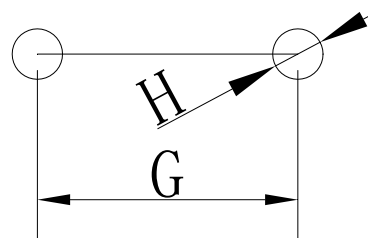
A	11.0± 0.5 (mm)
B	11.0± 0.5 (mm)
C	14.0Max (mm)
D	0.8± 0.1 (mm)
E	3.4± 0.5 (mm)
F	6.0± 0.5 (mm)
G	6.0± 0.5(mm)
H	1.2 (ref)

Coating:Black

Connection



Recommended Land Pattern



Electrical Specification

Measurement Item	Unit Tolerance	Specification	Test Frequency	Test Instrument
L	uH (±20%)	22.0uH ±20%	100KHz/1V	LCR Meter Agilent/4284A or Chroma /11300
DCR	mΩ	27.8mΩ (Max)		Chroma /16502
I rms	Amps	8A	100KHz/1V	LCR Meter Agilent/4284A+42841A
I sat	Amps	11A	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 20% 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

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Electrical Characteristic

Item	L0A	DCR	I rms	I sat
Specification	22.0uH	27.8m Ω	8Amps	11Amps
Tolerance	$\pm 20\%$	Max	$\Delta T \leq 40^{\circ}\text{C}$	$L \geq 80\%$
1	21.63	21.36	31.3 $^{\circ}\text{C}$	74.6%
2	21.22	21.49		
3	21.99	21.44		
4	21.88	21.55		
5	21.63	21.50		
6	21.57	21.41		
7	21.20	21.28		
8	21.03	21.31		
9	22.12	21.42		
10	21.95	21.47		
\bar{X}	21.62	21.42		
σ	0.35	0.08		

External Dimensions

Item	A	B	C	D	E	F
Specification	11.0	11.0	14.0	0.8	3.4	6.0
Tolerance	± 0.5 (mm)	± 0.5 (mm)	Max (mm)	± 0.1 (mm)	± 0.5 (mm)	± 0.5 (mm)
1	11.09	11.13	12.75	0.84	3.39	6.05
2	11.10	11.11	12.73	0.77	3.45	6.13
3	11.11	11.09	12.75	0.77	3.41	6.04
4	11.11	11.08	12.66	0.78	3.53	6.06
5	11.09	11.08	12.78	0.79	3.61	6.08
6	11.11	11.12	12.74	0.80	3.59	6.11
7	11.17	11.14	12.83	0.78	3.67	6.09
8	11.12	11.13	12.75	0.79	3.48	6.05
9	11.12	11.09	12.77	0.80	3.60	6.13
10	11.12	11.09	12.68	0.81	3.54	6.10
\bar{X}	11.11	11.11	12.74	0.79	3.53	6.08
σ	0.02	0.02	0.05	0.02	0.09	0.03

Inductance measured at 100KHz/1Vrms.

Electrical specifications at 25 $\pm 5^{\circ}\text{C}$. Humidity 60 $\pm 10\%$

ELECTRICAL CHARACTERISTICS

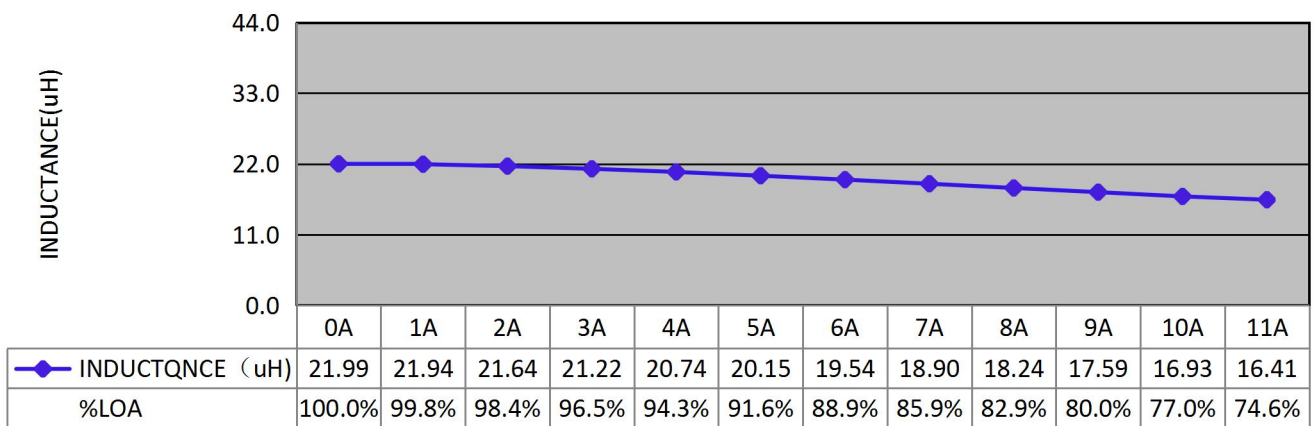
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Inductance VS DC current

IDC	L	%LOA				
0A	21.99	100.0%				
1A	21.94	99.8%				
2A	21.64	98.4%				
3A	21.22	96.5%				
4A	20.74	94.3%				
5A	20.15	91.6%				
6A	19.54	88.9%				
7A	18.90	85.9%				
8A	18.24	82.9%				
9A	17.59	80.0%				
10A	16.93	77.0%				
11A	16.41	74.6%				

CONDITION: 100KHZ/1.0Vrms AMBIENT: 20°C, 69.8%



DC BIAS(Amps)

ELECTRICAL CHARACTERISTICS

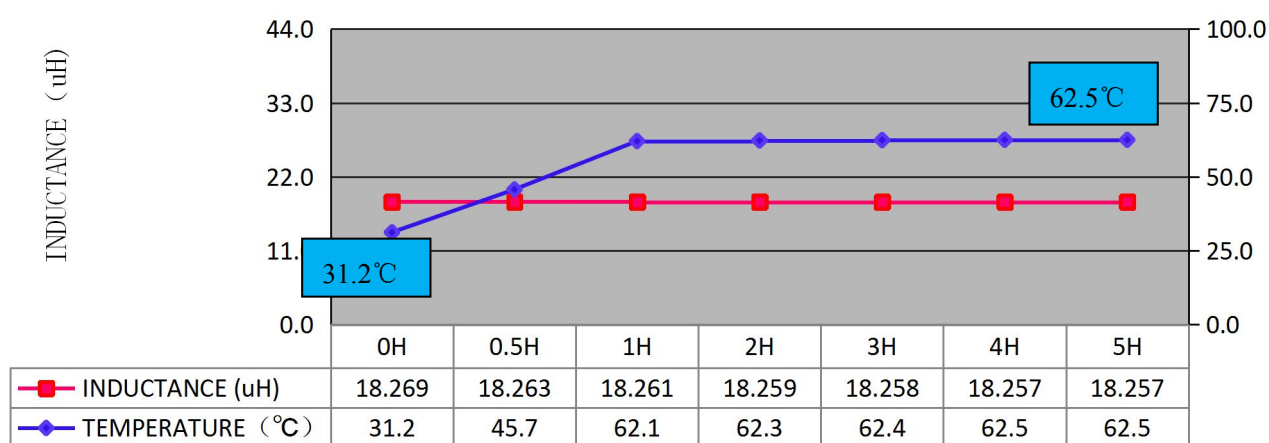
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DC current VS Temperature

Time	L (μ H)	T ($^{\circ}$ C)	Δ T($^{\circ}$ C)			
0h	18.269	31.2				
0.5h	18.263	45.7	14.5			
1h	18.261	62.1	30.9			
2h	18.259	62.3	31.1			
3h	18.258	62.4	31.2			
4h	18.257	62.5	31.3			
5h	18.257	62.5	31.3			

CONDITION: Load 8A AMBIENT: 20 $^{\circ}$ C, 69.8%



Inductance VS Temperature

ELECTRICAL CHARACTERISTICS

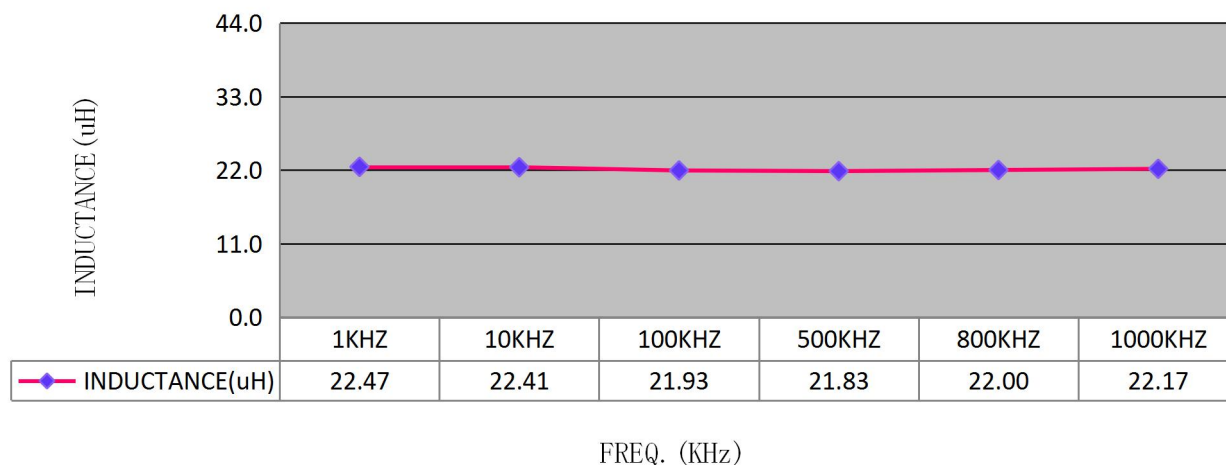
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Inductance VS Frequency

FREQ.	L (μ H)					
1KHZ	22.47					
10KHZ	22.41					
100KHZ	21.93					
500KHZ	21.83					
800KHZ	22.00					
1000KHZ	22.17					

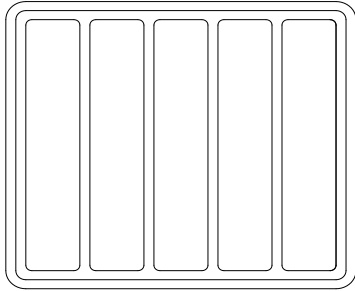
AMBIENT: 20°C, 69.8%



PACKING FOR SPECIFICATION

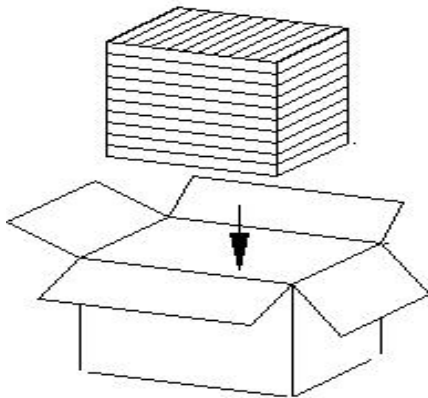
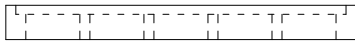
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PET Size :175*159*19mm

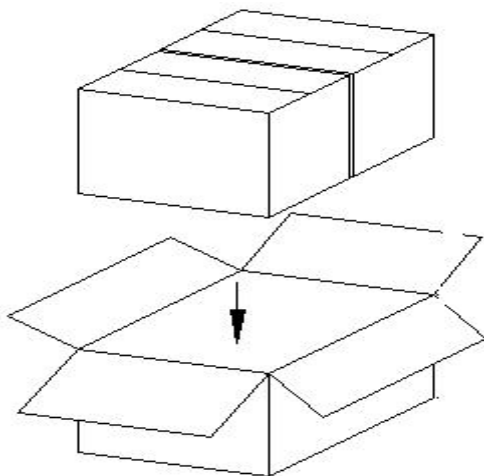
Quantity : 60PCS/PET



Small box Size : 324*178*114 mm

Quantity : 10PET/Small box

1Small box/600PCS



Big box Size : 386*338*132 mm

Quantity : 2 Small box/Big box

1 Big box/1200PCS

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

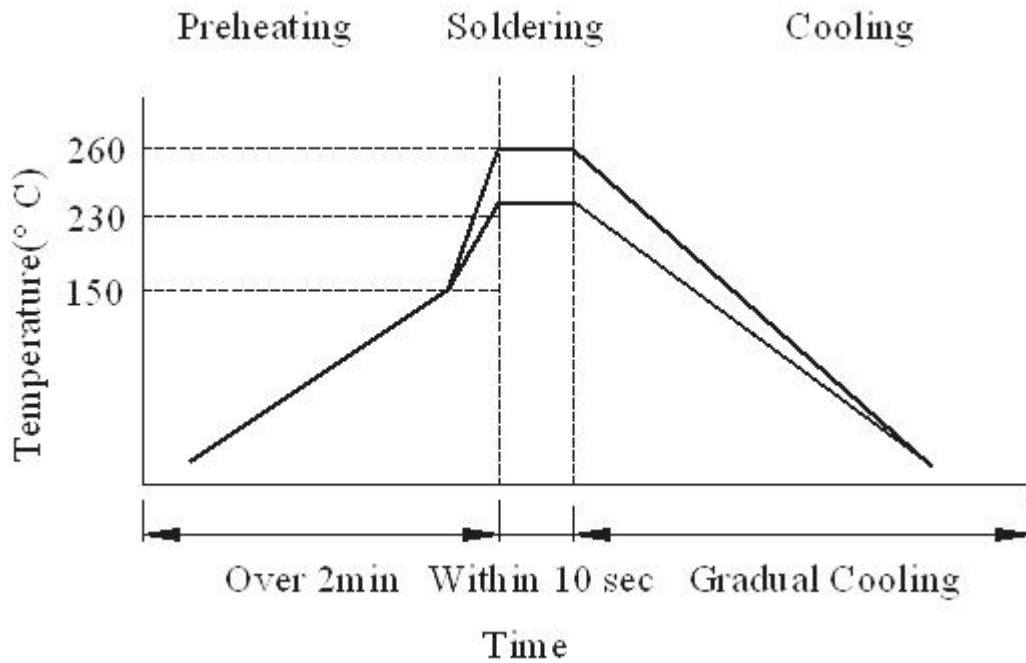
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Wave Soldering



Hand soldering

