

CUSTOMER _____

CUSTOMER'S P/N _____

DESCRIPTION _____ POWER INDUCTOR _____

SGTE PART NO. _____ GPDC0808-6R8M02 _____

SAMPLE NO.: S14082001 REVISION NO. A DATE 2014-08-20

SPECIFICATION FOR APPROVAL

FULLY APPROVED	REVISE APPROVED

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SPECIFICATION

RoHS
COMPLIANT

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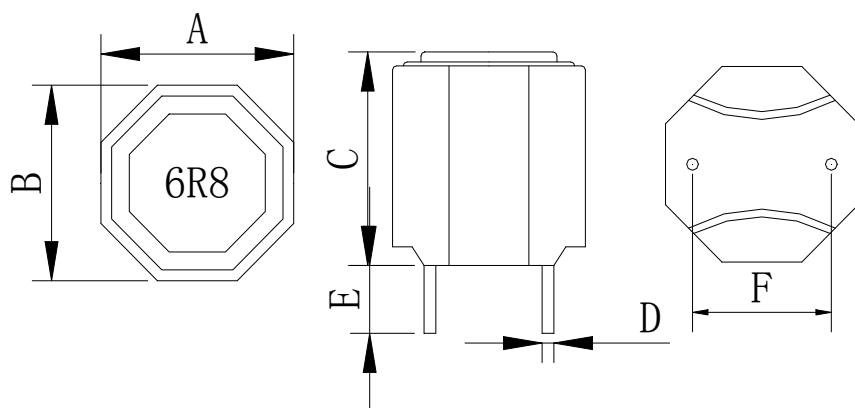
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SPECIFICATION

**RoHS
COMPLIANT**

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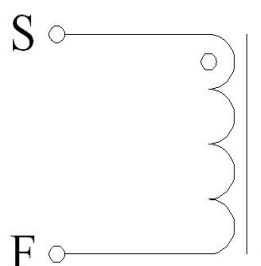
External Dimensions Unit (mm)



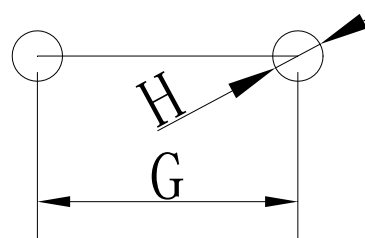
A	8.5± 0.5 (mm)
B	8.5± 0.5 (mm)
C	12Max (mm)
D	0.6± 0.1 (mm)
E	3.4± 0.5 (mm)
F	5.0± 0.5 (mm)
G	5.0± 0.5(mm)
H	0.9 (ref)

Coating:Black

Connection



Recommended Land Pattern



Electrical Specification

Measurement Item	Unit Tolerance	Specification	Test Frequency	Test Instrument
L	uH (±20%)	6.8uH ±20%	100KHz/1V	LCR Meter Agilent/4284A or Chroma /11300
DCR	mΩ	24.0mΩ (Max)		Chroma /16502
I rms	Amps	5.5A	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

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Electrical Characteristic

Item	L0A	DCR	I rms	I sat
Specification	6.8 uH	24.0mΩ	5.5Amps	8Amps
Tolerance	±20%	Max	ΔT ≤ 40°C	L ≥ 65%
1	6.71	16.24	12.3°C	77.2%
2	6.69	16.27		
3	6.72	16.32		
4	6.74	16.27		
5	6.63	16.33		
6	7.07	16.18		
7	6.71	16.25		
8	6.73	16.24		
9	6.71	16.34		
10	6.68	16.37		
\bar{X}	6.74	16.28		
σ	0.12	0.05		

External Dimensions

Item	A	B	C	D	E	F
Specification	8.5	8.5	12	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	8.67	8.63	8.87	0.54	3.21	5.22
2	8.63	8.59	8.90	0.58	3.22	5.16
3	8.68	8.67	8.90	0.57	3.23	5.23
4	8.67	8.66	8.91	0.58	3.24	5.18
5	8.69	8.69	8.94	0.56	3.23	5.24
6	8.61	8.61	8.91	0.57	3.21	5.29
7	8.62	8.62	8.88	0.58	3.23	5.25
8	8.68	8.68	8.87	0.57	3.24	5.24
9	8.67	8.67	8.86	0.56	3.26	5.23
10	8.63	8.63	8.87	0.54	3.25	5.22
\bar{X}	8.66	10.14	8.89	0.57	3.23	5.23
σ	0.03	0.03	0.02	0.01	0.02	0.03

Inductance measured at 100KHz/1Vrms.

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

ELECTRICAL CHARACTERISTICS

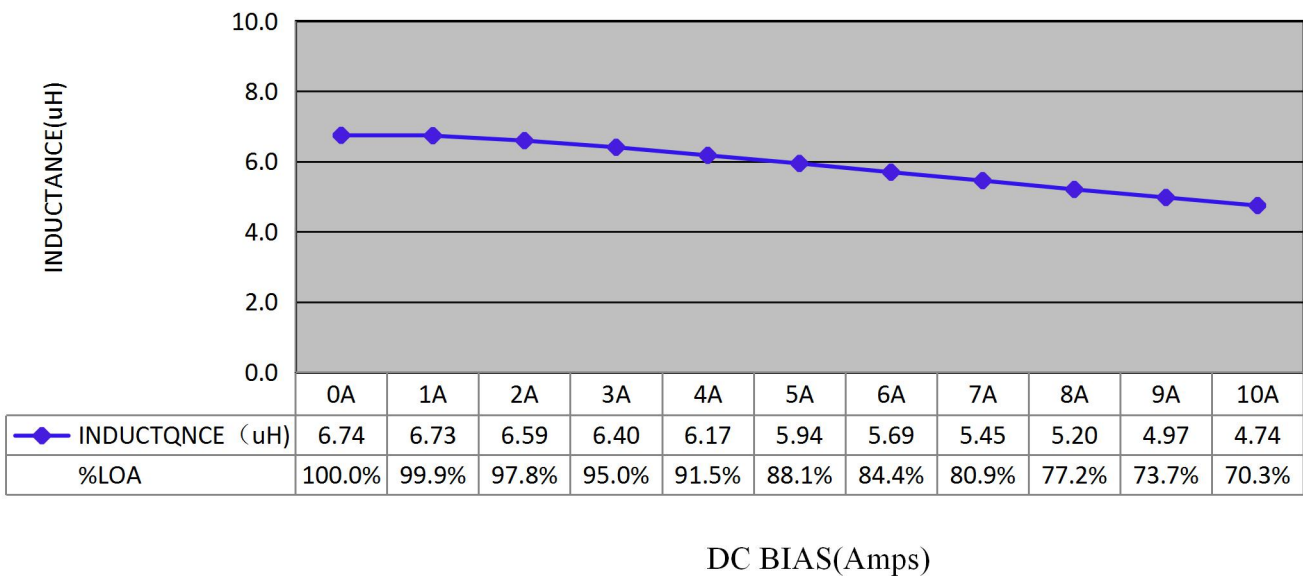
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Inductance VS DC current

IDC	L	%LOA				
0A	6.74	100.0%				
1A	6.73	99.9%				
2A	6.59	97.8%				
3A	6.40	95.0%				
4A	6.17	91.5%				
5A	5.94	88.1%				
6A	5.69	84.4%				
7A	5.45	80.9%				
8A	5.20	77.2%				
9A	4.97	73.7%				
10A	4.74	70.3%				

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



DC BIAS(Amps)

ELECTRICAL CHARACTERISTICS

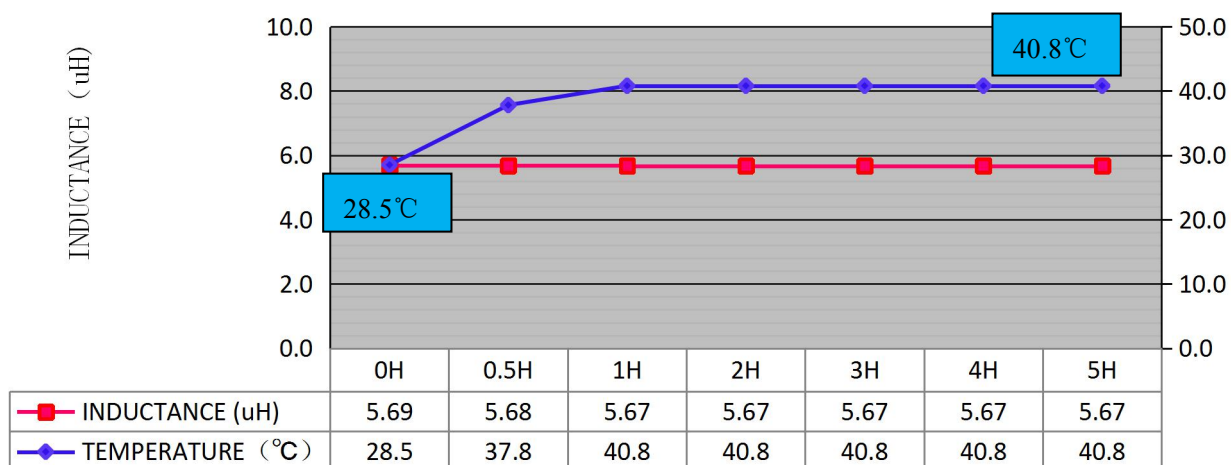
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DC current VS Temperature

Time	L (μ H)	T ($^{\circ}$ C)	Δ T($^{\circ}$ C)			
0H	5.69	28.5				
0.5H	5.68	37.8	9.3			
1H	5.67	40.8	12.3			
2H	5.67	40.8	12.3			
3H	5.67	40.8	12.3			
4H	5.67	40.8	12.3			
5H	5.67	40.8	12.3			

CONDITION: Load 5.5A AMBIENT: 20 $^{\circ}$ C, 69.8%



Inductance VS Temperature

ELECTRICAL CHARACTERISTICS

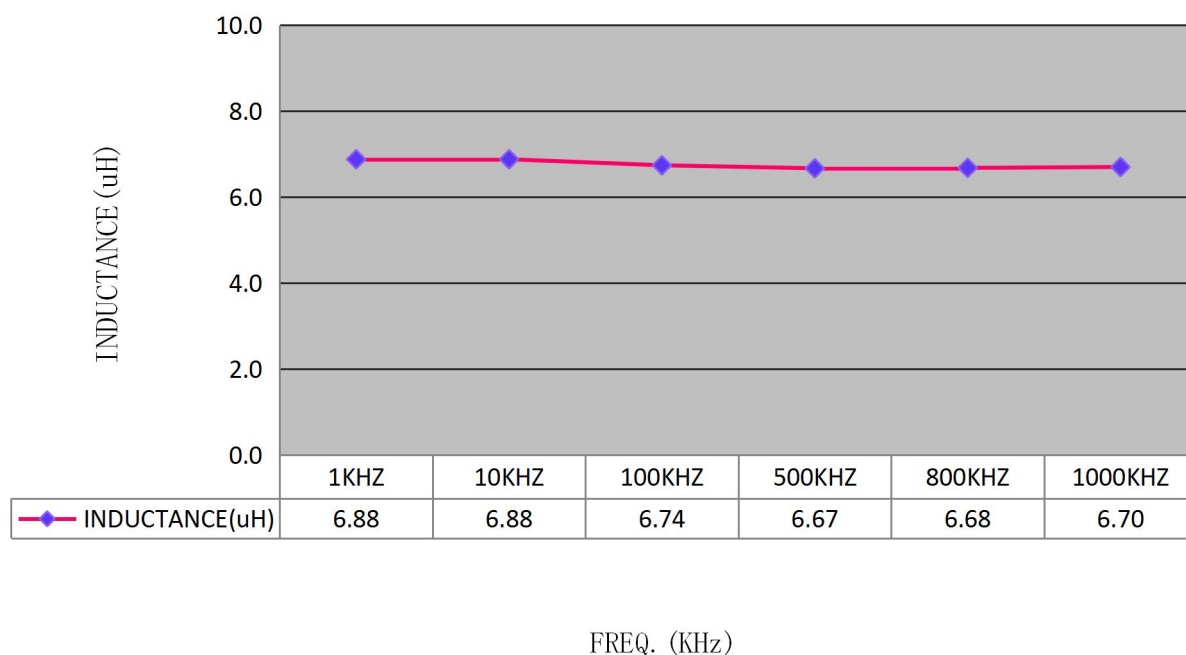
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Inductance VS Frequency

FREQ.	L (μ H)					
1KHZ	6.88					
10KHZ	6.88					
100KHZ	6.74					
500KHZ	6.67					
800KHZ	6.68					
1000KHZ	6.70					

AMBIENT: 20°C, 69.8%

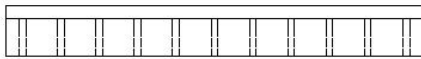
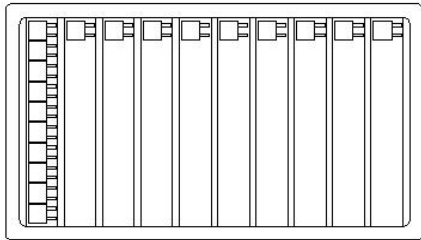


FREQ. (KHz)

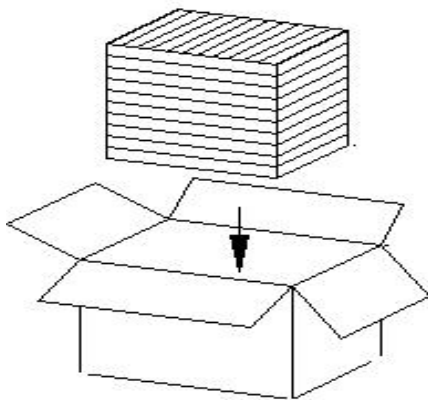
PACKING FOR SPECIFICATION

**RoHS
COMPLIANT**

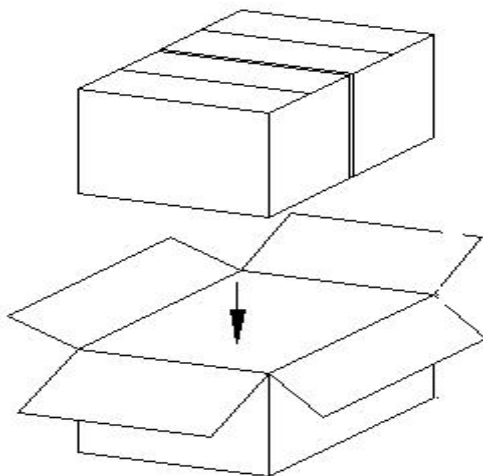
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PET Size : 215*148*16(D)mm
Quantity : 160PCS/PET



Small box Size : 238*156*165 mm
Quantity : 10PET/Small box
1 Small box/1600PCS

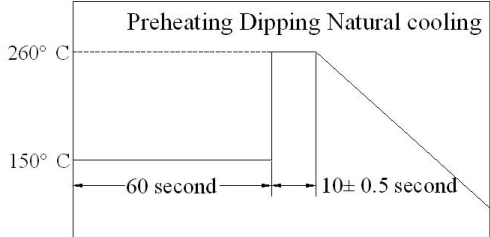
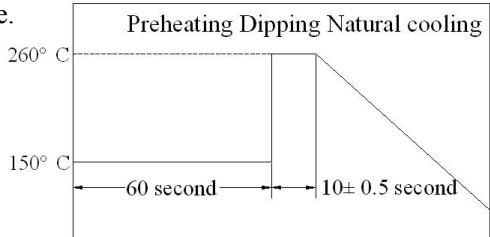
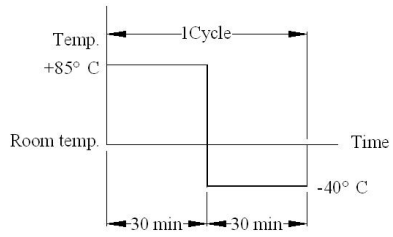


Big box Size : 328*251*175 mm
Quantity : 2 Small box/Big box
1 Big box/3200PCS

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

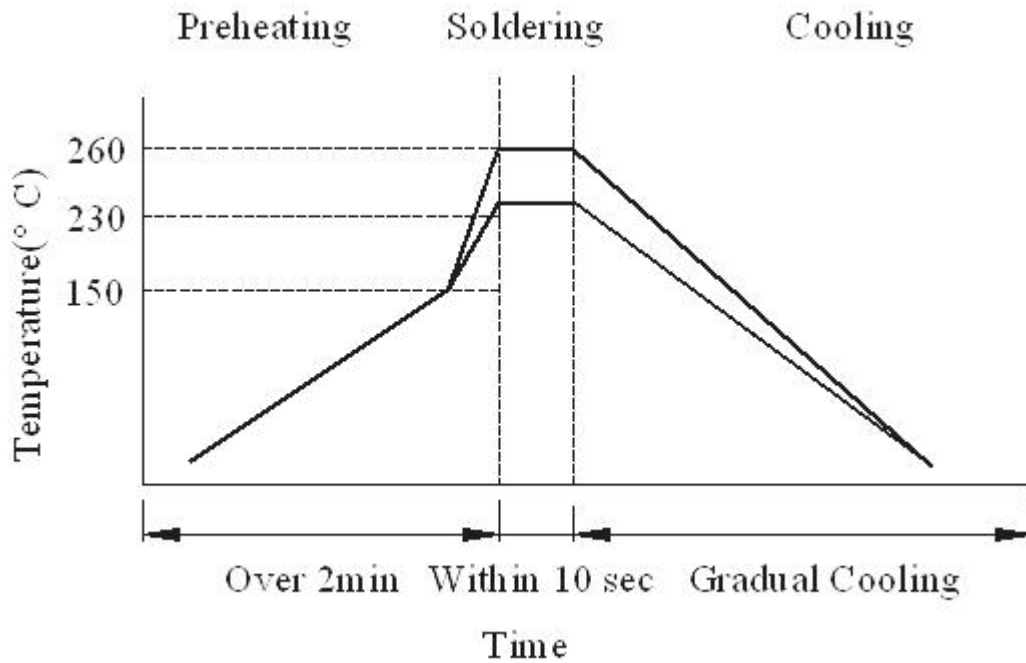
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Wave Soldering



Hand soldering

