

CUSTOMER _____

CUSTOMER'S P/N _____

DESCRIPTION _____ POWER INDUCTOR _____

SGTE PART NO. _____ GPDE1616-150M _____

SAMPLE NO. S11060201 REVISION NO. A DATE 2-Jun-11

SPECIFICATION FOR APPROVAL

FULLY APPROVED	REVISE APPROVED

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SPECIFICATION

**RoHS
COMPLIANT**

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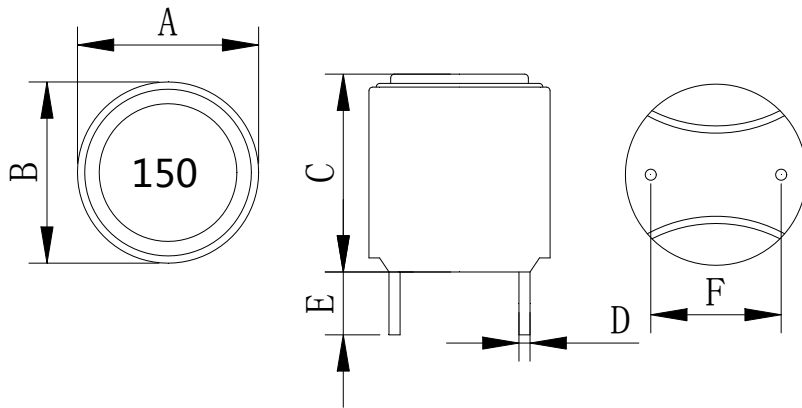
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SPECIFICATION

**RoHS
COMPLIANT**

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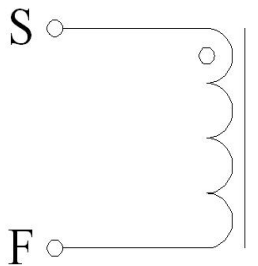
External Dimensions Unit (mm)



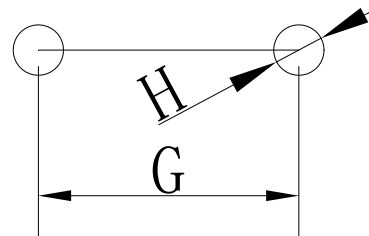
A	16.0± 0.5 (mm)
B	16.0± 0.5 (mm)
C	15.0 Max (mm)
D	1.1± 0.1 (mm)
E	3.4± 0.5 (mm)
F	12± 0.5 (mm)
G	12± 0.5(mm)
H	1.2 (ref)

Coating:Black

Connection



Recommended Land Pattern



Electrical Specification

Measurement Item	Unit Tolerance	Specification	Test Frequency	Test Instrument
L	uH (±20%)	15uH ±20%	400KHz/1V	LCR Meter Agilent/4284A or Chroma /11300
DCR	mΩ	12mΩ (Max		Chroma /16502
I rms	Amps	12A	400KHz/1V	LCR Meter Agilent/4284A+42841A
I sat	Amps	20A	400KHz/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	15uH	12mΩ	12Amps	20Amps
Tolerance	±20%	Max	ΔT ≤ 40°C	L ≥ 65%
1	15.15	8.95	27.3°C	83.1%
2	15.12	9.02		
3	14.67	8.90		
4	15.12	8.78		
5	15.09	8.94		
6	14.89	9.01		
7	15.03	9.12		
8	15.20	8.86		
9	14.97	8.92		
10	15.23	9.08		
\bar{X}	15.05	8.96		
σ	0.15	0.10		

External Dimensions

Item	A	B	C	D	E	F
Specification	16.0	16.0	15.0	1.1	3.4	12.0
Tolerance	± 0.5 (mm)	± 0.5 (mm)	Max (mm)	± 0.1 (mm)	± 0.5 (mm)	± 0.5 (mm)
1	16.06	16.06	13.45	1.15	3.47	12.17
2	16.08	16.08	13.21	1.10	3.51	12.22
3	16.09	16.09	13.17	1.14	3.53	12.12
4	16.07	16.07	13.31	1.13	3.47	12.09
5	16.11	16.11	13.32	1.12	3.49	12.13
6	16.12	16.12	13.35	1.15	3.46	12.06
7	16.05	16.05	13.26	1.14	3.47	12.08
8	16.13	16.13	13.30	1.13	3.50	12.11
9	16.11	16.11	13.24	1.10	3.41	12.06
10	16.10	16.10	13.10	1.13	3.51	12.13
\bar{X}	16.09	16.09	13.27	1.13	3.48	12.12
σ	0.03	0.03	0.09	0.02	0.03	0.05

Inductance measured at 400KHz/1Vrms.

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

ELECTRICAL CHARACTERISTICS

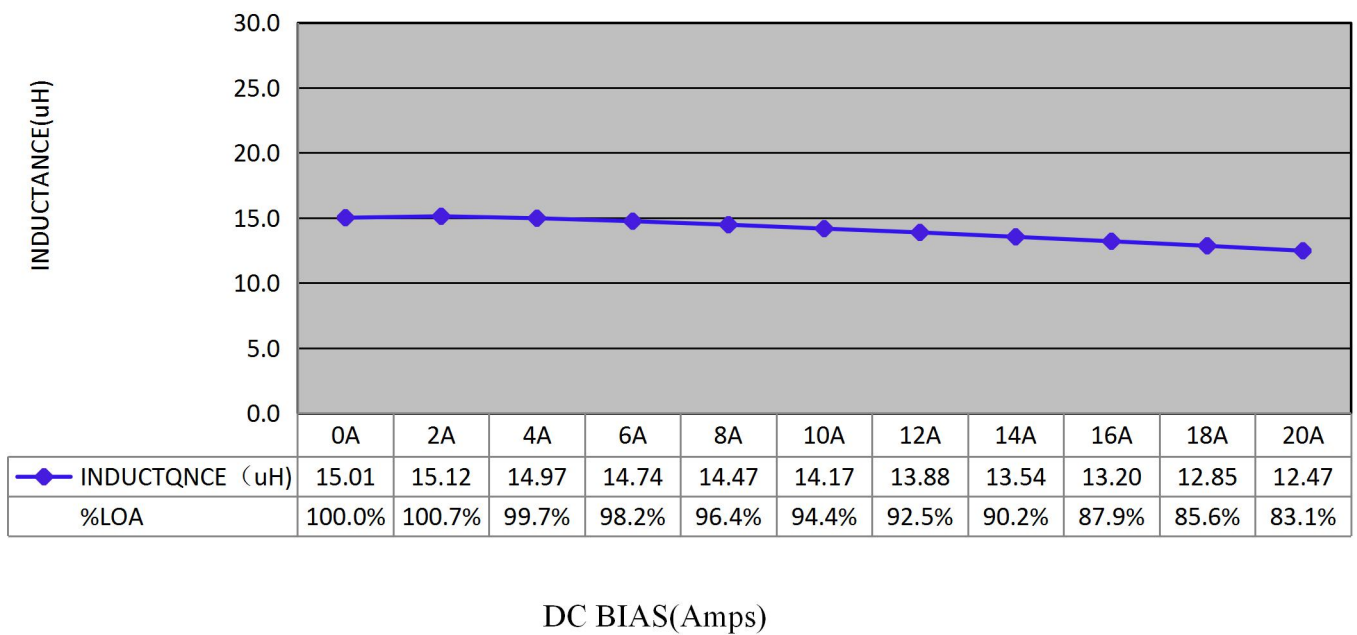
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Inductance VS DC current

IDC	L	%LOA				
0A	15.01	100.0%				
2A	15.12	100.7%				
4A	14.97	99.7%				
6A	14.74	98.2%				
8A	14.47	96.4%				
10A	14.17	94.4%				
12A	13.88	92.5%				
14A	13.54	90.2%				
16A	13.20	87.9%				
18A	12.85	85.6%				
20A	12.47	83.1%				

CONDITTON: 400KHZ/1.0Vrms



ELECTRICAL CHARACTERISTICS

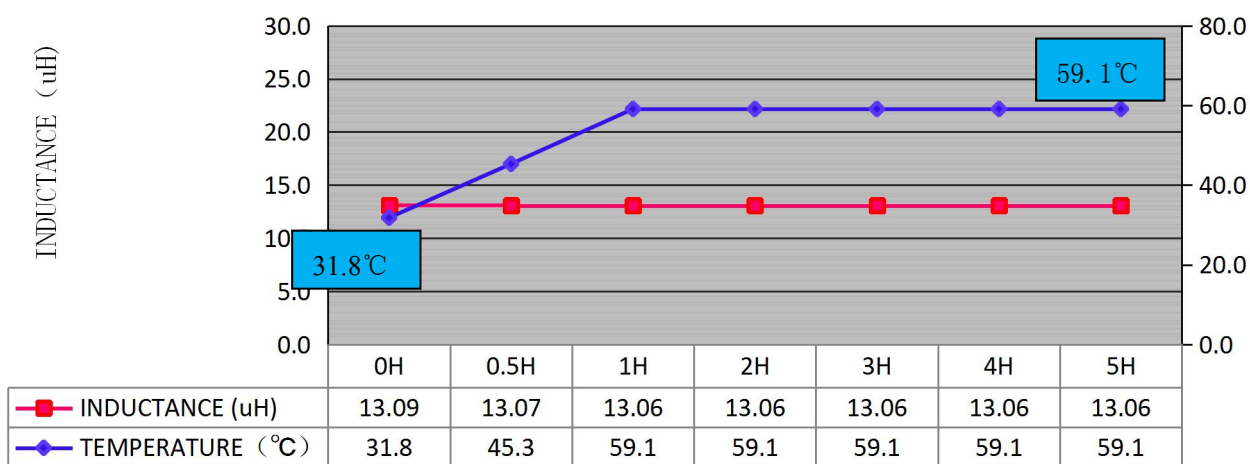
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DC current VS Temperature

Time	L (μH)	T (°C)	ΔT(°C)			
0H	13.09	31.8				
0.5H	13.07	45.3	13.5			
1H	13.06	59.1	27.3			
2H	13.06	59.1	27.3			
3H	13.06	59.1	27.3			
4H	13.06	59.1	27.3			
5H	13.06	59.1	27.3			

CONDITTON: Load 12A



Inductance VS Temperature

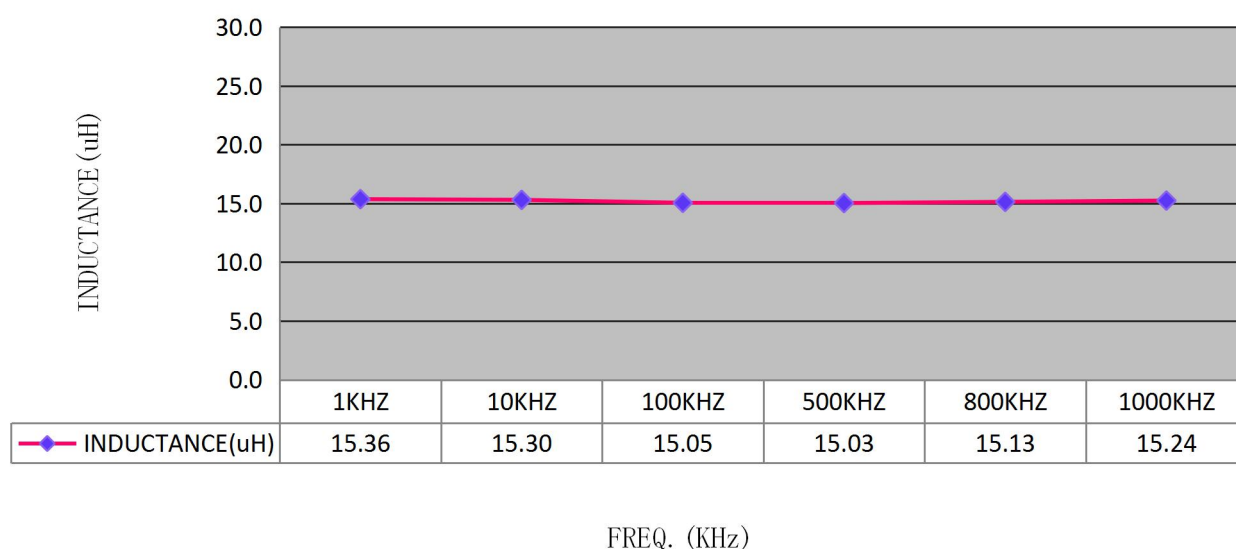
ELECTRICAL CHARACTERISTICS

**RoHS
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Inductance VS Frequency

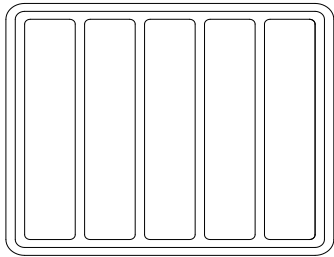
FREQ.	L (μH)					
1KHZ	15.36					
10KHZ	15.30					
100KHZ	15.05					
500KHZ	15.03					
800KHZ	15.13					
1000KHZ	15.24					



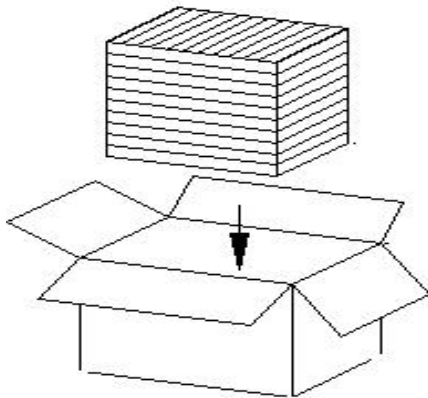
PACKING FOR SPECIFICATION

**RoHS
COMPLIANT**

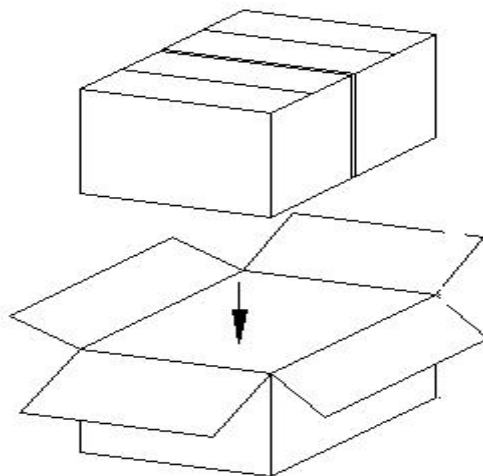
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PET Size : 175*159*19mm
Quantity : 40PCS/PET



Small box Size : 324*178*114 mm
Quantity : 10PET/Small box
1 Small box/400PCS

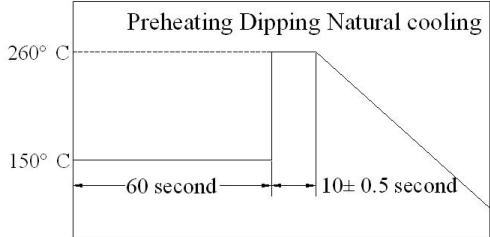
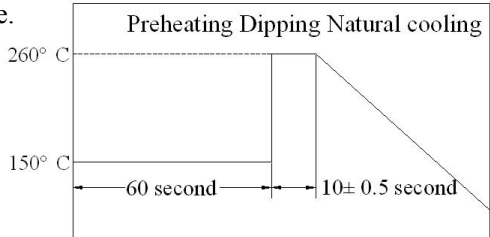
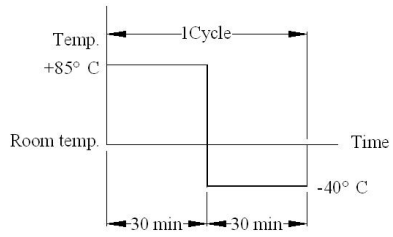


Big box Size : 386*338*132 mm
Quantity : 2 Small box/Big box
1 Big box/800PCS

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

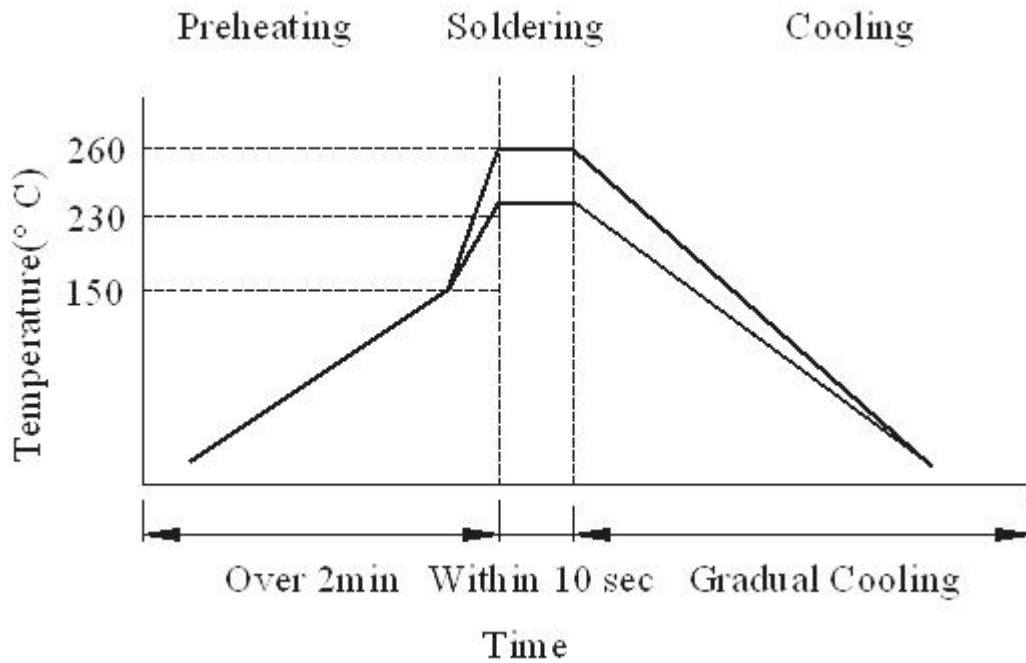
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Wave Soldering



Hand soldering

