

CUSTOMER _____

CUSTOMER'S P/N _____

DESCRIPTION _____ POWER INDUCTOR _____

SGTE PART NO. _____ GPDE1616-100M _____

SAMPLE NO.: S12032901 REVISION NO. A DATE 29-Mar-12

SPECIFICATION FOR APPROVAL

FULLY APPROVED	REVISE APPROVED

SGTE 感通科技

深圳感通科技有限公司 (大陸工廠)

GANTONG TECHNOLOGY (SHENZHEN) CO., LTD.

深圳市平湖街道平湖村萬福路 26 號

No.26 Wan fu Road, Ping hu Village. Ping hu town, Shenzhen City.

Tel: 0755-28457600

Fax: 0755-28452952

感通科技有限公司 (台灣辦事處)

臺北縣汐止市新台 5 路一段 77 號 10 樓之 7

10F~7, N0.77, Sec.1, Hsin Tai 5 Road, Shi-chi City, Taipei.

Tel: 886-2-8698-2341

Fax: 886-2-8698-2342

納美科技股份有限公司 (香港辦事處)

LAPEE TECHNOLOGY LIMITED

香港九龍尖沙嘴加連威老道嘉蘭圍 5-11 號利時商業大廈 17 樓 1713 室

Room 1713 17/F, Rise Commercial Bldg5-11 Granville Cri cuit, Granville Rd, TSim Sha Tsui., Kln

Tel: 852-25301111

Fax: 852-25371111

<http://www.szgte.com>

SPECIFICATION

**RoHS
COMPLIANT**

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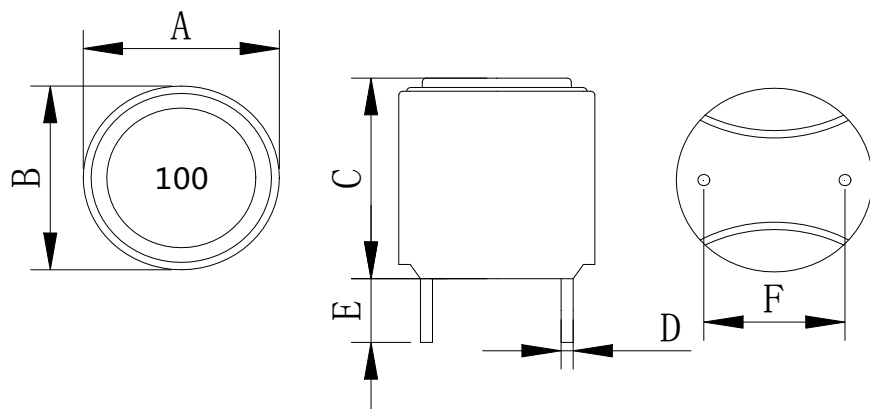
APPROVED BY	CHECKED BY	DRAWING BY
Jesse 3/29	Tony 3/29	Hu 3/29

SPECIFICATION

**RoHS
COMPLIANT**

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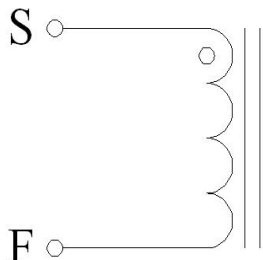
External Dimensions Unit (mm)



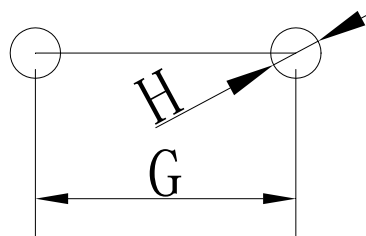
A	16.0± 0.5 (mm)
B	16.0± 0.5 (mm)
C	15.0Max (mm)
D	1.1± 0.1 (mm)
E	3.4± 0.5 (mm)
F	12.0± 0.5 (mm)
G	11.0± 0.5(mm)
H	1.3 (ref)

Coating:Black

Connection



Recommended Land Pattern



Electrical Specification

Measurement Item	Unit Tolerance	Specification	Test Frequency	Test Instrument
L	uH (±20%)	10uH ±20%	100KHz/1V	LCR Meter Agilent/4284A or Chroma /11300
DCR	mΩ	14mΩ (Max)		Chroma /16502
I rms	Amps	15A	100KHz/1V	LCR Meter Agilent/4284A+42841A
I sat	Amps	25A	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	10 uH	14mΩ	15Amps	25Amps
Tolerance	±20%	Max	$\Delta T \leq 40^{\circ}\text{C}$	$L \geq 65\%$
1	9.892	6.84	31.2°C	84.0%
2	9.901	6.82		
3	9.898	6.77		
4	9.960	6.72		
5	9.913	6.75		
6	9.766	6.81		
7	9.932	6.74		
8	9.887	6.86		
9	9.842	6.79		
10	9.855	6.86		
\bar{X}	9.885	6.80		
σ	0.05	0.05		

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	16.13	16.12	13.79	1.08	3.68	12.09
2	16.24	16.24	13.75	1.10	3.74	12.08
3	16.20	16.19	13.77	1.09	3.52	12.06
4	16.22	16.23	13.72	1.08	3.48	12.07
5	16.17	16.17	13.68	1.09	3.71	12.06
6	16.14	16.14	13.76	1.10	3.66	12.08
7	16.12	16.13	13.70	1.10	3.57	12.03
8	16.18	16.18	13.85	1.08	3.65	12.04
9	16.15	16.17	13.72	1.07	3.64	12.03
10	16.25	16.25	13.80	1.08	3.47	12.06
\bar{X}	16.18	16.18	13.75	1.09	3.61	12.06
σ	0.04	0.04	0.05	0.01	0.09	0.02

Inductance measured at 100KHz/1V rms.

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

ELECTRICAL CHARACTERISTICS

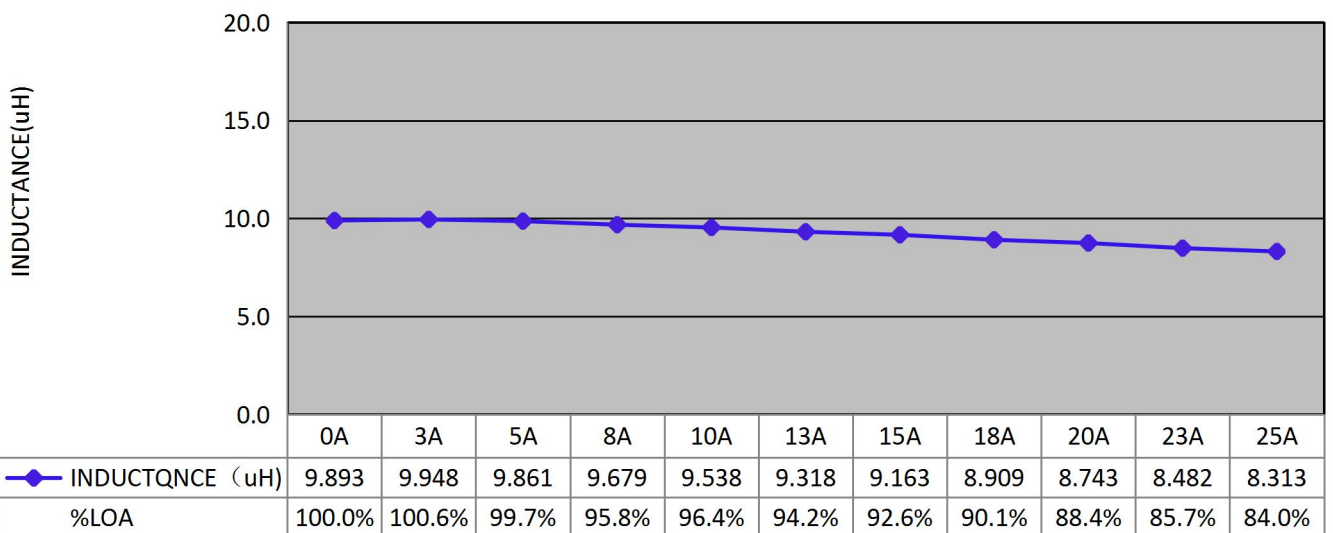
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Inductance VS DC current

IDC	L	%LOA				
0A	9.893	100.0%				
3A	9.948	100.6%				
5A	9.861	99.7%				
8A	9.679	95.8%				
10A	9.538	96.4%				
13A	9.318	94.2%				
15A	9.163	92.6%				
18A	8.909	90.1%				
20A	8.743	88.4%				
23A	8.482	85.7%				
25A	8.313	84.0%				

CONDITTON: 100KHz/1V_{rms}



DC BIAS(Amps)

ELECTRICAL CHARACTERISTICS

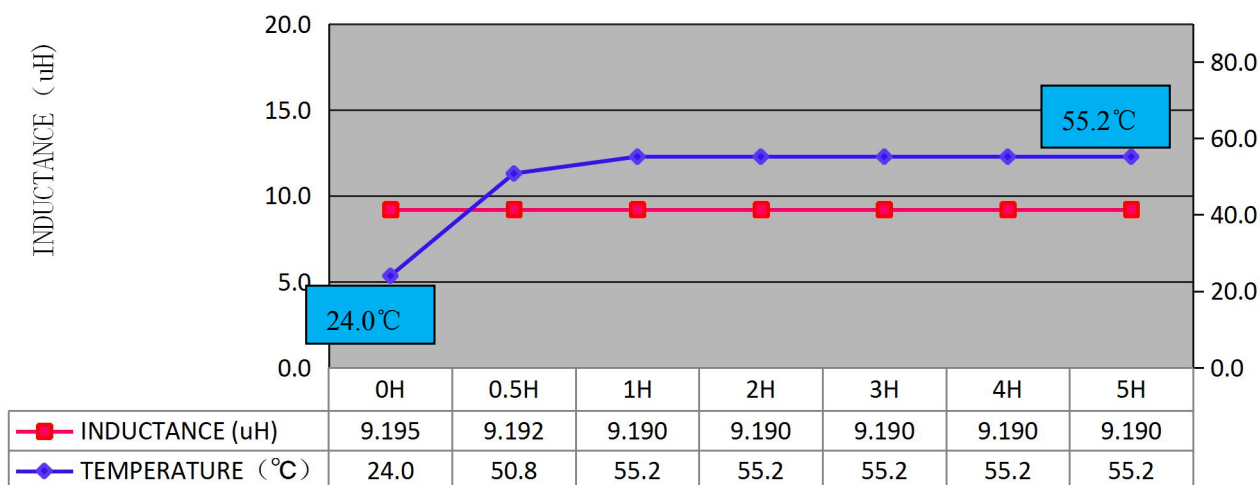
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DC current VS Temperature

Time	L (μ H)	T ($^{\circ}$ C)	Δ T($^{\circ}$ C)			
0h	9.195	24.0				
0.5h	9.192	50.8	26.8			
1h	9.190	55.2	31.2			
2h	9.190	55.2	31.2			
3h	9.190	55.2	31.2			
4h	9.190	55.2	31.2			
5h	9.190	55.2	31.2			

CONDITTON: Load15A



Inductance VS Temperature

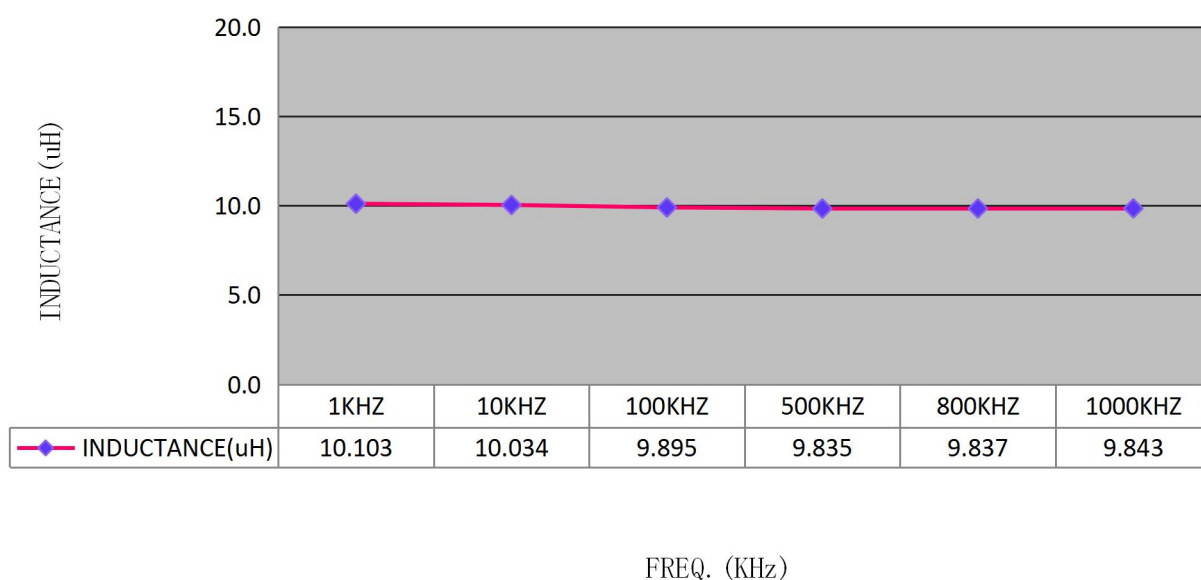
ELECTRICAL CHARACTERISTICS

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Inductance VS Frequency

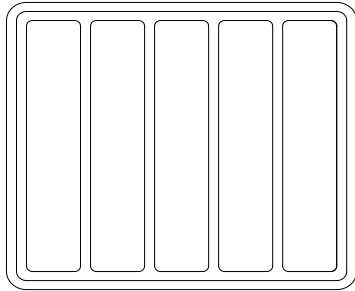
FREQ.	L (μ H)					
1KHZ	10.103					
10KHZ	10.034					
100KHZ	9.895					
500KHZ	9.835					
800KHZ	9.837					
1000KHZ	9.843					



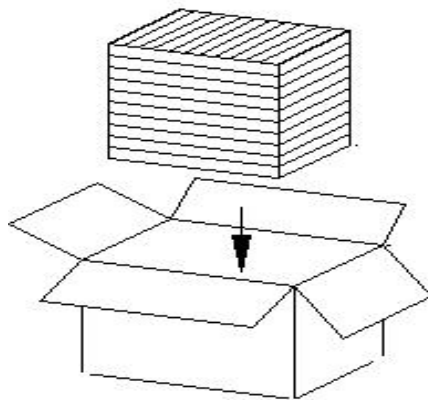
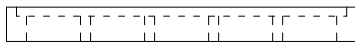
PACKING FOR SPECIFICATION

**RoHS
COMPLIANT**

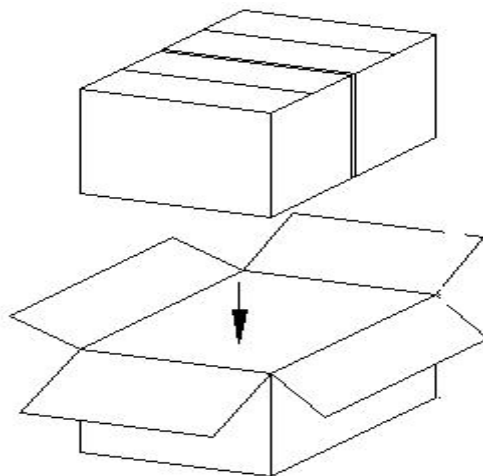
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PET Size : 175*159*26mm
Quantity : 45PCS/PET



Small box Size : 324*178*120 mm
Quantity : 10PET/Small box
1 Small box/450PCS

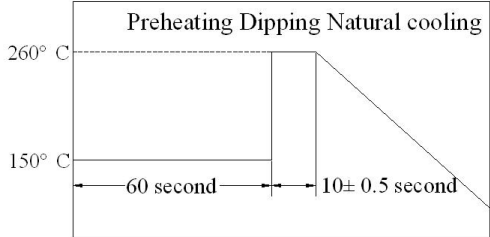
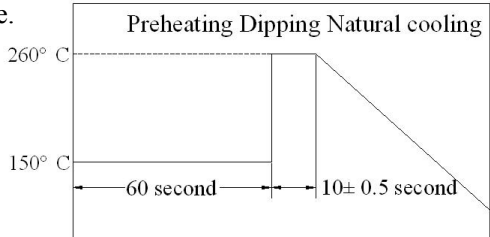
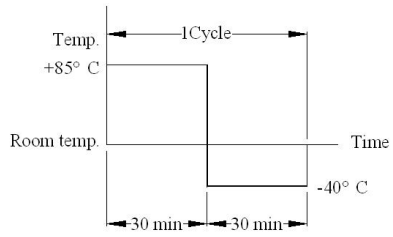


Big box Size : 386*338*132 mm
Quantity : 2 Small box/Big box
1 Big box/900PCS

GENERAL CHARACTERISTICS

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Item	Performance	Test Condition
Mechanical Performance Test		
Solder ability Test	More than 90% of terminal electrode should be covered with solder. After fluxing, component shall be dipped in a melted solder bath at $260\pm 5^{\circ}\text{C}$ for 10 seconds	
Solder Heat Resistance	Components should have not evidence of electrical and mechanical damage. Inductance: within $\pm 20\%$ of initial value. Preheat: 150°C 60 seconds Solder: (SnCu0.7) Solder Temperature: $260\pm 5^{\circ}\text{C}$ Flux: Rosin. Dip time: 10 ± 0.5 seconds	
Low temperature storage test	1. Appearance: No damage. 2. Inductance: within $\pm 20\%$ of initial value. 3. No disconnection or short circuit.	Temperature: $-40^{\circ}\text{C}\pm 5^{\circ}\text{C}$ Time: 500 ± 12 Hours Recovery: 4to24hrs of recovery under the standard condition after the removal from test chamber.
High temperature storage test		Temperature: $85^{\circ}\text{C}\pm 5^{\circ}\text{C}$ Time: 500 ± 2 Hours Recovery: 4to24hrs of recovery under the standard condition after the removal from test chamber.
Thermal Shock Test (Temperature cycle)		$-40\pm 5^{\circ}\text{C}$ for 30 Minutes. $+85\pm 5^{\circ}\text{C}$ for 30 Minutes. Total: 10 Cycles 
Humidity load life test		Temperature: $40\pm 5^{\circ}\text{C}$ Humidity: 90-95% Time: 500 ± 12 Hours Load: Allowed DC current Recovery: 4to24hrs of recovery under the standard condition after the removal from test chamber.

THE CONDITION OF REFLOW

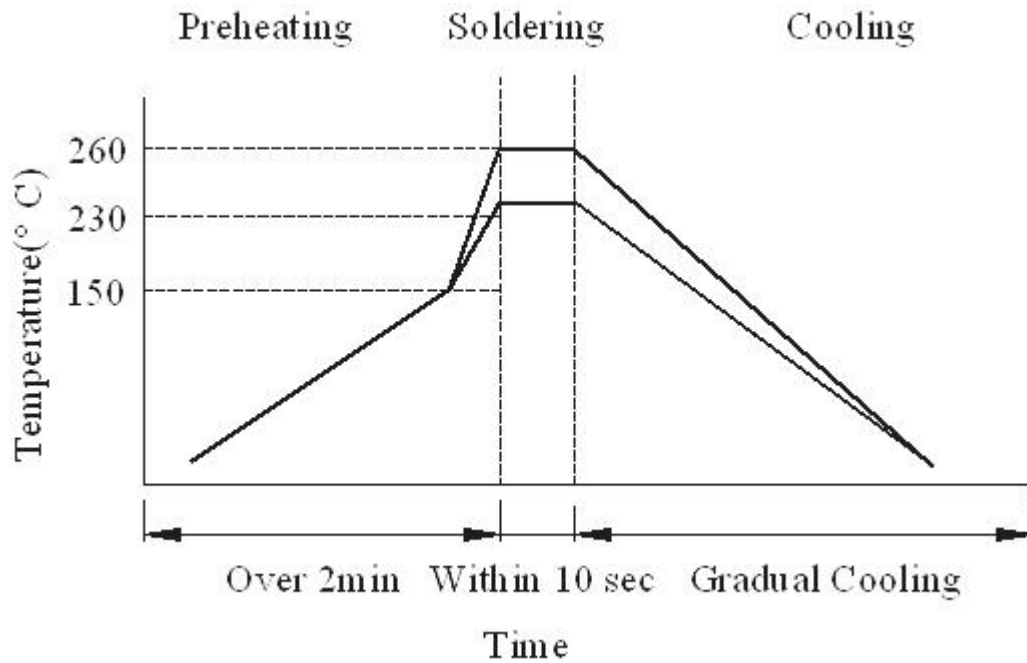
RoHS
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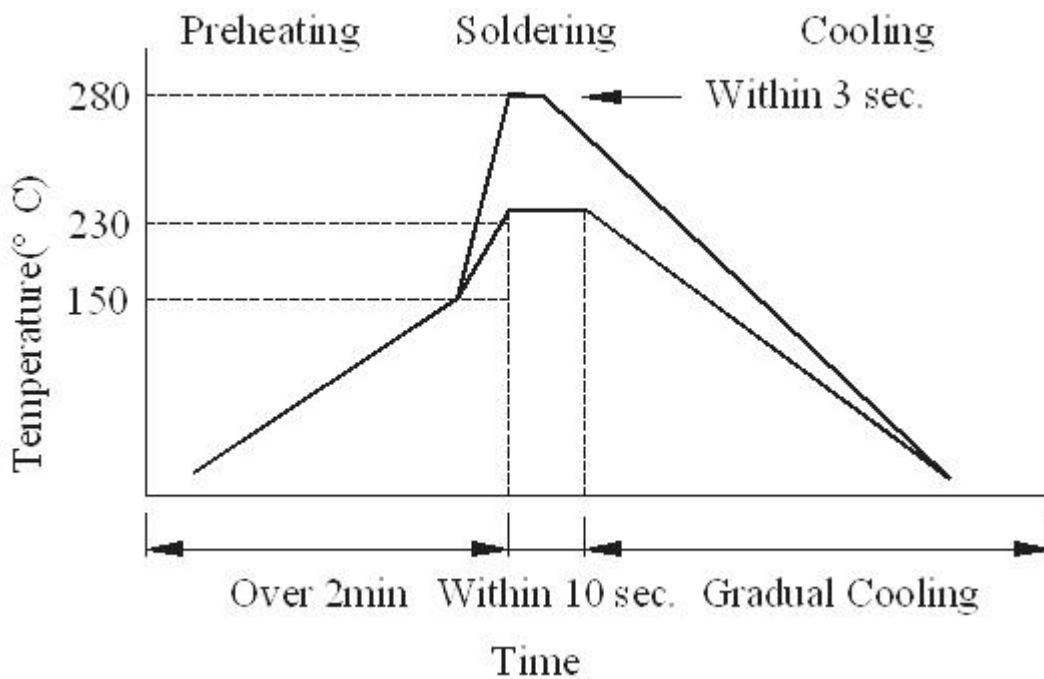
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Wave Soldering



Hand soldering



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