CUSTOMER _____

CUSTOMER'S P/N _____

DESCRIPTION SMD POWER INDUCTOR

SGTE PART NO. GPSR1365-7R8MS

SAMPLE NO. S13102102 REVISION NO. A DATE 21-Oct-13

SPECIFICATION FOR APPROVAL

FULLY APPROVED	REVISE APPROVED

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SPECIFICATION

RoHS COMPLIANT

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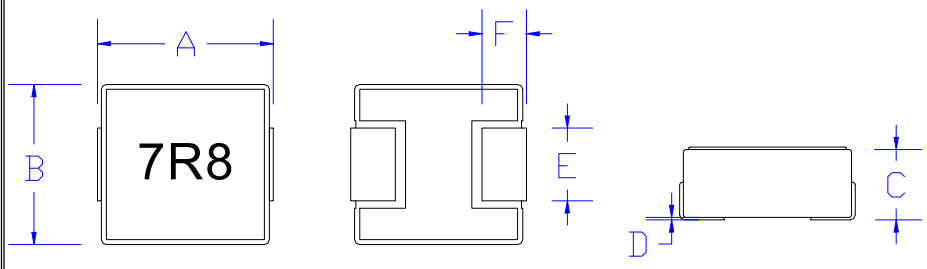
APPROVED BY	CHECKED BY	DRAWING BY
Tianyi 10/21		*Hu* 10/21

SPECIFICATION

RoHS COMPLIANT

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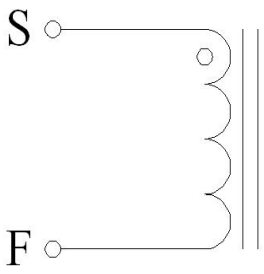
External Dimensions Unit (mm)



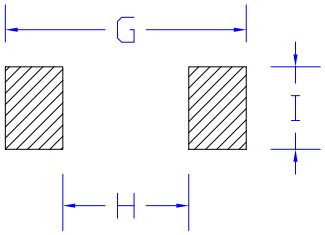
A	13.45±0.5
B	12.6±0.5
C	6.5 Max
D	≤0.2
E	3.0±0.5
F	2.0±0.5
G	14.5REF
H	8.0 REF
I	5.0REF

Coating:uncolored

Connection



Recommended Land Pattern



Electrical Specification

Measurement Item	Unit Tolerance	Specification	Test Frequency	Test Instrument
L	uH (±20%)	7.8uH ±20%	100KHz/1V	LCR Meter Agilent/4284A or Chroma /11300
DCR	mΩ	12.4mΩ(Max)		Chroma /16502
I rms	Amps	10A	100KHz/1V	LCR Meter Agilent/4284A+42841A
I sat	Amps	18A	100KHz/1V	or Chroma /11300+3302+1320+1320S

- I rms: Current that causes a 40℃ temperature rise from 25℃ ambient.
- I sat: DC current at which the inductance drops 35% from it's value without current.
- All test Data is referenced to 25℃ ambient.
- Operating Temperature Range: -25℃ to +125℃

TEST REPORT

RoHS COMPLIANT

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Electrical Characteristic

Item	L0A	DCR	I rms	I sat
Specification	7.8uH	12.4mΩ	10Amps	18Amps
Tolerance	±20%	Max	△T≦40℃	L≧65%
1	7. 791	9. 062	29. 4℃	74. 7%
2	7. 459	9. 347		
3	7. 490	9. 251		
4	7. 599	9. 146		
5	7. 492	9. 038		
6	7. 583	9. 522		
7	7. 419	9. 436		
8	7. 667	9. 501		
9	7. 469	9. 387		
10	7. 674	9. 254		
$\bar{X}$	7. 564	9. 294		
σ	0. 11	0. 16		

External Dimensions

Item	A	B	C	D	E	F
Specification	13.45	12.6	6.5		3.0	2.0
Tolerance	±0.5	±0.5	Max	≤0.2	±0.5	±0.5
1	13. 59	12. 62	6. 43	0. 11	3. 04	2. 40
2	13. 51	12. 61	6. 38	0. 15	3. 07	2. 38
3	13. 42	12. 60	6. 42	0. 11	3. 05	2. 29
4	13. 52	12. 62	6. 35	0. 15	3. 03	2. 27
5	13. 54	12. 61	6. 45	0. 12	3. 09	2. 35
6	13. 44	12. 62	6. 39	0. 14	3. 06	2. 31
7	13. 50	12. 61	6. 34	0. 10	3. 08	2. 26
8	13. 56	12. 59	6. 38	0. 13	3. 05	2. 28
9	13. 54	12. 62	6. 42	0. 15	3. 07	2. 25
10	13. 40	12. 60	6. 40	0. 12	3. 04	2. 30
$\bar{X}$	13. 50	12. 61	6. 40	0. 13	3. 06	2. 31
σ	0. 06	0. 01	0. 03	0. 02	0. 02	0. 05

Inductance measured at 100KHz/1Vrms.

Electrical specifications at 25℃. Humidity 60±10%

ELECTRICAL CHARACTERISTICS

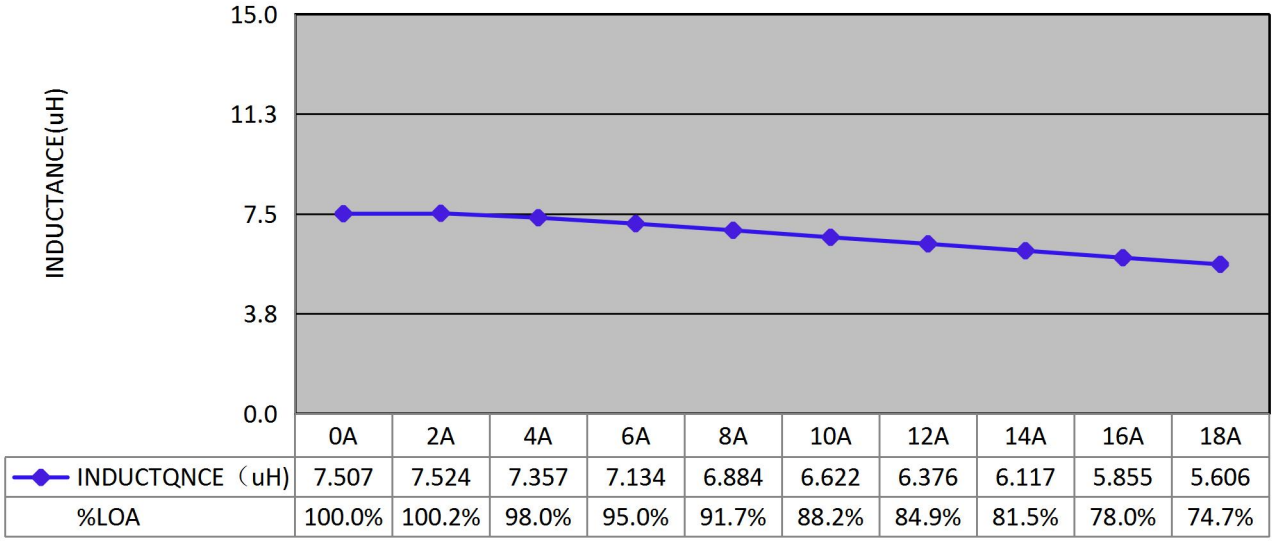
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Inductance VS DC current

IDC	L	%LOA				
0A	7.507	100.0%				
2A	7.524	100.2%				
4A	7.357	98.0%				
6A	7.134	95.0%				
8A	6.884	91.7%				
10A	6.622	88.2%				
12A	6.376	84.9%				
14A	6.117	81.5%				
16A	5.855	78.0%				
18A	5.606	74.7%				

CONDITTON:100KHz/1.0Vrms



	0A	2A	4A	6A	8A	10A	12A	14A	16A	18A
INDUCTQNCE（uH)	7.507	7.524	7.357	7.134	6.884	6.622	6.376	6.117	5.855	5.606
%LOA	100.0%	100.2%	98.0%	95.0%	91.7%	88.2%	84.9%	81.5%	78.0%	74.7%

DC BIAS(Amps)

ELECTRICAL CHARACTERISTICS

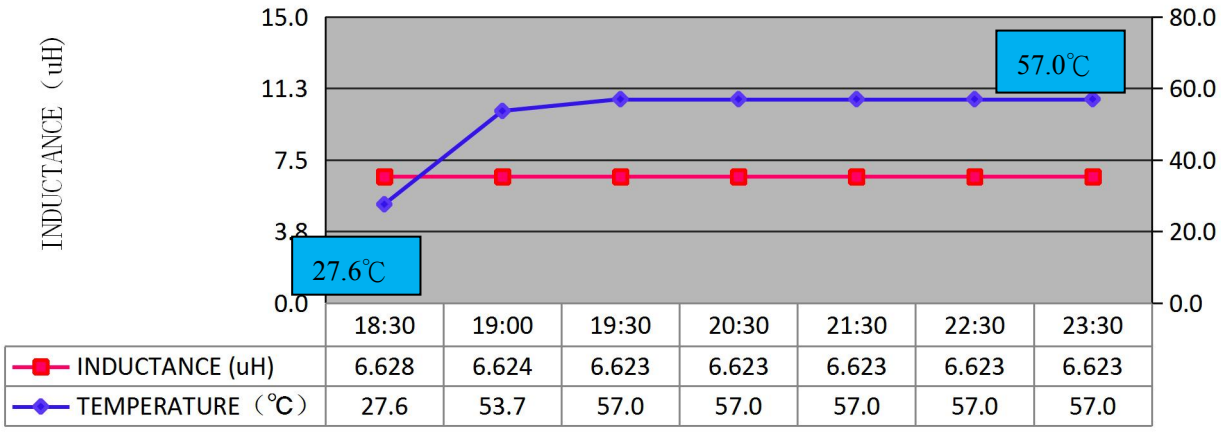
RoHS COMPLIANT

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DC current VS Temperature

Time	L（μH）	T（℃）	△T(℃)			
18:30	6.628	27.6				
19:00	6.624	53.7	26.1			
19:30	6.623	57.0	29.4			
20:30	6.623	57.0	29.4			
21:30	6.623	57.0	29.4			
22:30	6.623	57.0	29.4			
23:30	6.623	57.0	29.4			

CONDITTON: Load 10A



Inductance VS Temperature

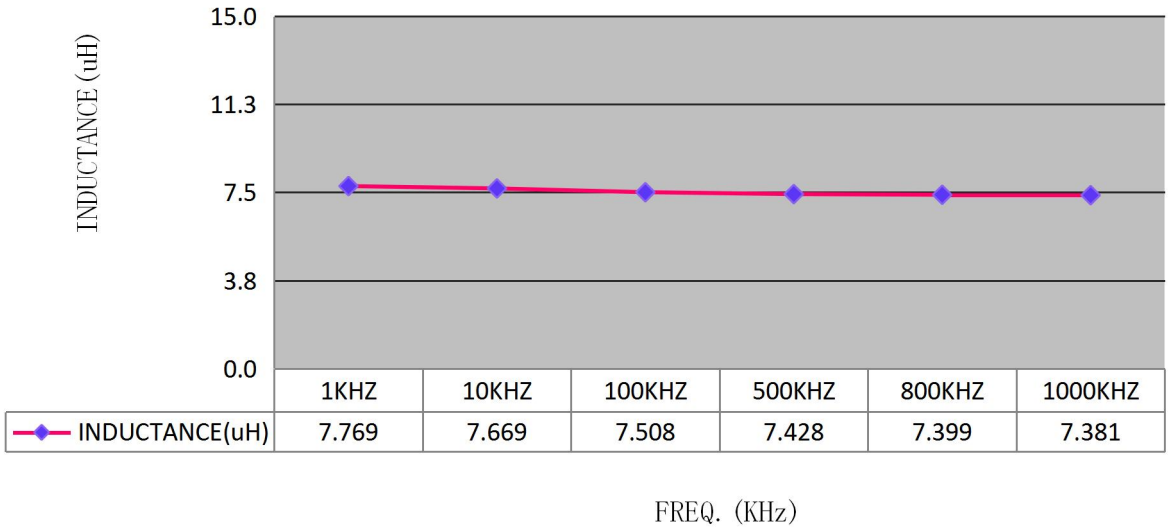
ELECTRICAL CHARACTERISTICS

RoHS COMPLIANT

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Inductance VS Frequency

FREQ.	L（μH）					
1KHZ	7.769					
10KHZ	7.669					
100KHZ	7.508					
500KHZ	7.428					
800KHZ	7.399					
1000KHZ	7.381					

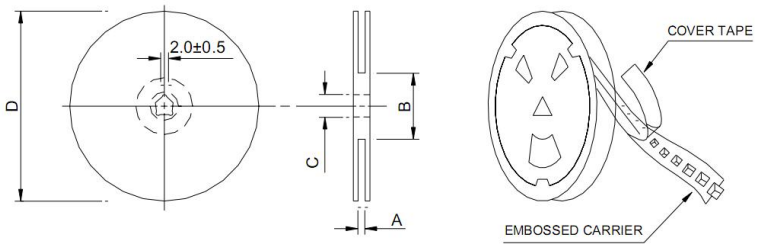


PACKING FOR SPECIFICATION

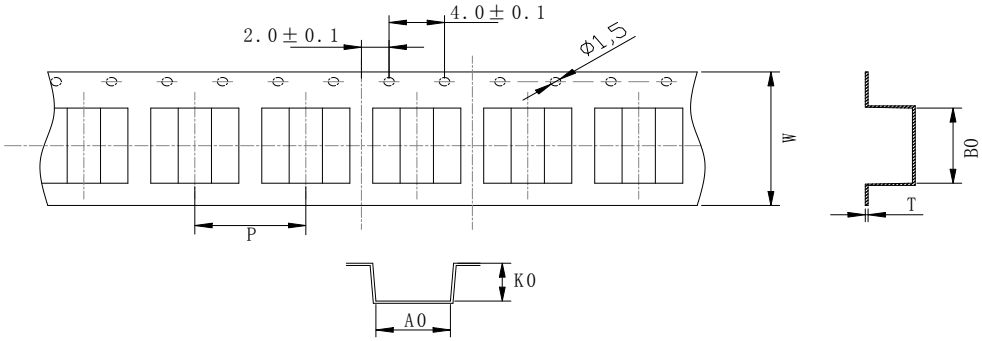
RoHS COMPLIANT

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Packaging Information:

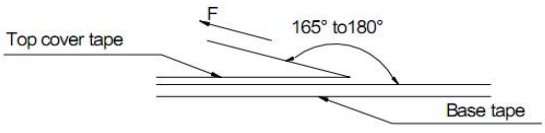


TYPE	A(mm)	B(mm)	C(mm)	D(mm)
13´´*24mm	24±0.5	100±2	13.5±0.5	330



TYPE	Quat	A0	B0	K0	W	P
GPSR1365	500	12.8	13.7	6.7	24	20

Tearing Off Force



The force for tearing off cover tape is 15 to 60 grams in the arrow direction under the following conditions.

Room Temp. (℃)	Room Humidity (%)	Room atm (hPa)	Tearing Speed mm/min
5~35	45~85	860~1060	300

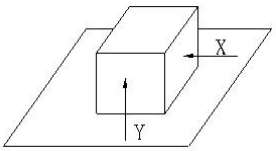
Application Notice

- Storage Conditions
  To maintain the solderability of terminal electrodes:
  1. Temperature and humidity conditions: Less than 30℃ and 70% RH.
  2. Recommended products should be used within 6 months form the time of delivery.
  3. The packaging material should be kept where no chlorine or sulfur exists in the air.
- Transportation
  1. Products should be handled with care to avoid damage or contamination from perspiration and skin oils.
  2. The use of tweezers or vacuum pick up is strongly recommended for individual components.
  3. Bulk handling should ensure that abrasion and mechanical shock are minimized.

GENGRAL CHARACTERISTICS

RoHS COMPLIANT

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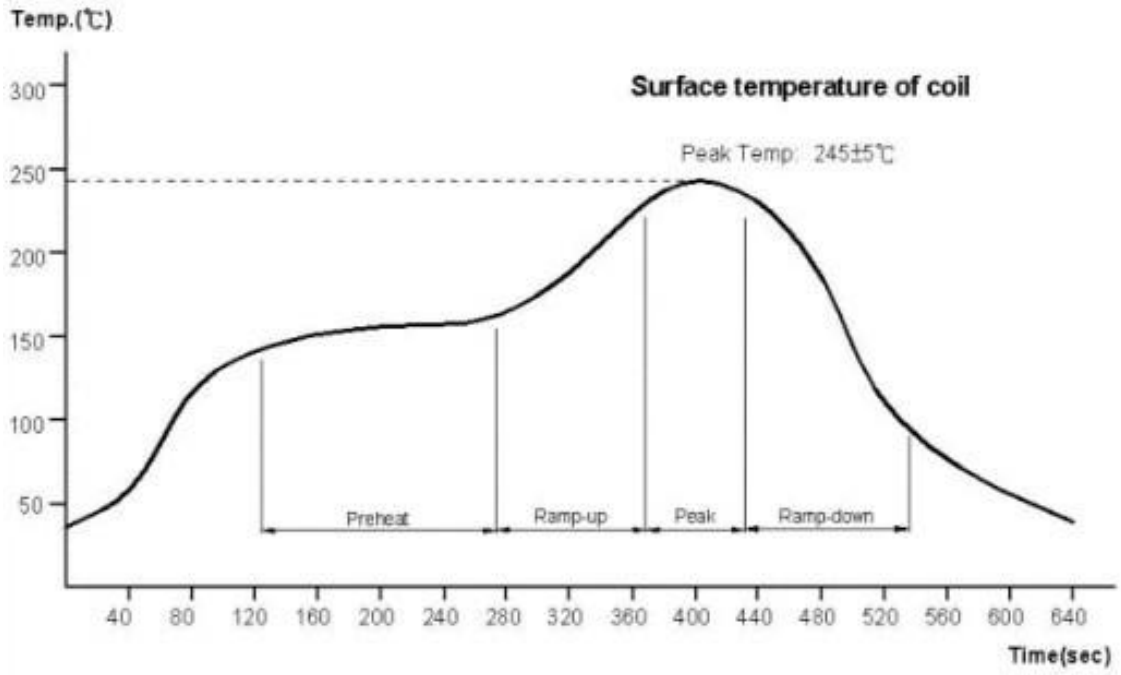
.STORAGE TEMPERATURE：	25℃~30℃ HUMIDITY 45~85% RH
2.OPERATING TEMPERATURE RANGE :	-30℃～+125℃(CONTAIN HEATING COIL)
3.EXTERNAL APPEARANCE :	NO EXTERNAL DEFECTS CAN BE FOUND IN THE VISUAL INSPECTION.
4. TERMINAL STRENGTH :	NO TERMINAL DETACHMENT SHOULD BE FOUND WHEN THE DEVICE IS PUSHED IN TWO DIRECTIONS OF X AND Y WITH THE FORCE OF 10.0N FOR 10±2 SECONDS AFTER SOLDERING BETWEEN COPPER PLATE AND THE TERMINALS.(REFER TO FIGURE AT RIGHT) 
5.HEAT ENDURANCE TEST ：	REFER TO Recommended Soldering Temperature Graph.（AT PAGE 2）.
6.INSULATING RESISTANCE :	THE INSULATION RESISTANCE SHOULD BE OVER 100MΩ WHEN D.C.100V IS APPLIED TO THE WINDING –CORE. MEANWHILE NO STRUCTURE AND ELECTRIC DEFECTS SHOULD BE FOUND FOR 1 MINUTE.
7. TEMPERATURE FEATURE：	INDUCTANCE COEFFICIENT IS (0～2000)x10-6(-25～+85℃)
8. HUMIDITY TEST ：	INDUCTANCE DEVIATION IS WITHIN ±5.0% AND NO STRUCTURE AND ELECTRIC DEFECTS CAN BE FOUND AFTER 96 HOURS TEST UNDER THE CONDITIONOF RELATIVE HUMIDITY OF 90～95% AND TEMPERATURE OF 40±2℃. AND 1 HOUR STORAGE UNDER ROOM AMBIENT CONDITIONS AFTER THE DEVICE IS WIPED WITH DRY CLOTH.
9. VIBRATION TEST ：	INDUCTANCE DEVIATION IS WITHIN ±5.0％ AFTER 1 HOUR SWEEPING VIBRATION IN EACH THREE DIRECTIONS. NAMELY, FREQUENCY IS 10～55～10Hz ANDTHE AMPLITUDE OF 1MINUTE CYCLE IS 1.5mm PP.
10.SHOCK TEST :	INDUCTANCE DEVIATION IS WITHIN ±5.0% AFTER THE TEST WITH GOM-BLOCK SHOCK TESTING MACHINE,ONCE IN EACH OF THE THREE PERPENDICULAR AXIS DIRECTIONS. THE SHOCK ACCELERATION IS 981m/s2.

THE CONDITION OF REFLOW

RoHS COMPLIANT

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Reflow Soldering



Hand soldering

