

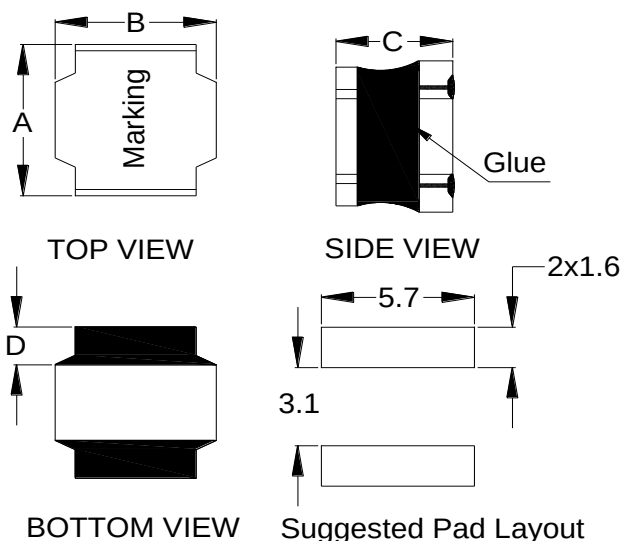


SPECIFICATION FOR APPROVAL



CUSTOMER	*	REV NO	1.0
DESCRIPTION	Power Inductor, 4.7uH, 6.7A, 31.0mΩ DCR	PAGE NO	1 of 4
PART NO	SLNR6247-4R7MHF	DATE	2013.03.20

1.CONFIGURATIONS & DIMENSIONS:



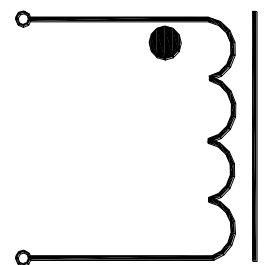
A	6.00	±	0.2	mm
B	6.00	±	0.2	mm
C	4.50	+0.2	-0.3	mm
D	1.50		(Ref.)	mm
E				mm
F				mm
G				mm
H				mm
I				mm

Note: 1>. Marking : 4R7

2.ELECTRICAL CHARACTERISTICS (Ta=25°C):

TEST	CONDITION				
100KHz 1.0V	L	4.70	uH	±	20%
Ta=25°C	DCR	31.00	mΩ	±	30%
100KHz 1.0V Isat=6.7A	L@Isat	3.98	uH		(Typ.)
100KHz 1.0V Irms=3.9A	L@Irms	4.45	uH		(Typ.)
Note	1>. Isat: DC current that will caused inductance to rolls off in 30% (Typ.); 2>. Irms:DC current will caused an approx. temperature of 40°C rise (Typ.);				

3.SCHEMATIC DIAGRAM



Operating temperature range : -40°C ~ +125°C

4.TEST INSTRUMENTS

L:WK3260B.

DCR:Gain Kai Ta 502BCOHM.

L@Isat&L@Irms:WK3260B&WK3265B.

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DavidWong	Royi Luo	Billy Tang



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5.TEST DATA FOR MECHANICAL

TEST ITEM	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	I mm	J mm
SPEC	6.0 ± 0.2	6.0 ± 0.2	4.5 +0.2 -0.3	1.5 (Ref.)						
1	6.09	6.10	4.35	1.47						
2	6.10	6.06	4.36	1.52						
3	6.13	6.06	4.33	1.43						
4	6.13	6.08	4.34	1.55						
5	6.11	6.05	4.32	1.51						
6	6.04	6.12	4.32	1.57						
7	6.13	6.06	4.33	1.49						
8	6.11	6.09	4.31	1.54						
9	6.13	6.08	4.31	1.50						
10	6.07	6.08	4.35	1.62						
AVERAGE	6.104	6.078	4.332	1.520						

REMARK:

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6.TEST DATA FOR ELECTRICAL

TEST ITEM	L uH	DCR mΩ	L@Isat uH	L@Irms uH			
CONDITION	100KHz 1.0V	Ta=25℃	100KHz 1.0V Isat=6.7A	100KHz 1.0V Irms=3.9A			
SPEC	4.70 ± 20%	31.00 ± 30%	3.98 (Typ.)	4.45 (Typ.)			
1	4.69	32.64	4.02	4.45			
2	4.81	32.53	4.02	4.56			
3	4.78	32.61	4.03	4.53			
4	4.82	32.94	4.04	4.57			
5	4.79	32.84	4.04	4.54			
6	4.79	33.09	4.01	4.54			
7	4.68	32.61	4.00	4.43			
8	4.69	32.65	4.03	4.44			
9	4.83	32.63	4.01	4.58			
10	4.61	32.79	3.99	4.37			
AVERAGE	4.750	32.733	4.020	4.500			

REMARK:

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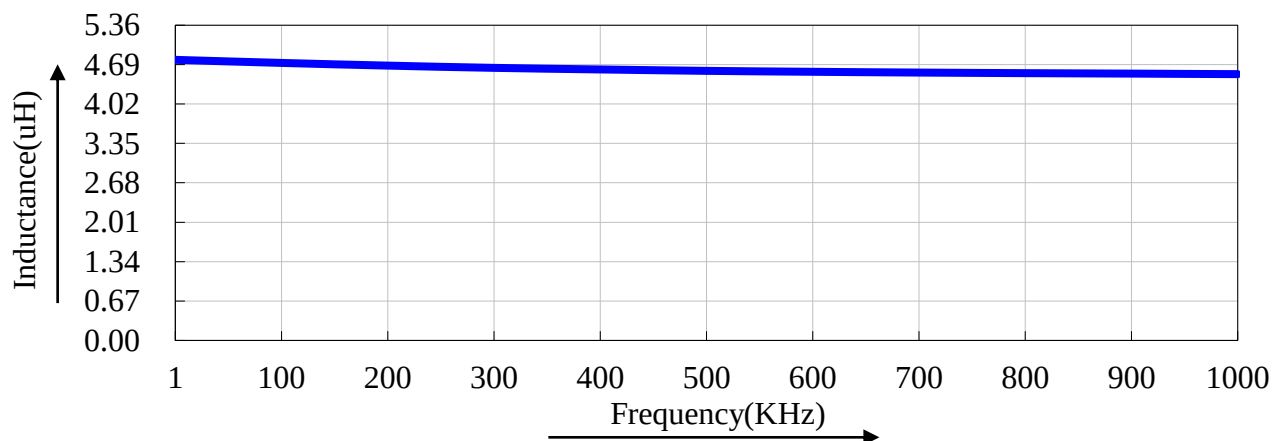
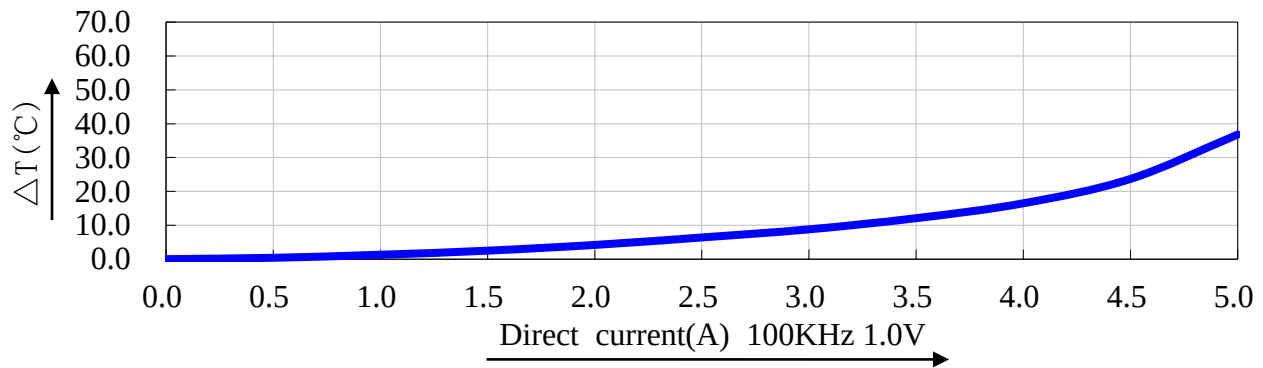
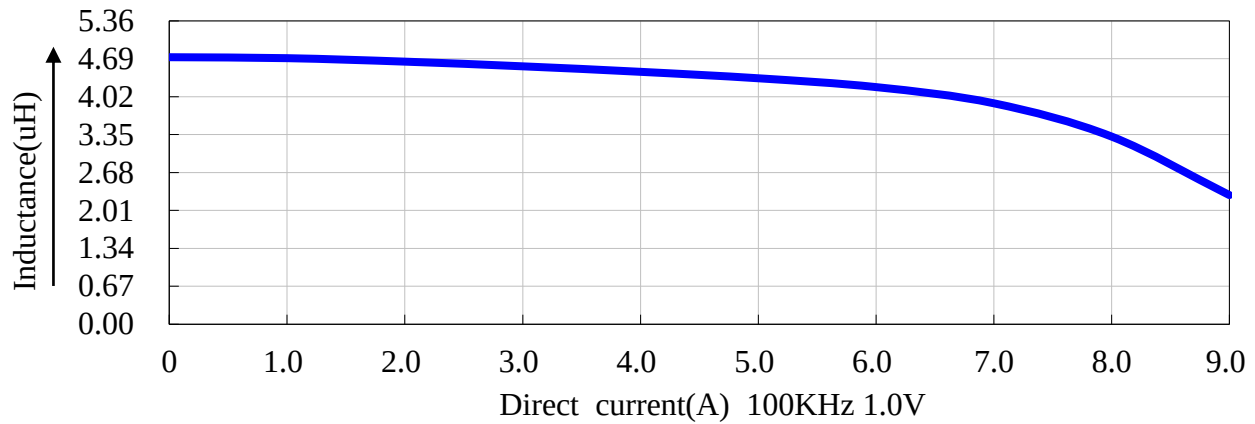


SPECIFICATION FOR APPROVAL



CUSTOMER NAME:	*	REV NO:	1.0
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7.ELECTRICAL CHARACTERISTICS.



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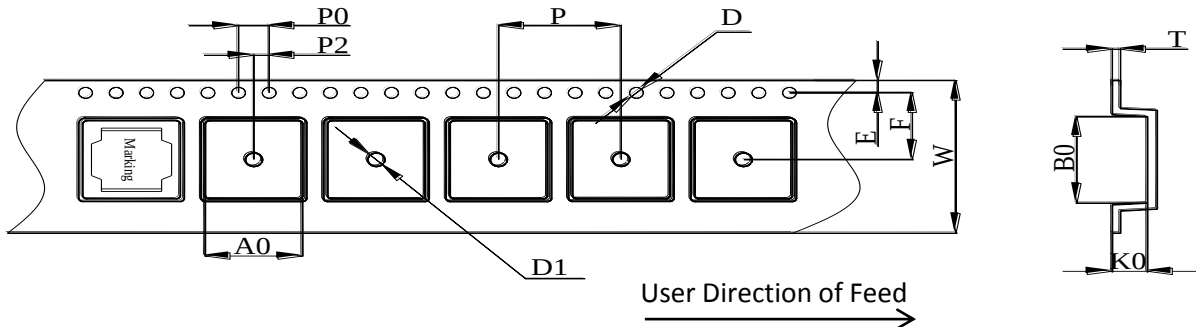
SPECIFICATION FOR APPROVAL



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DESCRIPTION	Power Inductor, 4.7uH, 6.7A, 31.0mΩ DCR	PAGE NO	1 of 1
PART NO	SLNR6247-4R7MHF	DATE	2013.03.20

1.PACKAGE SPECIFICATION.(UNIT:mm)

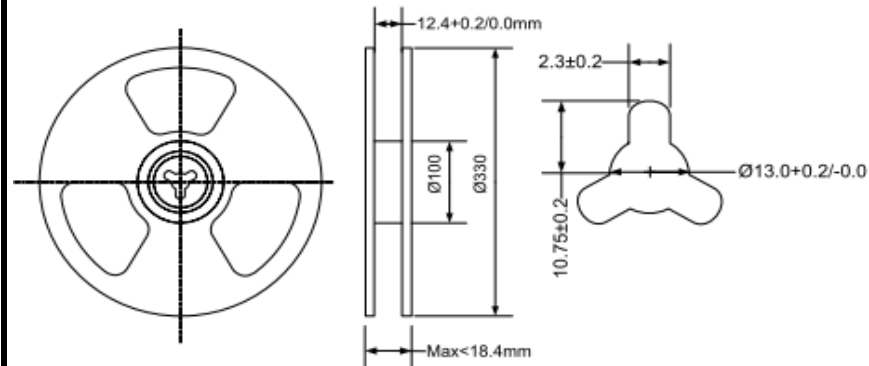
(1).ENCAPSULATION MODE



(2).DIMENSION(mm)

P	P0	P2	D	D1	W	E	F	B0	K0	A0	T
8.00±0.10	4.00±0.10	2.00±0.10	1.50+0.10/-0.00	1.50+0.10/-0.00	24.00+0.30/-0.10	1.75±0.10	7.50±0.10	6.40±0.10	4.80±0.10	6.40±0.10	0.40±0.05

(3).REEL SIZE



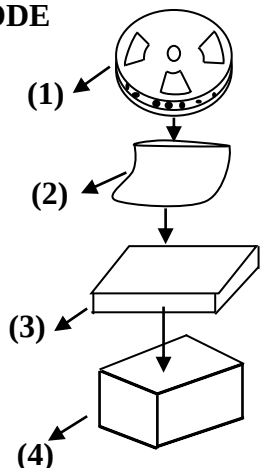
(4).PACKAGE MODE

1000PCS/Reel

1 Reel/Bag

3 Bags/Small Box

5 Small Boxes/Outer Box



(5).PACKAGING LIST

NO.	PACKAGING PART	REFERENCE DIMENSION	MATERIAL	QUANTITY
1	Reel	13"	Plastic	1000PCS/Reel
2	Bag	450x360x0.075(mm)	Plastic	1 Reel/Bag
3	Small Box	350X340X60(mm)	Paper	3 Bags/Small Box
4	Outer Box	360X360X360(mm)	Paper	5 Small Boxes/Outer Box

(6).WEIGHT: N.W:0.61g/pcs .

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RELIABILITY TEST I



CUSTOMER	*	REV NO	1.0
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1.RELIABILITY TEST.

TEST ITEMS	REQUIREMENTS	TEST METHOD AND REMARKS
Terminal Strength	No removal or split of the termination or other defects shall occur Fig. 5.4.1-1	① Solder the inductor to the testing jig (glass epoxy board shown in Fig.5.4.1-1) using eutectic solder. Then apply a force in the direction of the arrow. ② 10N force for SLNR6247-4R7MHF. ③ Keep time: 5s
Resistance to Flexure	No visible mechanical damage. Fig. 5.4.2-1 Unit: mm [inch]	① Solder the chip to the test jig (glass epoxy board) using eutectic solder. Then apply a force in the direction shown as Fig.5.4.2-1.. ② Flexure: 2mm ③ Pressurizing Speed: 0.5mm/sec ④ Keep time: 30±1s ⑤ Test board size: 100X40X1.0 ⑥ Land dimension:
Vibration	① No visible mechanical damage. ② Inductance change: Within ±10%	① Solder the chip to the testing jig (glass epoxy board shown as the following figure) using eutectic solder. ② The chip shall be subjected to a simple harmonic motion having total amplitude of 1.5mm, the frequency being varied uniformly between the approximate limits of 10 and 55 Hz. ③ The frequency range from 10 to 55 Hz and return to 10Hz shall be traversed in approximately 1 minute. This motion shall be applied for a period of 2 hours in each 3mutually perpendicular directions (total of 6 hours).
Temperature coefficient	Inductance change: within ±20%	① Temperature: -55℃ ~+130℃ ② with a reference value of +20℃, change rate shall be calculated
Resistance to Soldering Heat	① No visible mechanical damage. ② Inductance change: Within ±10%	① Re-flowing Profile: Please refer to Reflowing Profile ② Test board thickness:1.0mm ③ Test board material :glass epoxy resin ④ The chip shall be stabilized at normal condition for 1~2 hours before measuring
APPROVED BY Royi Luo	CHECKED BY Royi Luo	DRAWN BY Billy Tang

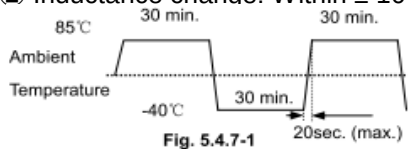


RELIABILITY TEST II



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2.RELIABILITY TEST.

TEST ITEMS	REQUIREMENTS	TEST METHOD AND REMARKS
Solderability	90% or more of electrode area shall be Coated by new solder.	① The test samples shall be dipped in flux, and then immersed in molten solder. ② Solder temperature: 245±5°C ③ Duration: 5±1 sec. ④ Solder: Sn/3.0Ag/0.5Cu ⑤ Flux: 25% resin and 75% ethanol in weight ⑥ Immersion depth: all sides of mounting terminal shall be immersed
Shock	① No visible mechanical damage ② Inductance change: Within ± 10% 	① Temperature and time: -40± 3°C for 30±3 min→85°C for 30±3min ② Transforming interval: Max. 20 sec ③ Tested cycle: 10 cycles ④ The chip shall be stabilized at normal condition for 1~2 hours before measuring
Resistance to Low Temperature	① No mechanical damage. ② Inductance change: Within ± 10%	① Temperature: -55±3°C ② Duration: 1000±24 hours ③ The chip shall be stabilized at normal condition for 1~2 hours before measuring
Resistance to High Temperature	① No mechanical damage. ② Inductance change: Within ±10%	① Temperature: 130±2°C ② Duration: 1000±24 hours ③ The chip shall be stabilized at normal condition for 1~2 hours before measuring
Damp Heat	① No mechanical damage. ② Inductance change: Within ± 10%	① Temperature: 60±2°C ② Humidity: 90% to 95%RH ③ Duration: 1000±24 hours ④ The chip shall be stabilized at normal condition for 1~2 hours before measuring
Loading Under Damp Heat	① No mechanical damage. ② Inductance change: Within ± 10%	① Temperature: 60±2°C ② Humidity: 90% to 95% RH ③ Applied current: Irms ④ Duration: 1000±24 hours ⑤ The chip shall be stabilized at normal condition for 1~2 hours before measuring
Loading at High Temperature	① No mechanical damage ② Inductance change: Within ± 10%	① Temperature: 130±2°C ② Applied current: Irms ③ Duration: 1000±24 hours ④ The chip shall be stabilized at normal condition for 1~2 hours before measuring

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Soldering Reflow Chart



Stage	Precaution	Recommended temperature profile	
Reflow soldering	Temperature profile can be referenced after confirming of adhesion , temperature of resistance to soldering heat , component size , soldering etc. sufficient . Note: please refer to the latest IPC/JEDEC J-STD-020: "Moisture/Reflow Sensitivity Classification for Nonhermetic Solid State Surface Mount Devices"	The graph shows Temperature in °C on the y-axis (25, 125, 220, 250, 260) and time on the x-axis. The profile starts at 25°C, ramps up to 125°C (150s to 210s), then ramps up to 220°C (240s to 480s). A shaded cyan area indicates the recommended temperature range during the 220°C ramp. The profile then rises to a peak of 260°C (10s MAX) and finally cools down (Natural cooling). The time from 220°C to the peak is 60s to 90s.	
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Martin		Andrew	Richard

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