

SMD Type Power Inductor

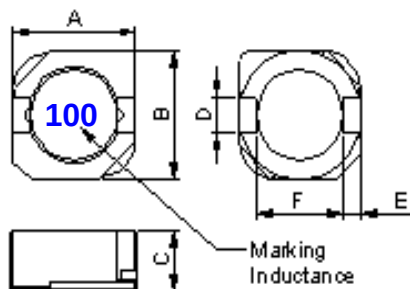
SSL10D50F-SERIES

1.Features

- 1.Low profile very effective in space-conscious applications.
- 2.Low resistance and high energy storage.
- 3.This component is compliant with RoHS legislation and also support lead-free soldering.



2.Dimension



Series	A(mm)	B(mm)	C(mm)	D(mm)	E(mm)	F(mm)
SSL10D50F	10.5max.	10.3max.	5.0max.	3.0ref.	1.2±0.15	7.7±0.3

Units: mm

3.Part Numbering

SSL	10D50	F	2R2	Y
A	B	C	D	E

A: Series

B: Dimension

C: Lead Free Code

D: Inductance

E: Inductance Tolerance

2R2=2.2uH

M=±20%, Y=±30%

4.Specification

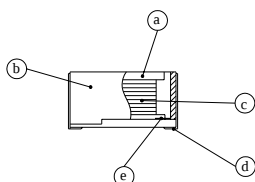
TAI-TECH Part Number	Inductance (uH)	Test Frequency (Hz)	DCR (mΩ) max.	I sat (A) max.	I rms (A) typ.
SSL10D50F-R80Y	0.8±30%	0.1V/100K	4.3	9.50	13.50
SSL10D50F-1R5Y	1.5±30%	0.1V/100K	5.8	8.30	10.50
SSL10D50F-2R2Y	2.2±30%	0.1V/100K	7.2	7.50	9.25
SSL10D50F-3R3Y	3.3±30%	0.1V/100K	10.4	6.50	7.80
SSL10D50F-4R7Y	4.7±30%	0.1V/100K	12.3	6.10	6.40
SSL10D50F-6R8Y	6.8±30%	0.1V/100K	18.0	5.40	5.40
SSL10D50F-8R2Y	8.2±30%	0.1V/100K	20.0	5.00	4.85
SSL10D50F-100M	10±20%	0.1V/100K	26.0	4.50	4.45
SSL10D50F-120M	12±20%	0.1V/100K	33.0	3.80	4.00
SSL10D50F-150M	15±20%	0.1V/100K	41.0	3.40	3.60
SSL10D50F-180M	18±20%	0.1V/100K	46.0	3.10	3.20
SSL10D50F-220M	22±20%	0.1V/100K	61.0	2.90	2.95
SSL10D50F-270M	27±20%	0.1V/100K	69.0	2.60	2.70
SSL10D50F-330M	33±20%	0.1V/100K	84.0	2.50	2.40
SSL10D50F-390M	39±20%	0.1V/100K	106.0	2.25	2.30
SSL10D50F-470M	47±20%	0.1V/100K	130.0	2.00	2.00
SSL10D50F-560M	56±20%	0.1V/100K	149.0	1.90	1.90
SSL10D50F-680M	68±20%	0.1V/100K	201.0	1.60	1.65
SSL10D50F-820M	82±20%	0.1V/100K	227.0	1.45	1.50
SSL10D50F-101M	100±20%	0.1V/100K	253.0	1.35	1.35
SSL10D50F-121M	120±20%	0.1V/100K	303.0	1.18	1.28

Bullwill Part Number	Inductance (uH)	Test Frequency (Hz)	DCR (mΩ) max.	I sat (A) max.	I rms (A) typ.
SSL10D50F-151M	150±20%	0.1V/100K	370.0	1.10	1.12
SSL10D50F-181M	180±20%	0.1V/100K	419.0	1.00	1.04
SSL10D50F-221M	220±20%	0.1V/100K	500.0	0.94	0.94
SSL10D50F-271M	270±20%	0.1V/100K	672.0	0.80	0.84
SSL10D50F-331M	330±20%	0.1V/100K	812.0	0.73	0.75
SSL10D50F-391M	390±20%	0.1V/100K	953.0	0.70	0.70
SSL10D50F-471M	470±20%	0.1V/100K	1289.0	0.54	0.60
SSL10D50F-561M	560±20%	0.1V/100K	1430.0	0.52	0.54
SSL10D50F-681M	680±20%	0.1V/100K	1599.0	0.51	0.52
SSL10D50F-821M	820±20%	0.1V/100K	1768.0	0.48	0.50
SSL10D50F-102M	1000±20%	0.1V/100K	1989.0	0.42	0.48

5.Schematic Diagram

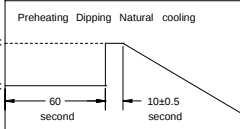
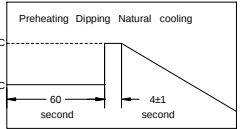


6.Materials

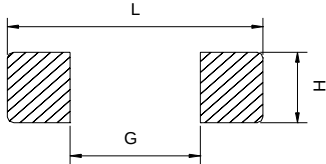


No.	Description	Specification	Vendor	UI File No.	Remark
a.	Core	Ferrite Core Dr 9.7*3.65	LIAN CHENG		M11D
b.	Core	Ferrite Core Ri 10.0*3.3*8.2	LIAN CHENG		M11D
c.	Wire	Enamelled Copper Wire 2-UEW	Dongguan Prosperity	E196072	Class B
d.	Terminal	Tinned Copper Plate Sde012A	Shinn Der		
e.	Adhesive	Epoxy #G-500			

7. Reliability and Test Condition

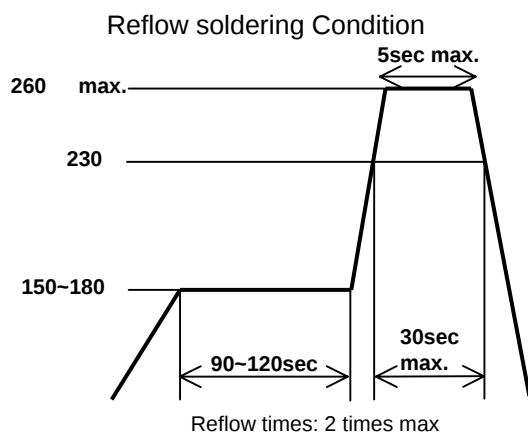
Item	Performance	Test Condition															
Operating Temperature	-20~+105																
Storage temperature	-40~+85																
Rated Current	Base on temp. rise & L/LOA=30% typ.																
Temperature Rise Test	40 max. (Δt)																
Solder heat Resistance	Appearance: No significant abnormality. Inductance change: Within $\pm 20\%$.	 Preheat:150 ,60sec. Solder : Sn-Ag3.0-Cu0.5 Solder temperature:260±5 Flux: rosin Dip time:10±0.5sec.															
Solderability	More than 90% of the terminal electrode should be covered with solder.	 Preheat:125±25 ,60sec. Solder : Sn-Ag3.0-Cu0.5 Solder temperature:245±5 Flux: rosin Dip time:4±1sec.															
Thermal shock	Appearance: no damage. Inductance: within±20%of initial value.	<table border="1"> <thead> <tr> <th>Phase</th><th>Temperature()</th><th>Time(min)</th></tr> </thead> <tbody> <tr> <td>1</td><td>-25±2</td><td>30±3</td></tr> <tr> <td>2</td><td>Room Temp.</td><td>15</td></tr> <tr> <td>3</td><td>+85±2</td><td>30±3</td></tr> <tr> <td>4</td><td>Room Temp.</td><td>15</td></tr> </tbody> </table> Measured:50 times For SDSL Condition for 1 cycle Step1:-25±2 30±3 min. Step2:Room temperature 15 min. Step3:+85±5 30±3 min. Step4: Room temperature 15 min. Number of cycles:50	Phase	Temperature()	Time(min)	1	-25±2	30±3	2	Room Temp.	15	3	+85±2	30±3	4	Room Temp.	15
Phase	Temperature()	Time(min)															
1	-25±2	30±3															
2	Room Temp.	15															
3	+85±2	30±3															
4	Room Temp.	15															
Humidity Resistance Test	Appearance: no damage. Inductance: within±20%of initial value.	Temperature:40±2 . Applied current:rated current. Duration:500 hrs. Humidity:90~95%															
High Temperature Resistance Test	Appearance: no damage. Inductance: within±20%of initial value.	Temperature:85±2 . Applied current:rated current. Duration:500 hrs.															
Random Vibration Test	Appearance: Cracking, shipping and any other defects harmful to the characteristics should not be allowed. Impedance: within±30%	Frequency: 10-55-10Hz for 1 min. Amplitude: 1.52mm Directions and times: X, Y, Z directions for 2 hours. A period of 2 hours in each of 3 mutually perpendicular directions (Total 6 hours).															

8. Recommended PC Board Pattern



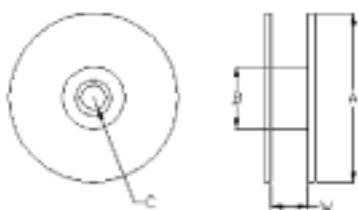
SDSL	10D50F
L	10.5
G	7.3
H	3.2

Units: mm

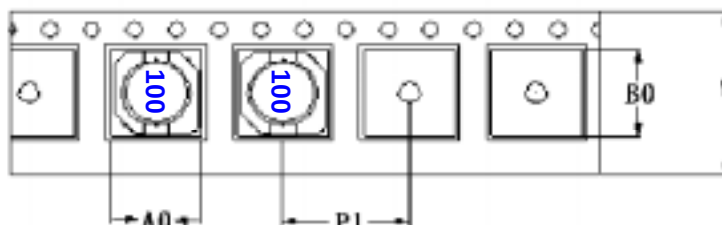
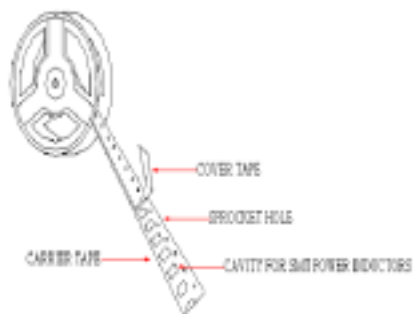


9. Packaging Information

9-1. Reel Dimension & Tape Dimension



Type	A(mm)	B(mm)	C(mm)	W(mm)
13"x24mm	330	100	13±0.5	24.5

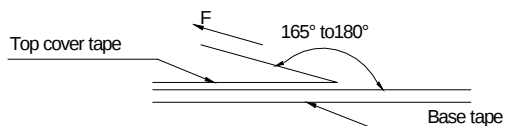


Series	A0(mm)	B0(mm)	K0(mm)	P1(mm)	W(mm)
SSL10D50	10.5±0.1	10.5±0.1	5.5±0.1	16.0±0.1	24.0±0.3

9-2. Packaging Quantity

SSL	10D50F
Chip / Reel	750
Reel Style	13"x24mm

9-3. 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 40 °C and 70% RH.
2. Recommended products should be used within 6 months from 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.