

SL4128 Series



1. Features of SL4128 Series:

- Ferrite based SMD inductor with lower core loss.
- Inductance range: 120.0 nH to 470.0 nH , custom values are welcomed.
- High current output chokes up to 88.0 Amp with approx. 20% roll off.
- Low profile 7.00 mm / 7.20mm Max. height.
- 10.50 x 8.00 mm Foot Print.
- Ideal for Buck Converter, VRM & High Density Board Design.
- Operating frequency of up to 5.0MHz.
- Operating temperature range of -55° C to + 130° C. RoHS & HF compliant.
- T & R Qty's: 750pcs, 13" Reel.

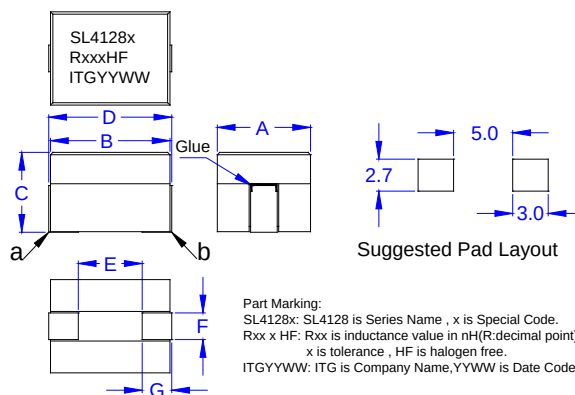


2. Electrical Characteristics of SL4128 Series:

ITG Part Number	Inductance ¹ (nH) ± 10% or 15%	L @ Isat1 ² (nH) Min.	DCR ³ (mΩ) ± 5.0%	Isat1 ⁴ (A) @25°C	Isat2 ⁴ (A) @75°C	Isat3 ⁴ (A) @100°C	Irms ⁵ (A) @25°C	Dim C (mm) Max.
SL4128A-R12KHF	120.00, 10%	86.40	0.29	88.00	80.00	74.00	61.00	7.20
SL4128A-R15KHF	150.00, 10%	108.00	0.29	75.00	67.00	62.00	61.00	7.00
SL4128A-R18KHF	180.00, 10%	129.60	0.29	60.00	54.00	50.00	61.00	7.00
SL4128A-R22KHF	220.00, 10%	158.40	0.29	50.00	46.00	40.00	61.00	7.00
SL4128A-R27KHF	270.00, 10%	194.40	0.29	41.00	37.50	33.00	61.00	7.00
SL4128A-R33KHF	330.00, 10%	237.60	0.29	33.00	30.00	27.00	61.00	7.00
SL4128A-R39LHF	390.00, 15%	280.80	0.29	28.00	25.00	22.50	61.00	7.00
SL4128A-R47KHF	470.00, 10%	338.40	0.29	23.50	21.00	19.00	61.00	7.00

3. Mechanical Dimension of SL4128 Series:

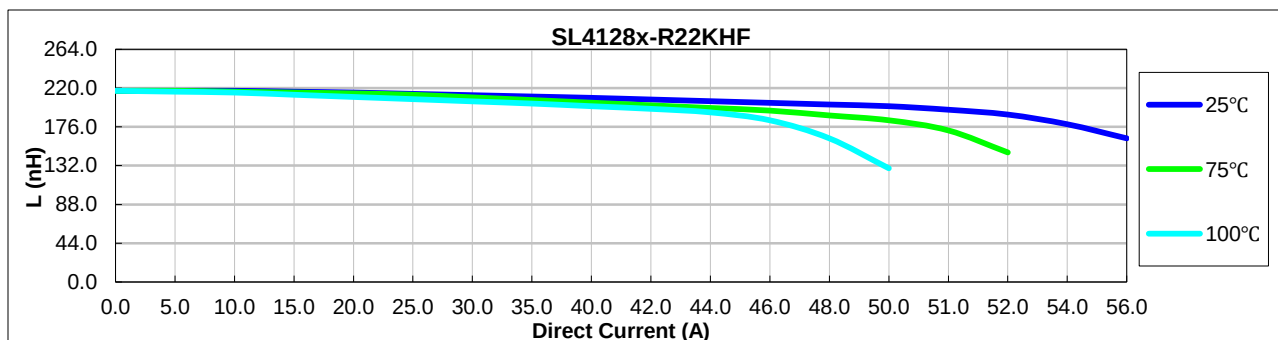
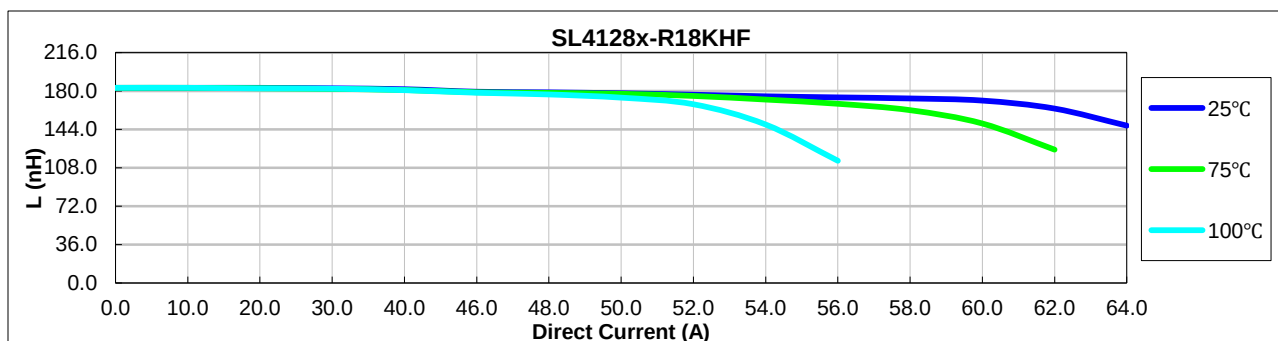
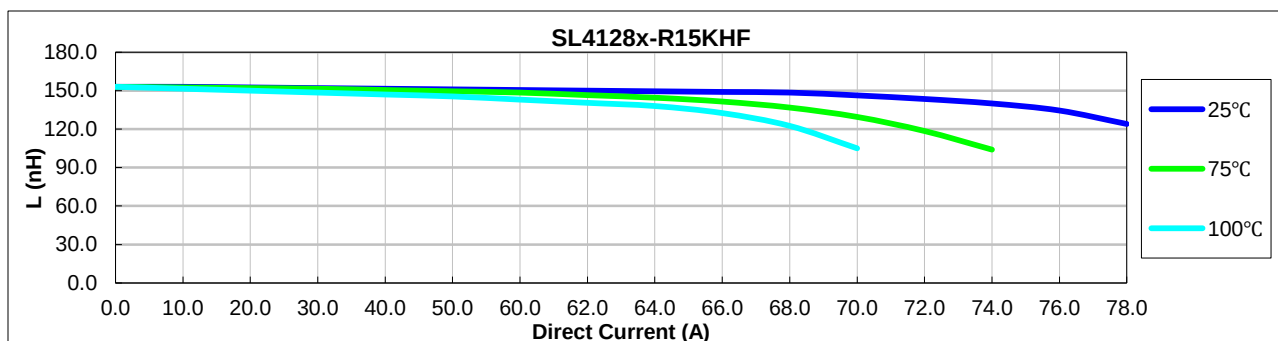
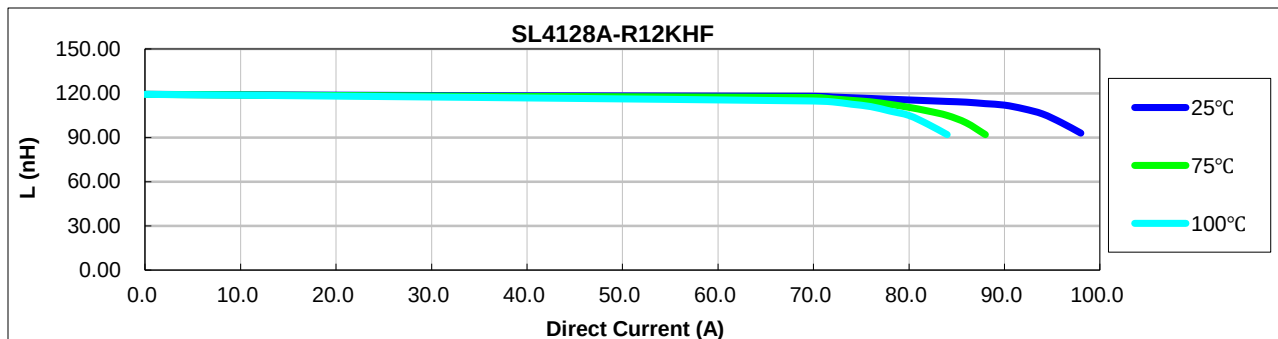
A	B	C	D	E	F	G
Max.	Max.	Max.	Max.	Nom.	± 0.20	± 0.30
8.00	10.25	see above table	10.50	5.60	2.20	2.50



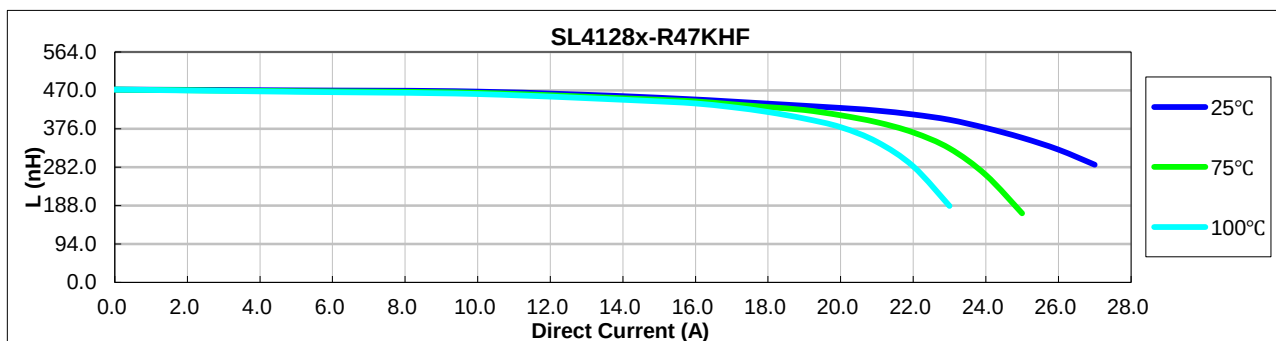
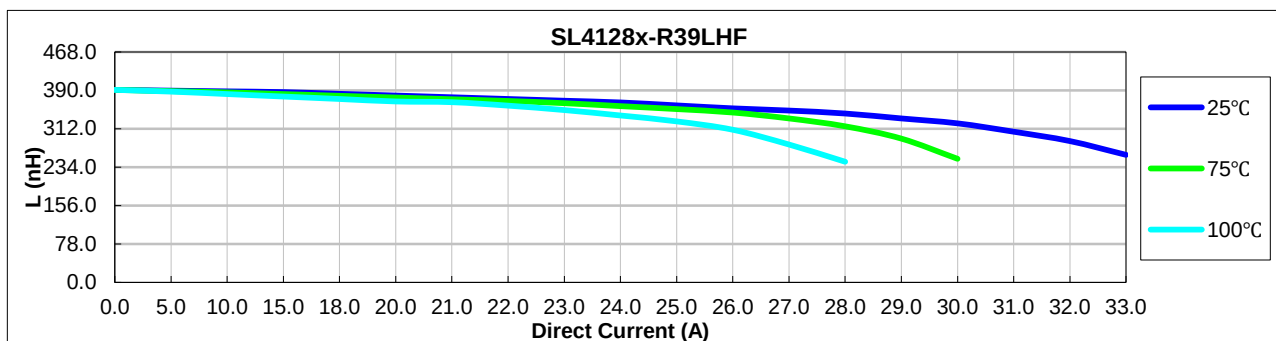
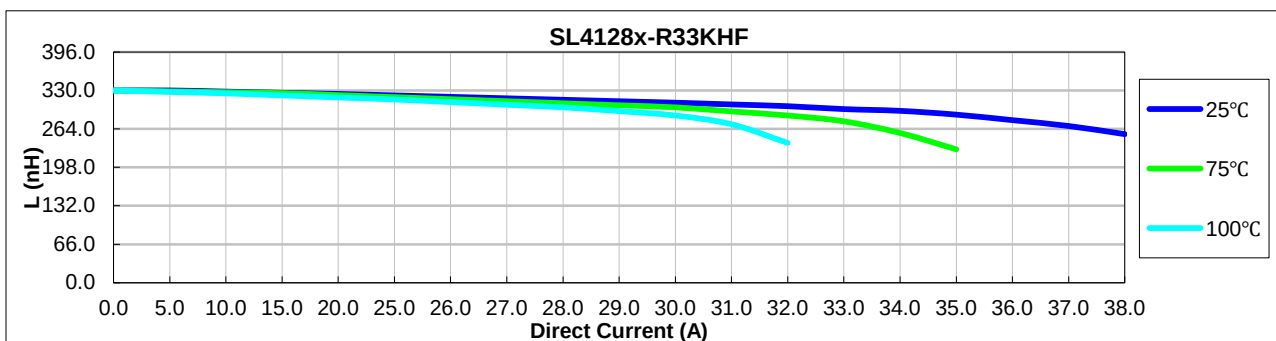
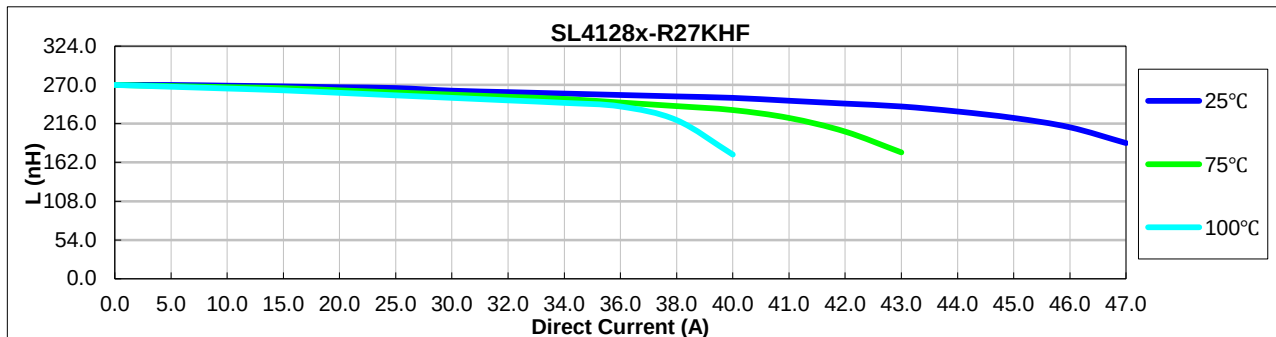
Notes:

1. Open Circuit Inductance (OCL) test condition: 100KHz,0.1Vrms,0Adc at 25°C.
2. L @ Isat and L @ Irms Test condition: 100KHz,0.1Vrms (Ta=25°C).
3. The nominal DCR is measured from point "a" to point "b", as shown above on the mechanical drawing (Ta=25°C).
4. Isat1 , Isat2 & Isat3 : DC current that will cause inductance to drop approximately by 20%.
5. Irms: DC current for an approximate temperature rise of 40°C without core loss. Derating is necessary for AC currents. PCB pad layout , trace thickness and width , air-flow and proximity of other heat generating components will affect the temperature rise.
6. It is recommended the part temperature not exceed 130° C under worst case operating conditions as verified in the end application.

4. Inductance Characteristics of SL4128 Series (Inductance vs Current):

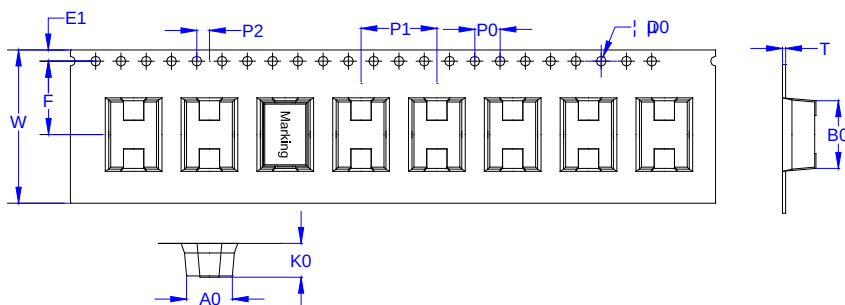


4. Inductance Characteristics of SL4128 Series (Inductance vs Current):



5. PACKAGE SPECIFICATION.(UNIT:mm):

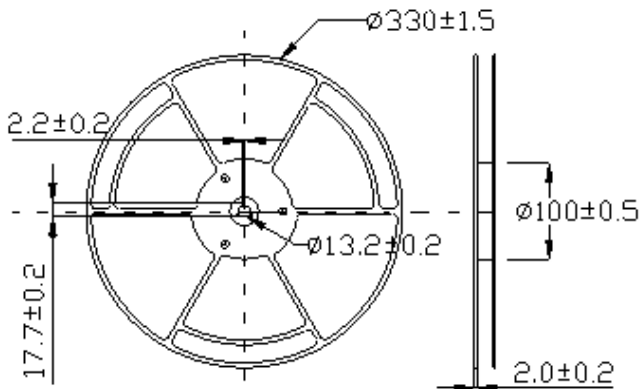
(1).ENCAPSULATION MODE:



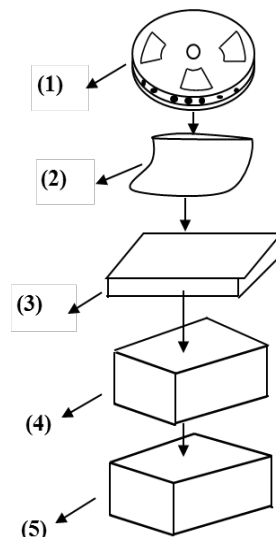
(2).DIMENSION(mm):

W	A0	B0	K0	P1	P0	P2	D0	F	E1	T
24.00±0.30/-0.10	8.20±0.10	10.60±0.10	7.20±0.10	12.00±0.10	4.00±0.10	2.00±0.10	1.50±0.10/-0	11.50±0.10	1.75±0.10	0.40±0.05

(3).REEL SIZE:



(4).PACKAGE MODE:



(5).PACKAGING LIST:

No.	Packing Part	Dimension (mm)	Material	Quantity
1	Reel	330	Plastic	750Pcs/Reel
2	Bag	450x360x0.075	Plastic	1Reel/Bag
3	Small Box	340X335X45	Paper	1Bag/Small Box
4	Middle Box	356X350X226	Paper	4Small Boxes/Middle Box
5	Outer Box	378X362X252	Paper	1Middle Box/Outer Box

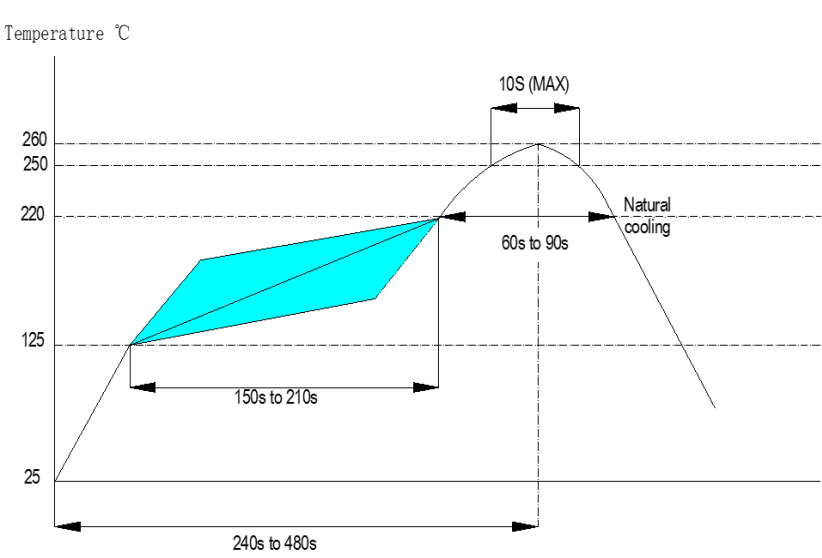
(6).WEIGHT: N.W: 2.40 g/pcs (APPROX), TOTAL 7.20 Kg(APPROX),G.W:TOTAL 10.20Kg (APPROX).

(7).Storage conditions: -40°C~85°C ,75%RH (Max.).

6.RELIABILITY TEST:

TEST ITEMS	SPECIFICATIONS	TEST METHOD AND REMARKS
Solder ability	The electrodes shall be at least 90% covered with new solder coating	According to IEC68-2-20. 1. Soldering temperature: $245 \pm 5^{\circ}\text{C}$ 2. Solder: 99.3Sn/0.7Cu 3. Flux: Rosin 4. Immersion time: $5 \pm 1\text{Sec}$
Soldering heat resistance	1. Appearance :no damage 2. Inductance change: within $\pm 10\%$ of initial value	1. Preheat temperature 150°C . 2. Preheat time: 1min 3. Solder temperature $260 \pm 5^{\circ}\text{C}$ 4. Dipping time: $10 \pm 1\text{Sec}$ 5. Measured at room temperature after placing for 24hours
Vibration(OUT LAB)	1. Appearance: no damage 2. All Electrical and mechanical parameters within tolerance	According to MIL-STD-202 Method 204. 1. Frequency: 10 to 55Hz. 2. Amplitude: 1.52mm 3. Direction and time X Y and Z Direction for 2 hours each
Humidity resistance test	1. Appearance: no damage 2. All Electrical and mechanical parameters within tolerance	According to IEC68-2-1 Method Ca: 1. Temp: $40 \pm 2^{\circ}\text{C}$ 2. Humidity: 90%-95%RH 3. Test time: $500 \pm 2\text{H}$ 4. The component should be stabilized at normal condition for 24 Hours before test
High temperature resistance test	1. Appearance: no damage 2. All Electrical and mechanical parameters within tolerance	According to IEC68-2-2. 1. 1. Temperature: $85 \pm 3^{\circ}\text{C}$ 2. Test time: $500 + 24\text{H}$ 3. The component should be stabilized at normal condition for 24hours before test
Low Temperature resistance test	1. Appearance: no damage 2. All Electrical and mechanical parameters within tolerance	According to IEC68-2-1 Method A(Ad). 1. Temperature: $-40 \pm 3^{\circ}\text{C}$ 2. Test time: $500 + 24\text{H}$ 3. The component should be stabilized at normal condition for 24hours before test
Temperature cycles test	1. Appearance: no damage 2. All Electrical and mechanical parameters within tolerance	According to IEC68-2-14 Method N(Nb). 1. High-temp: 85 ± 3 duration: 30min 2. room -temp: $25 \pm 2^{\circ}\text{C}$ Duration 3H 3. Low-temp: -40 ± 3 Duration 30min 4. room-temp: $25 \pm 2^{\circ}\text{C}$ Duration 3H 5. Number of cycle: 10cycles 6. The component should be stabilized at normal condition for 24hours before test

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"	 Temperature °C 260 250 220 125 25 10S (MAX) 60s to 90s Natural cooling 150s to 210s 240s to 480s