

SL3732 Series



1. Features of SL3732 Series:

- Ferrite based SMD inductor with lower core loss.
- Inductance range: 70.0 nH to 510.0 nH , custom values are welcomed.
- High current output chokes , up to 132.0 Amp with approx. 20% roll off.
- Low profile 8.00mm Max. Height.
- 9.60 x 6.40 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: 650pcs, 13" Reel.

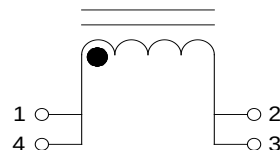


2. Electrical Characteristics of SL3732 Series:

ITG Part Number	OCL ¹ (nH) ± 10% or 15%	DCR ³ (mΩ) ± 5.0%	Isat1 ⁴ (A) @25°C	Isat2 ⁴ (A) @100°C	Irms ⁵ (A) @25°C	Fig
SL3732A-R07LHF	70.00 , 15%	0.29	132.00	100.00	51.00	1
SL3732A-R10KHF	100.00 , 10%	0.29	95.00	85.00	51.00	1
SL3732A-R12KHF	120.00 , 10%	0.29	80.00	70.00	51.00	1
SL3732A-R15KHF	150.00 , 10%	0.29	67.00	57.00	51.00	1
SL3732A-R18KHF	180.00 , 10%	0.29	47.00	42.00	51.00	1
SL3732A-R22KHF	220.00 , 10%	0.29	43.00	34.00	51.00	1
SL3732A-R28KHF	280.00 , 10%	0.29	29.00	24.00	51.00	1
SL3732A-R30KHF	300.00 , 10%	0.29	28.00	23.00	51.00	1
SL3732A-R40LHF	400.00 , 15%	0.29	18.00	15.00	51.00	1
SL3732A-R51LHF	510.00 , 15%	0.29	14.00	11.00	51.00	1
SL3732C-R12KHF	120.00 , 10%	0.29	75.00	62.00	51.00	2
SL3732C-R15KHF	150.00 , 10%	0.29	66.00	55.00	51.00	2
SL3732C-R22KHF	220.00 , 10%	0.29	40.00	31.00	51.00	2
SL3732C-R28KHF	280.00 , 10%	0.29	27.00	21.00	51.00	2
SL3732C-R30KHF	300.00 , 10%	0.29	25.00	20.00	51.00	2

3. Mechanical Dimension of SL3732 Series:

A	B	C	D	E	F	G	H	Fig
± 0.20	(Max.)	± 0.20	± 0.20	Ref.	± 0.20	± 0.30	(Ref.)	
6.20	9.50	7.80	9.40	4.40	2.20	2.50		1
6.20	9.50	7.80	9.40	4.40	2.20	2.50	0.70	2



SCHEMATIC DIAGRAM

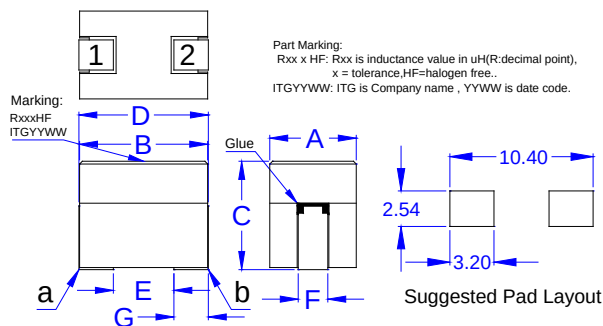


Fig 1

First Angle Projection:

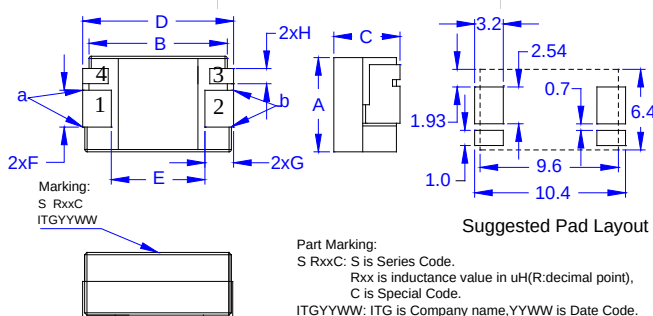
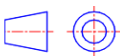


Fig 2

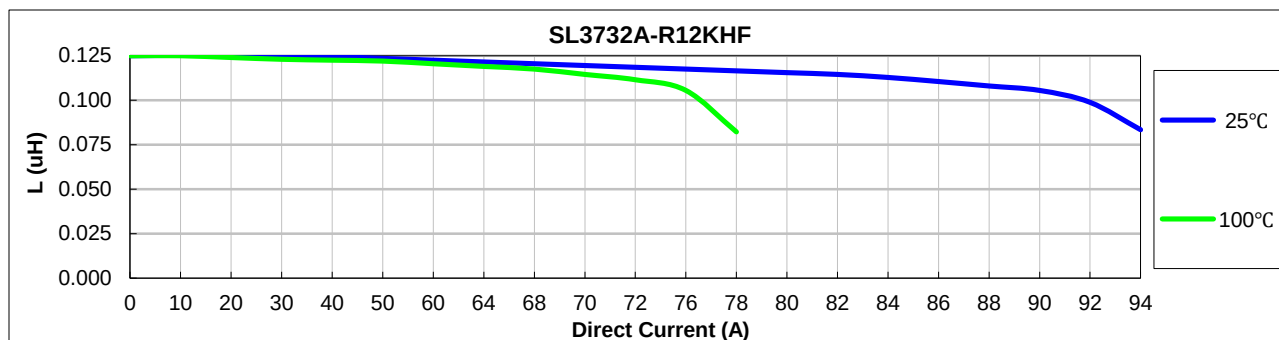
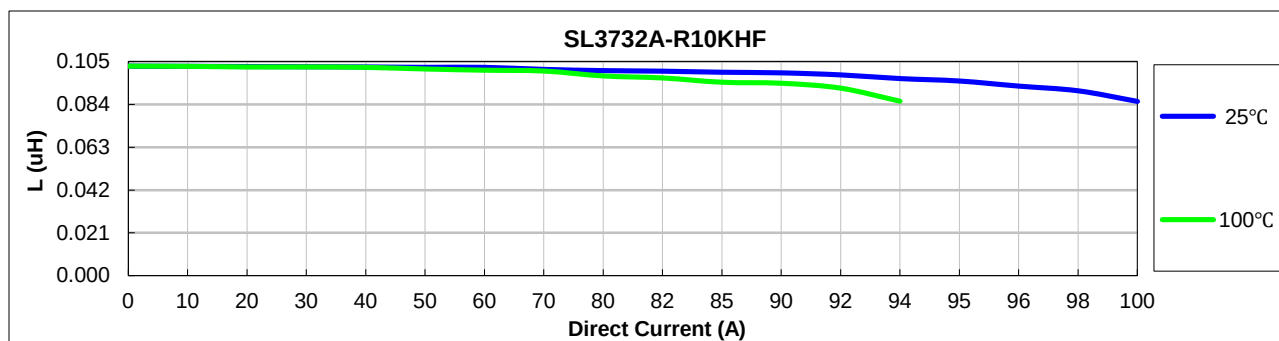
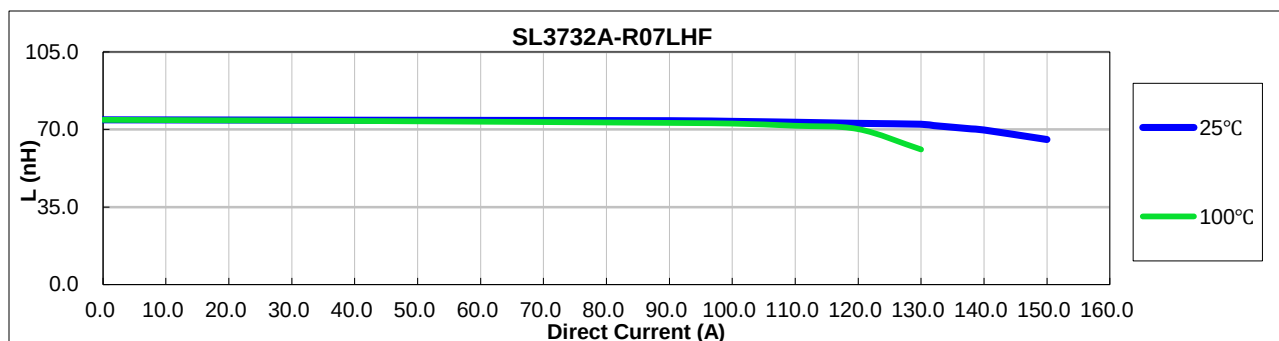
● New York 1 914 347 2474 ● Taipei 886 2 2698 8669 ● Kaohsiung 886 7 350 2275
 ● Japan 81 568 85 2830 ● Shenzhen 86 755 8418 6263 ● Shanghai 86 21 5424 5141 ● Hong Kong 852 9688 9767
 ● sales@ITG-Electronics.com ● www.ITG-Electronics.com Revision L.2 : September 14, 2021

*Due to continuous product improvement, all specifications are subject to change without prior notice. Kindly contact an ITG field application engineer or a sales representative prior to purchase.

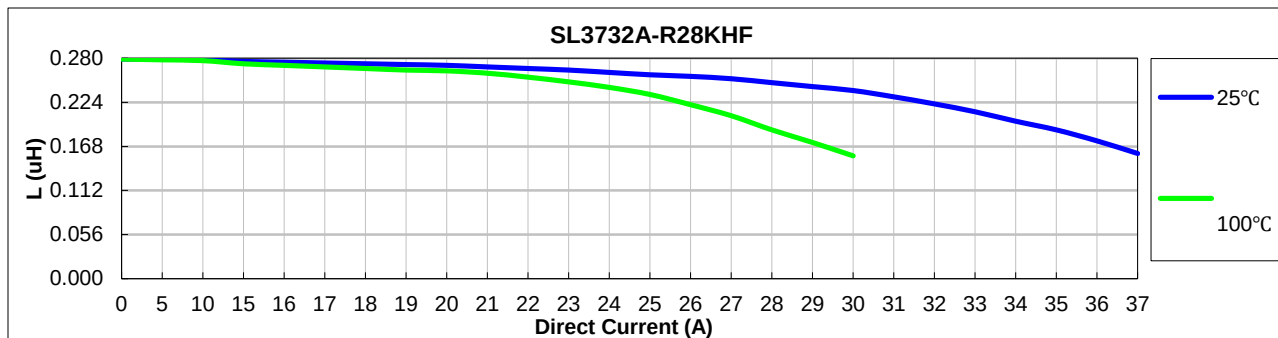
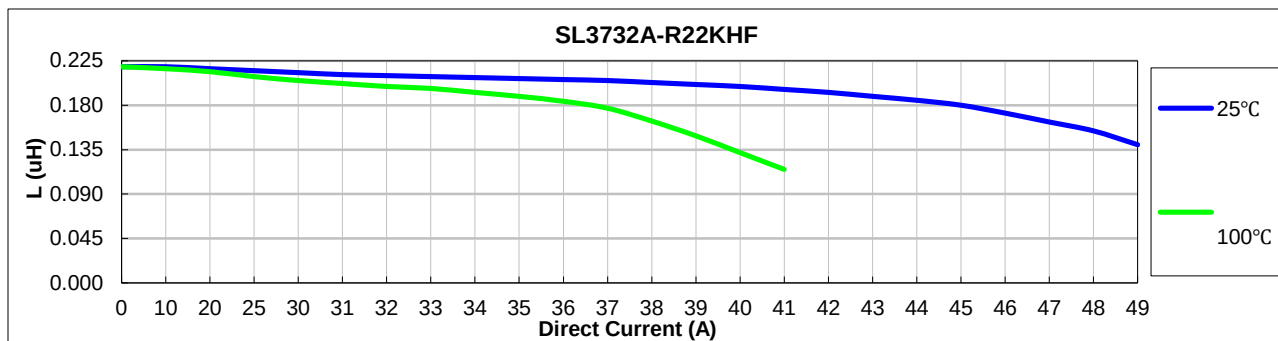
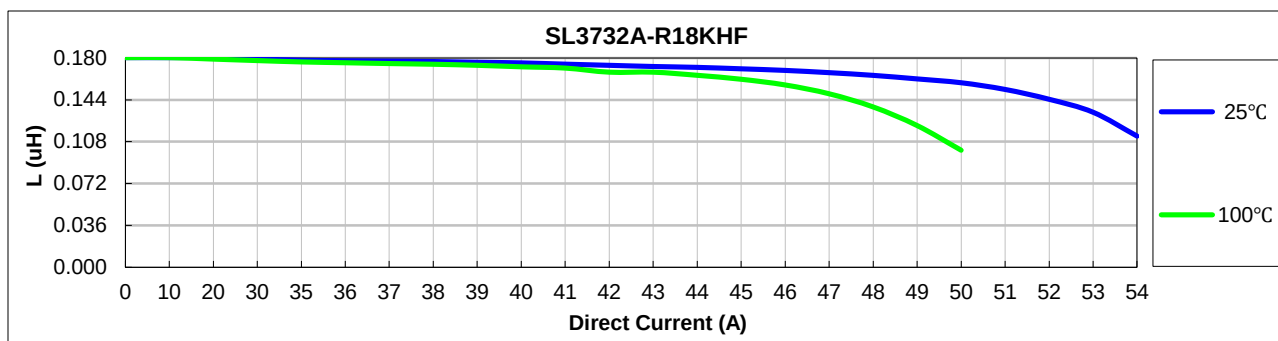
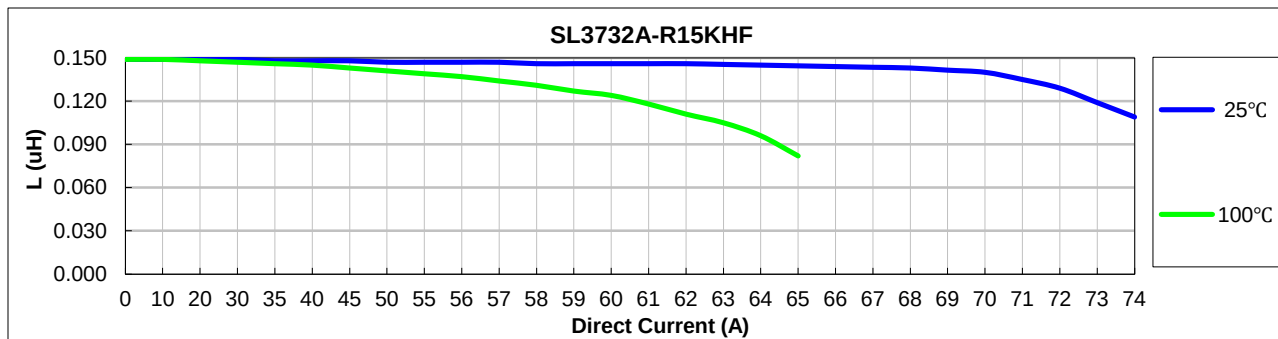
Notes:

1. Open Circuit Inductance (OCL) test condition: 100KHz , 1Vrms , 0Adc at 25°C.
2. L @ Isat and L @ Irms Test condition: 100KHz , 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 : 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.

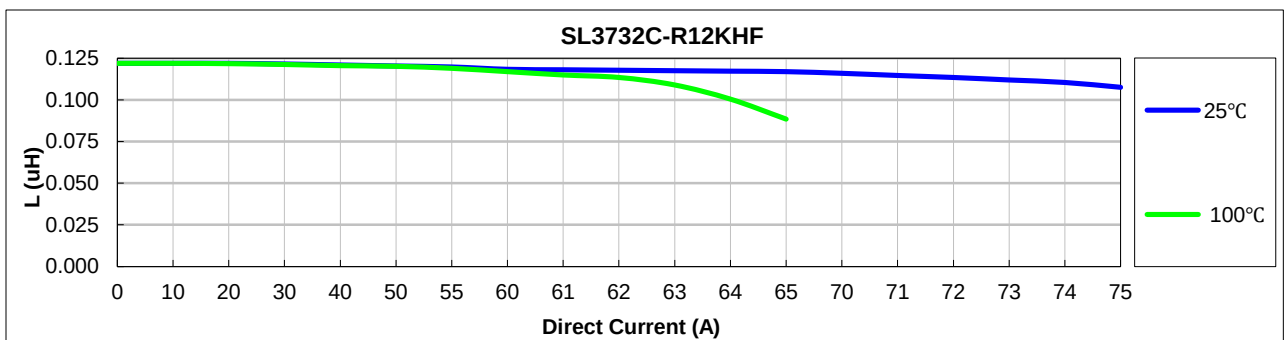
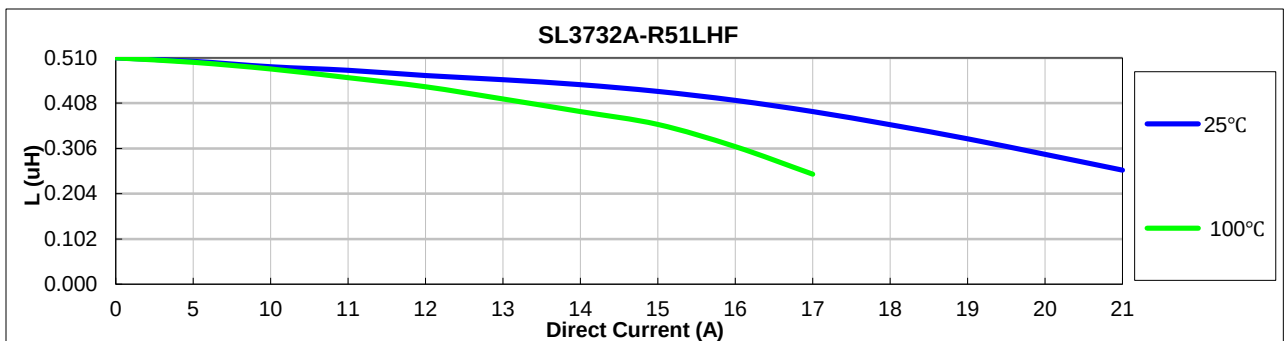
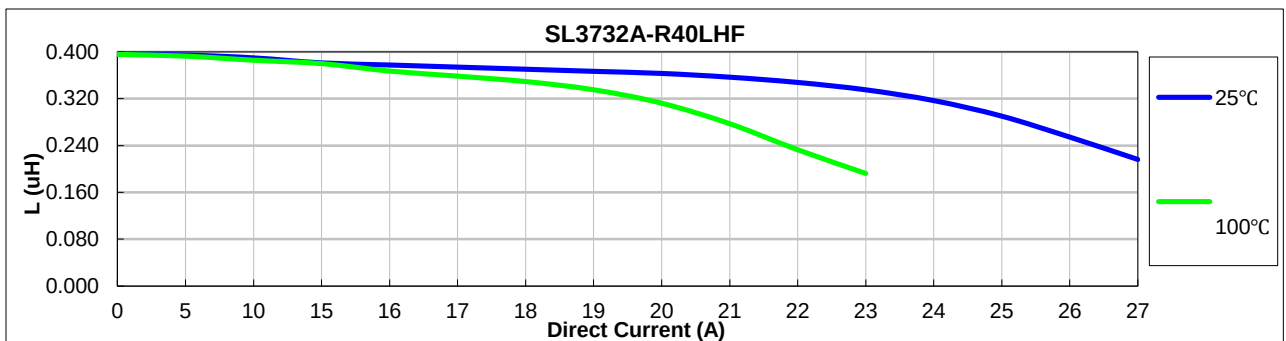
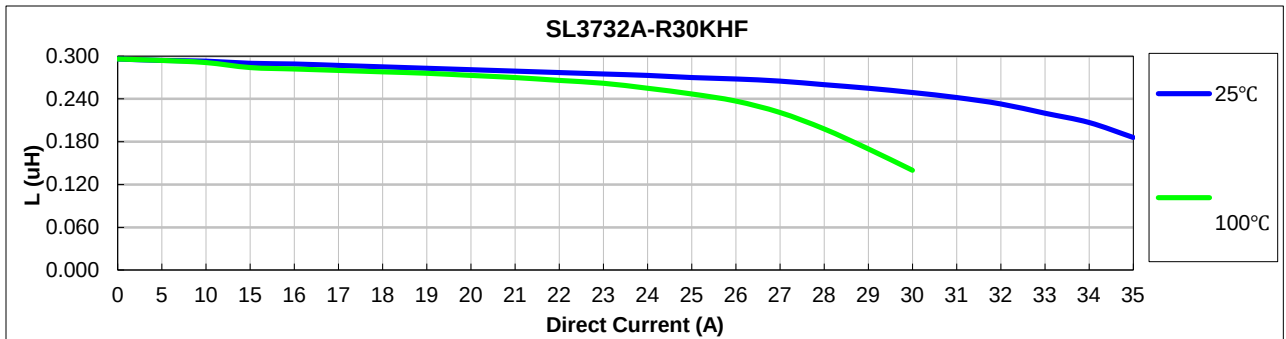
4. Inductance Characteristics of SL3732 Series (Inductance vs Current):



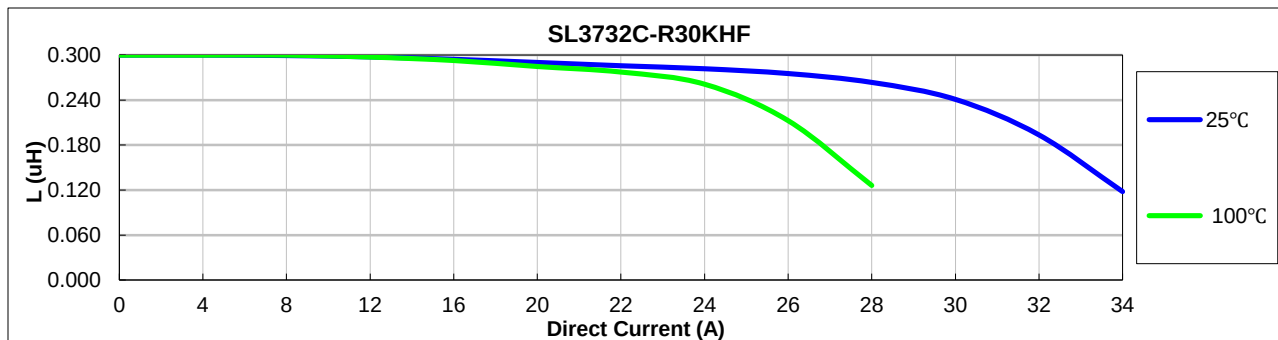
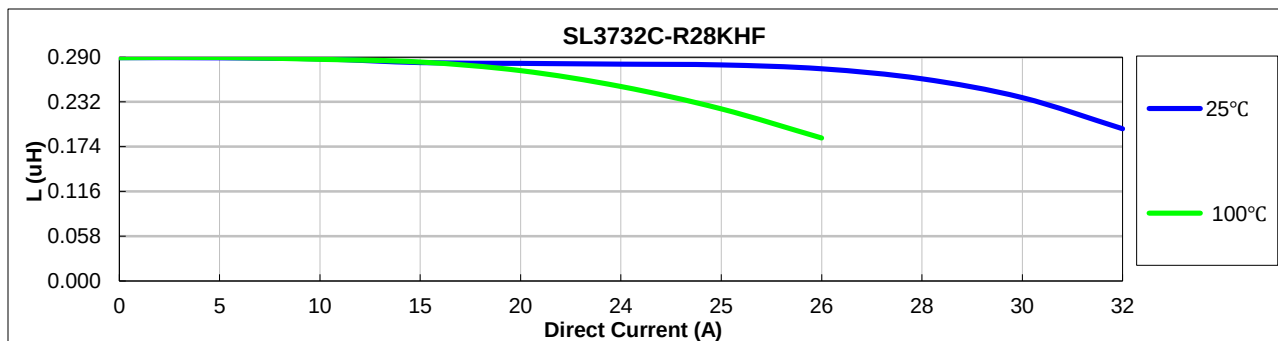
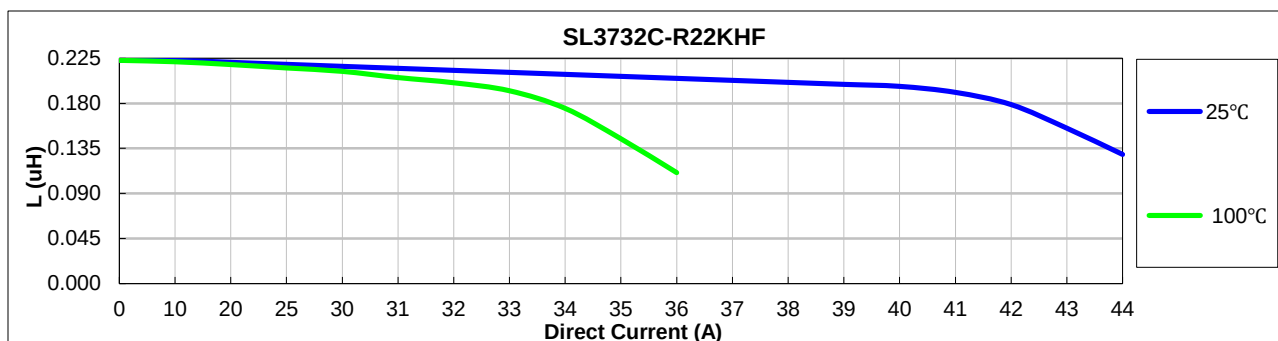
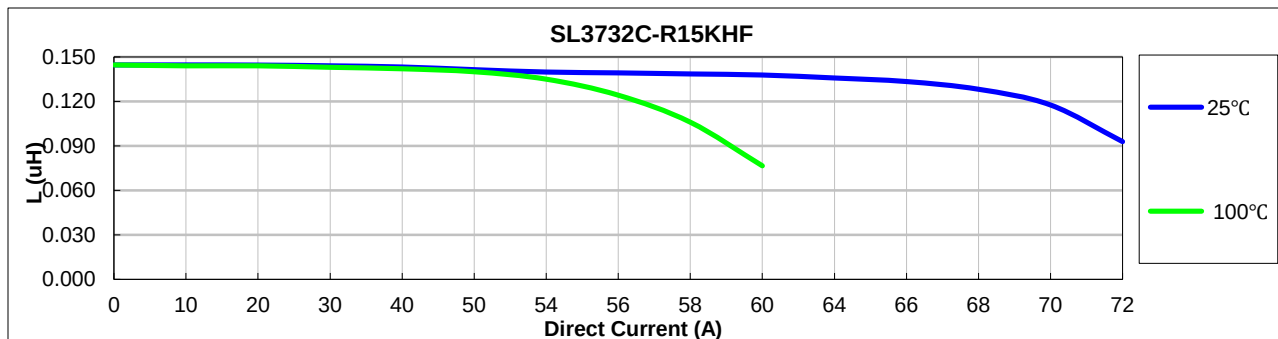
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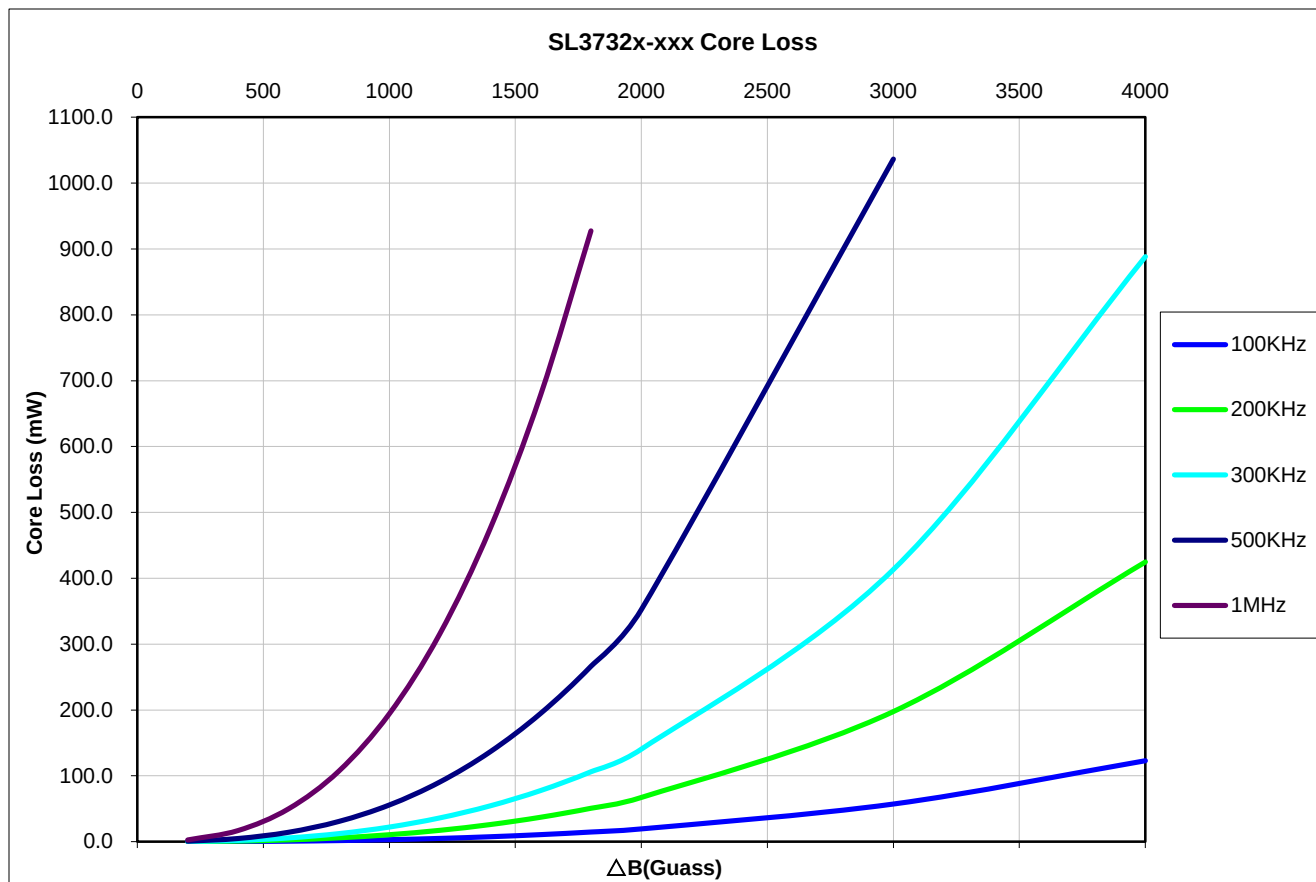
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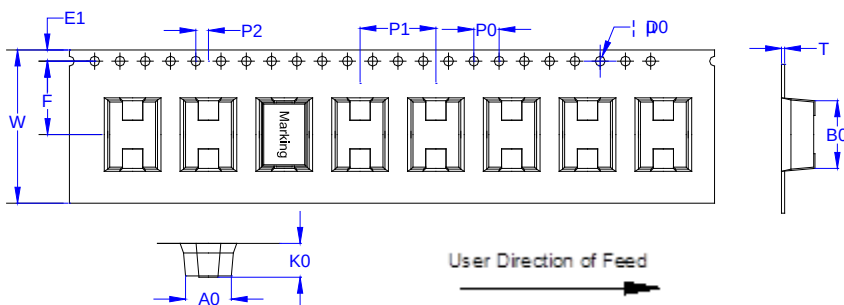
5. Core Loss:



Where $\Delta B = 0.40 \cdot L(nH) \cdot \Delta I$

6. PACKAGE SPECIFICATION.(UNIT:mm):

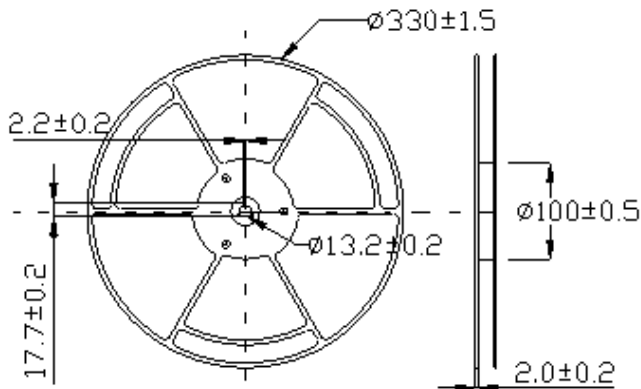
(1).ENCAPSULATION MODE:



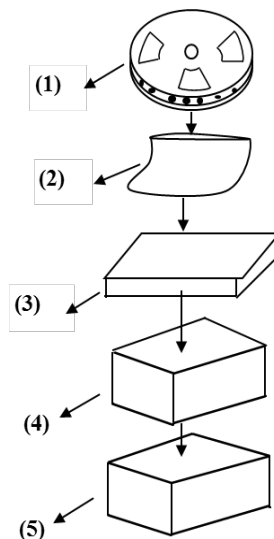
(2).DIMENSION(mm):

W	A0	B0	K0	P0	P1	P2	D0	E1	F	T
24.00+0.30/-0.10	6.60±0.10	9.70±0.10	8.30±0.10	4.00±0.10	12.00±0.10	2.00±0.10	1.50+0.10/-0	1.750±0.10	11.50±0.10	0.50±0.05

(3).REEL SIZE:



(4).PACKAGE MODE:



(5).PACKAGING LIST:

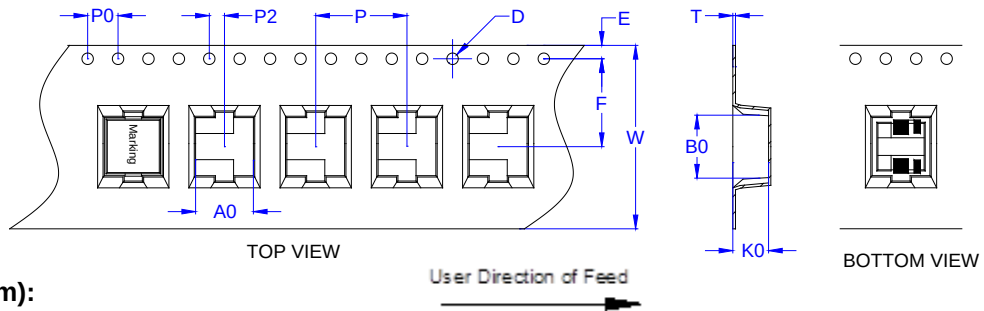
No.	Packing Part	Dimension (mm)	Material	Quantity
1	Reel	330	Plastic	650Pcs/Reel
2	Bag	450x360x0.075	Plastic	1Reel/Bag
3	Small Box	340X335X45	Paper	1Bag/Small Box
4	Middle Box	356X350X226	Paper	4Small Boxes/Middle Box
5	Outer Box	378X362X252	Paper	1Middle Box/Outer Box

(6).WEIGHT: N.W: 2.10g/pcs TOTAL5.46Kg(APPROX),G.W:TOTAL11.06Kg(APPROX).

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

6. PACKAGE SPECIFICATION.(UNIT:mm):

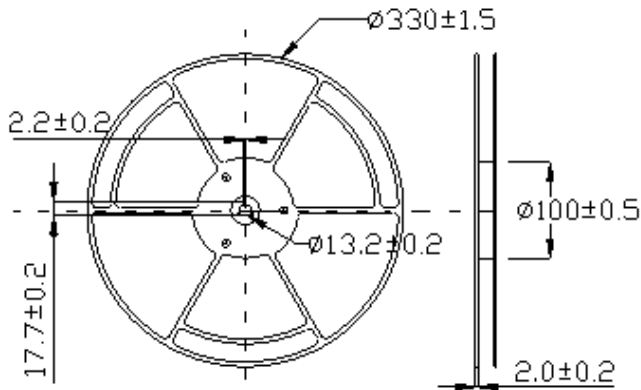
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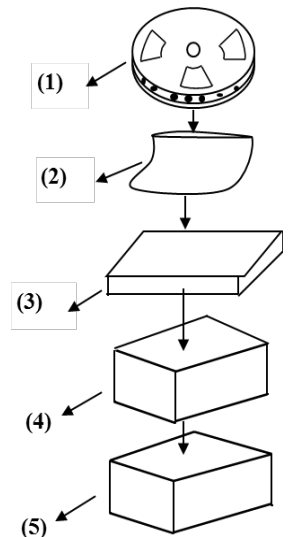
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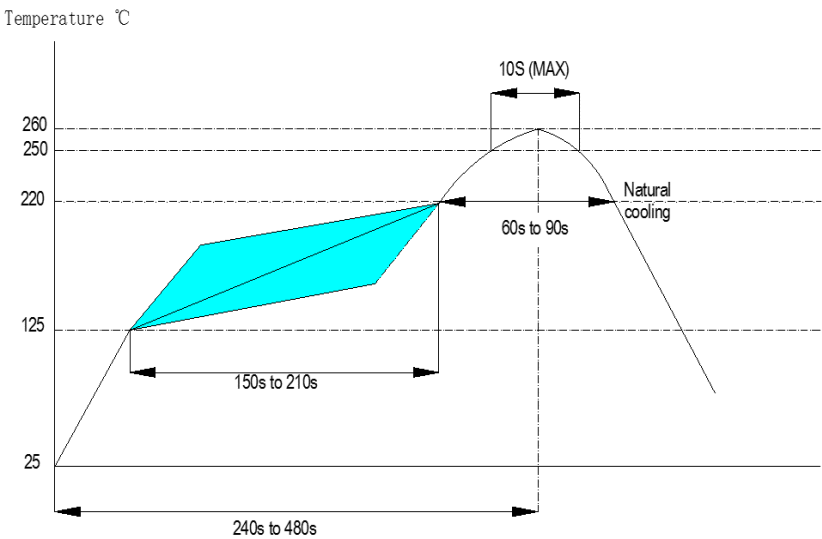
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7.RELIABILITY TEST:

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-202G Method 201A. 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