# 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℃ | Isat2 [4] (A) @100℃ | Irms [5] (A) @25℃ | 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 ± 0.20 | B (Max.) | C ± 0.20 | D ± 0.20 | E Ref. | F ± 0.20 | G ± 0.30 | H (Ref.) | Fig |
|---|---|---|---|---|---|---|---|---|
| 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 |

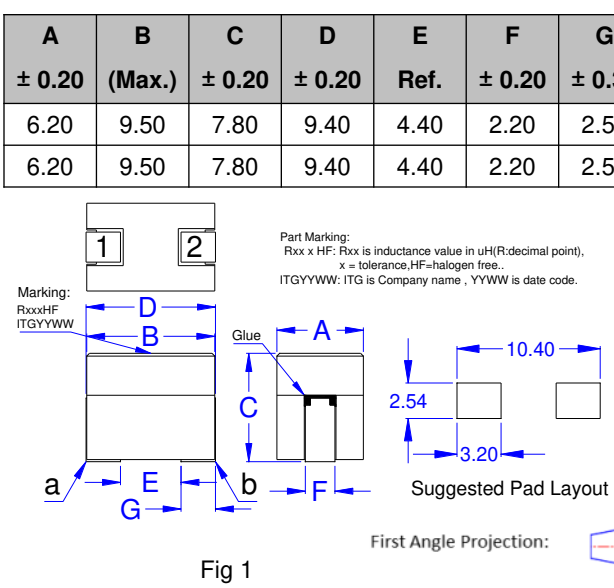



Fig 1

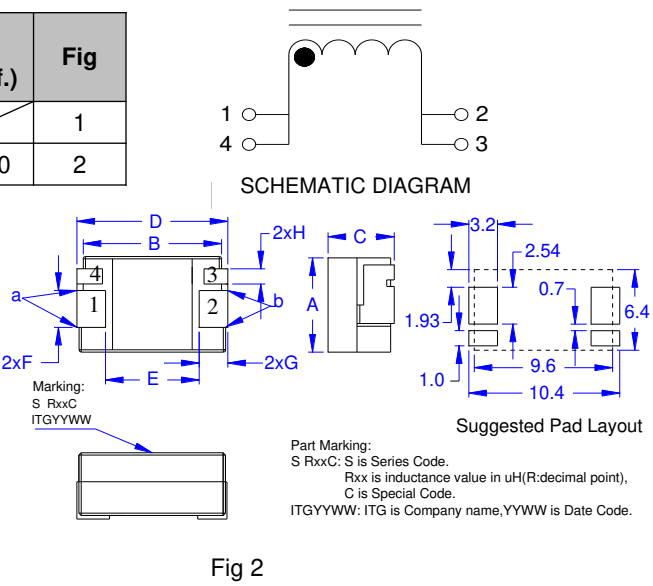



Fig 2


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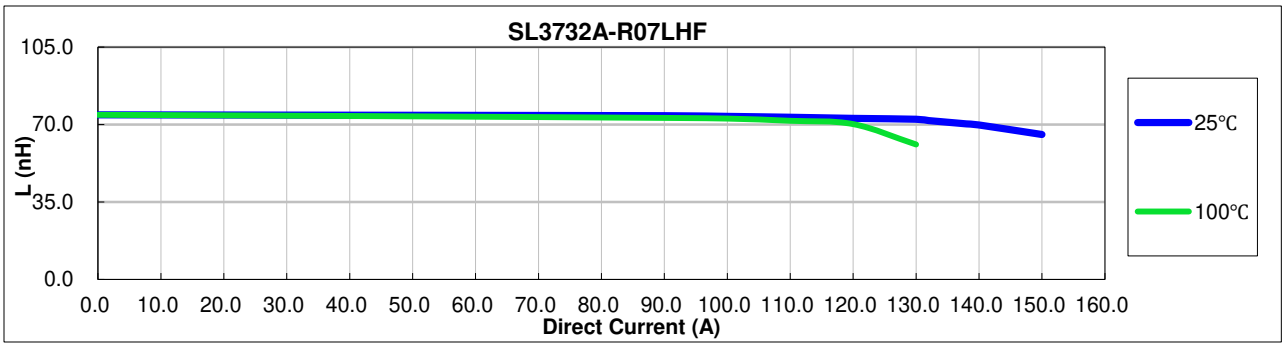

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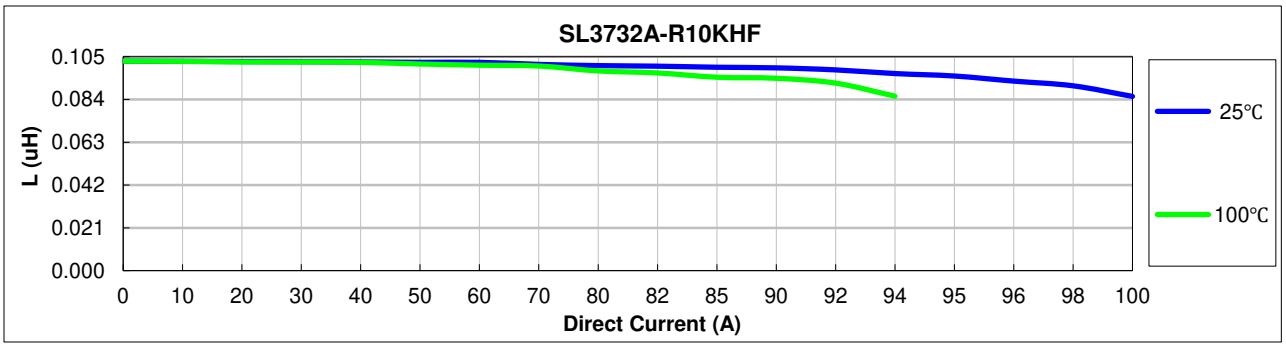
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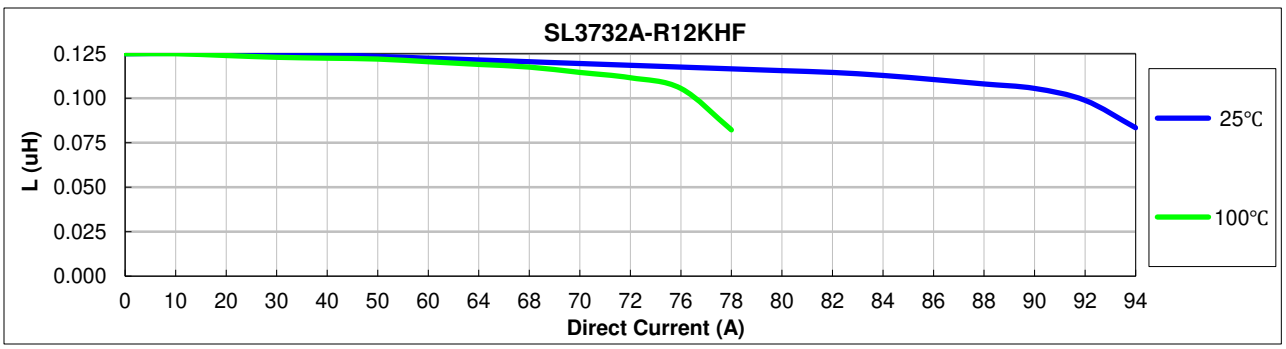
**Notes:**

1. Open Circuit Inductance (OCL) test condition: 100KHz , 1Vrms , 0Adc at 25℃.
2. L @ Isat and L @ Irms Test condition: 100KHz , 1Vrms (Ta=25℃).
3. The nominal DCR is measured from point "a" to point "b", as shown above on the mechanical drawing (Ta=25℃).
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℃ 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):



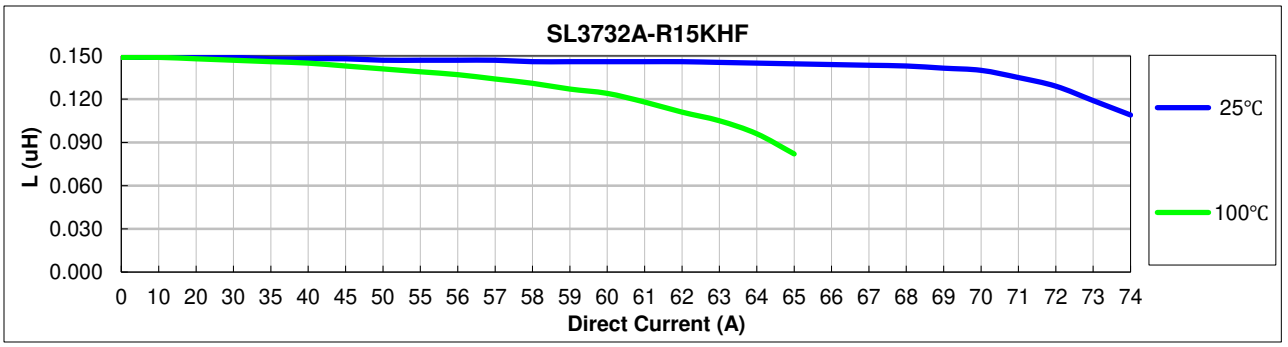



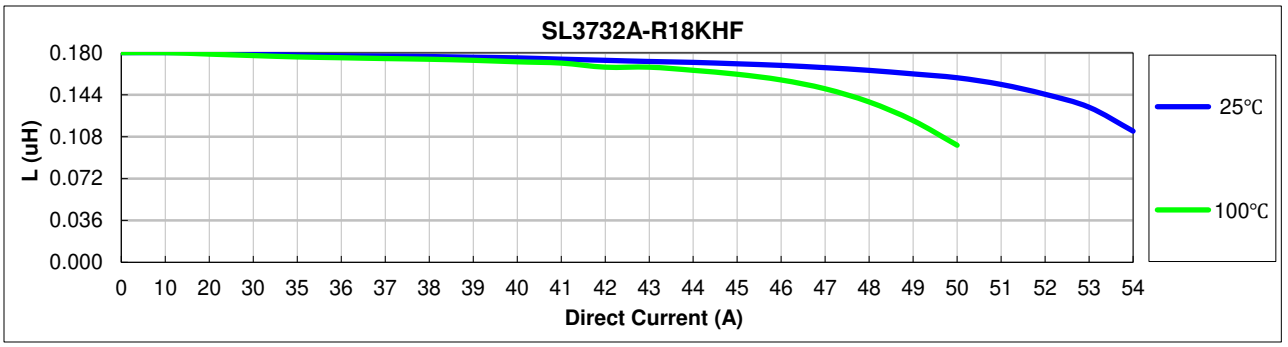

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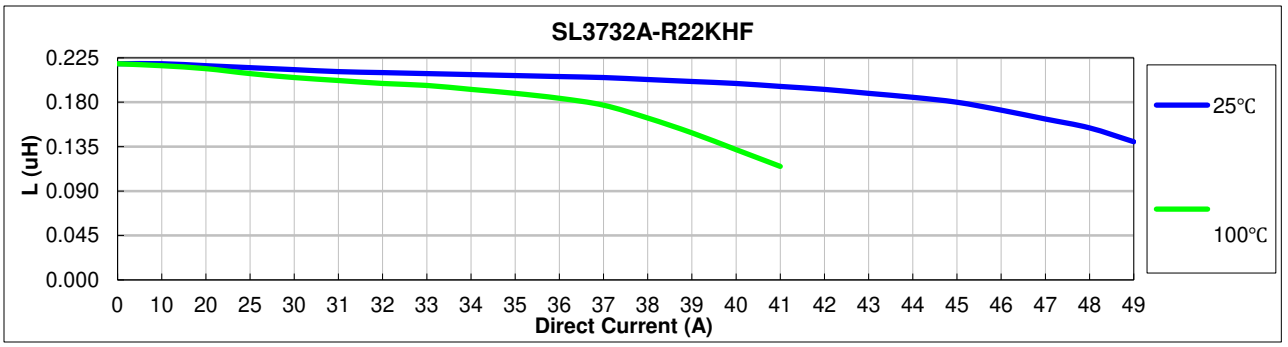
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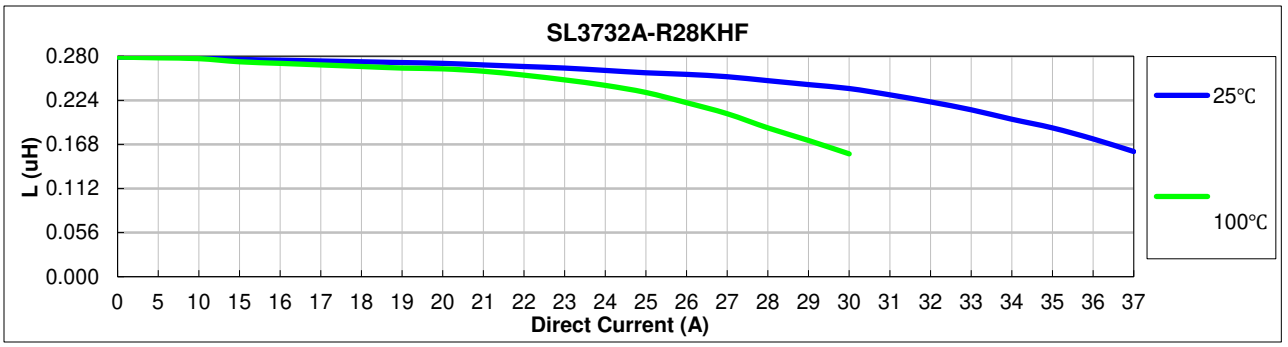
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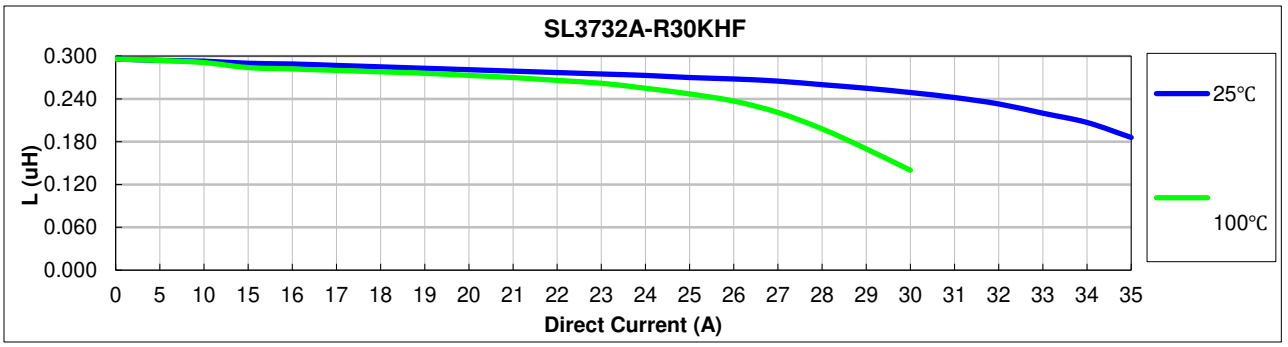
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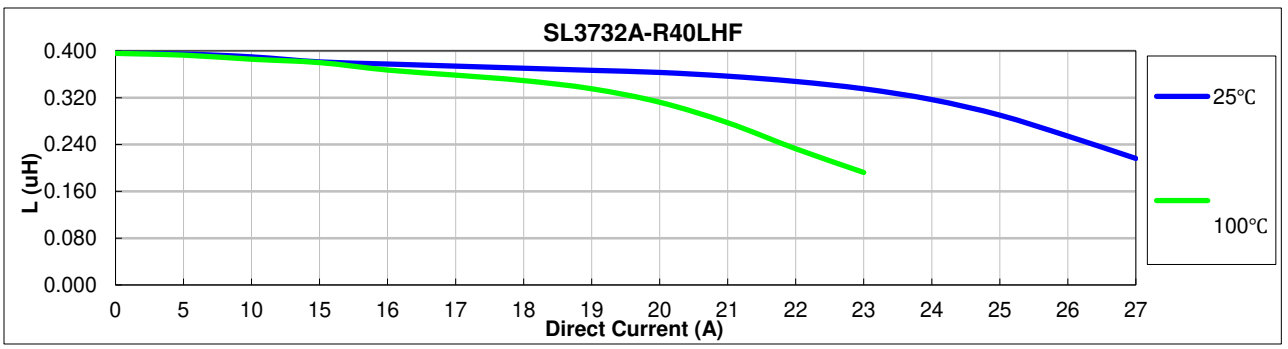

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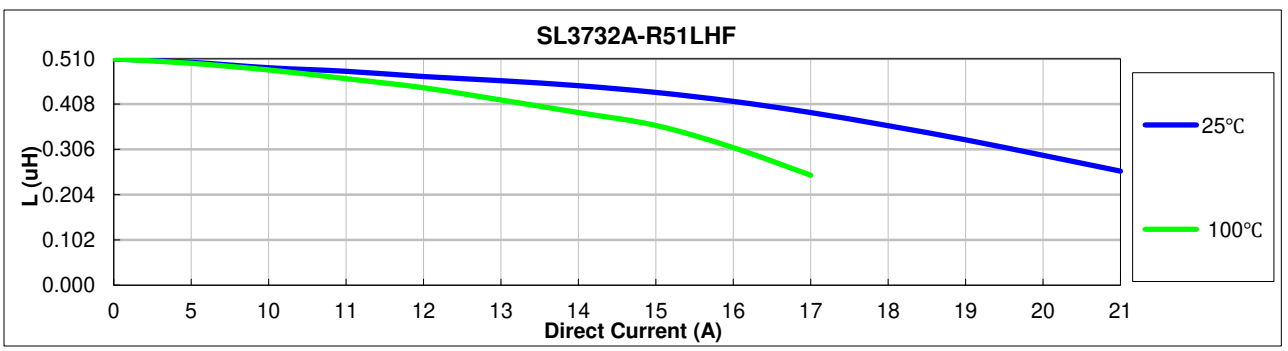

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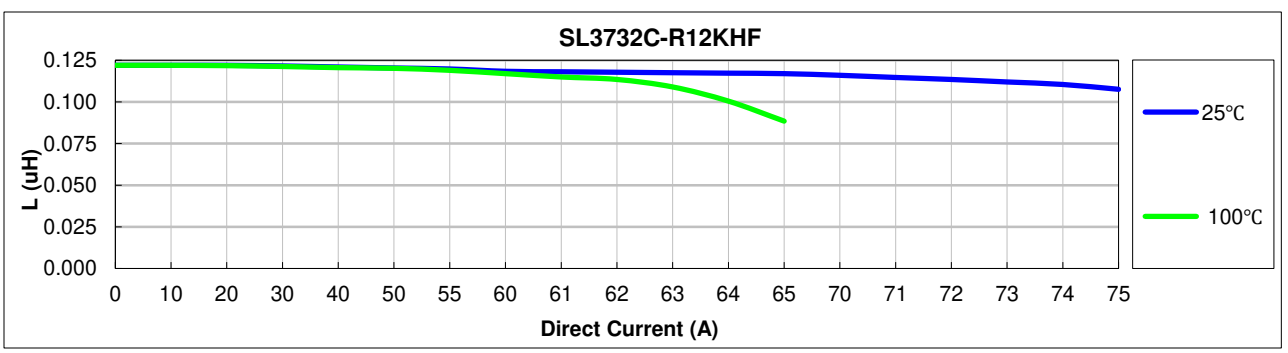
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## 4. Inductance Characteristics of SL3732 Series (Inductance vs Current):





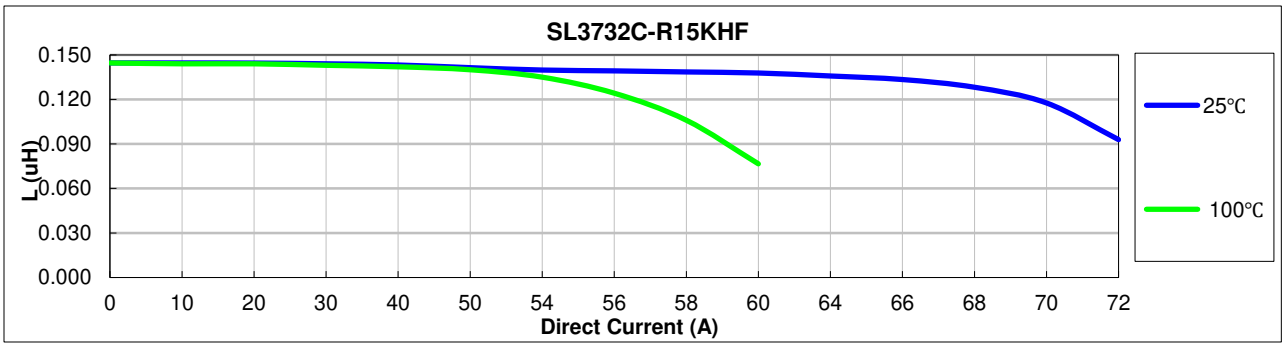
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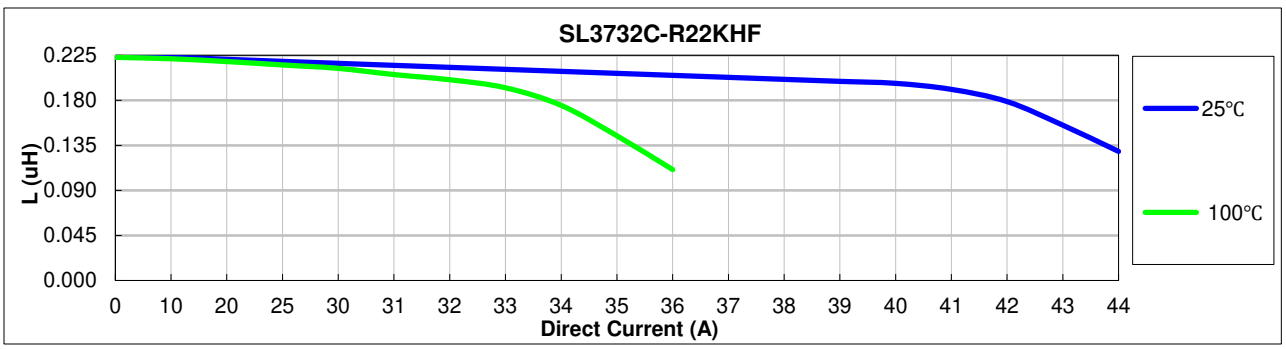

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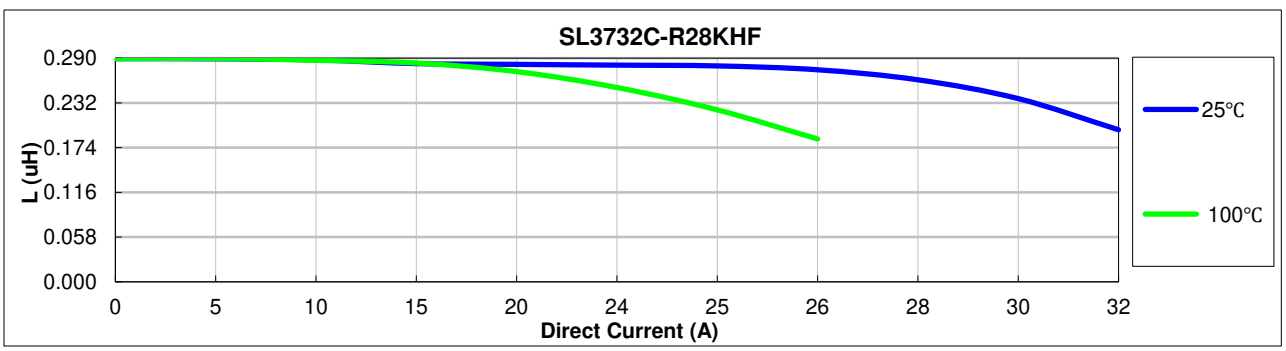

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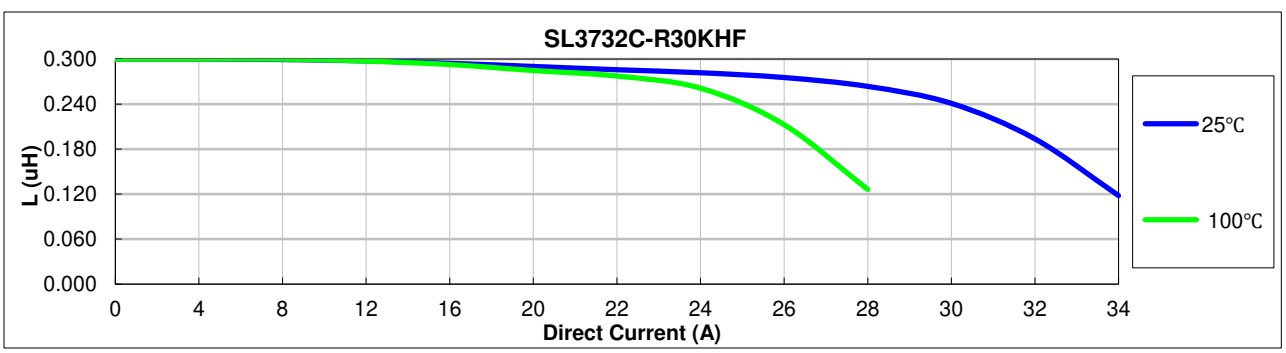
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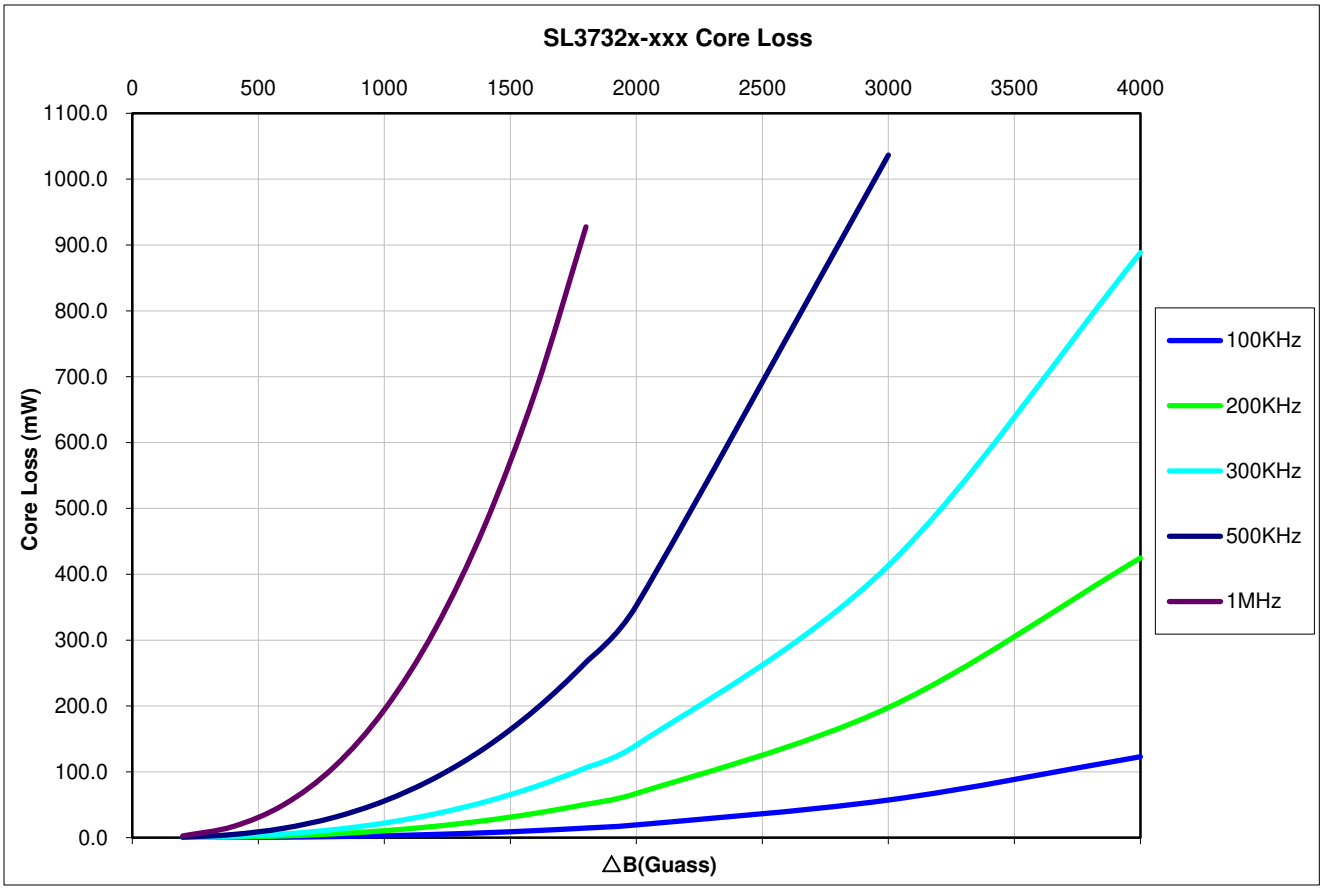
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## 5. Core Loss:




**Where △B=0.40 * L(nH) * △I**

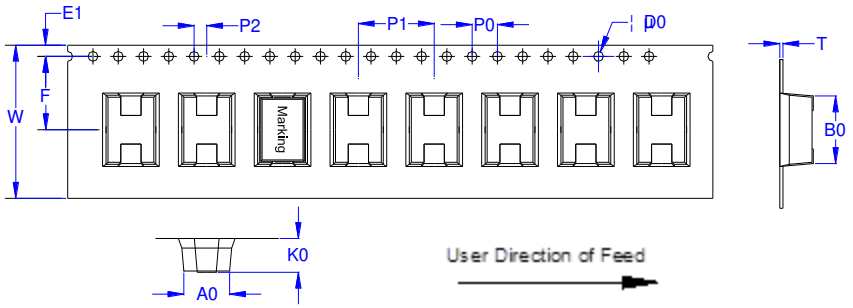


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# SL3732A Series

## 6. PACKAGE SPECIFICATION.(UNIT:mm):

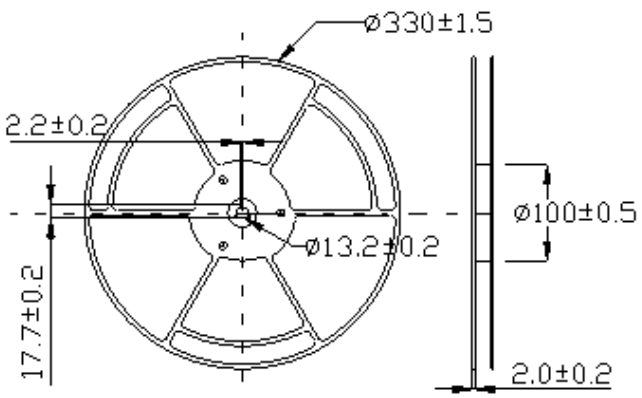
### (1).ENCAPSOLATION MODE:



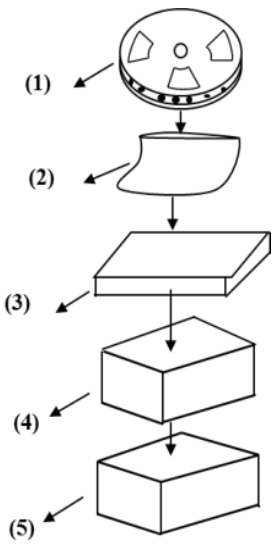

### (2).DIMENSION(mm):

| 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℃~85℃ ,75%RH (Max.).

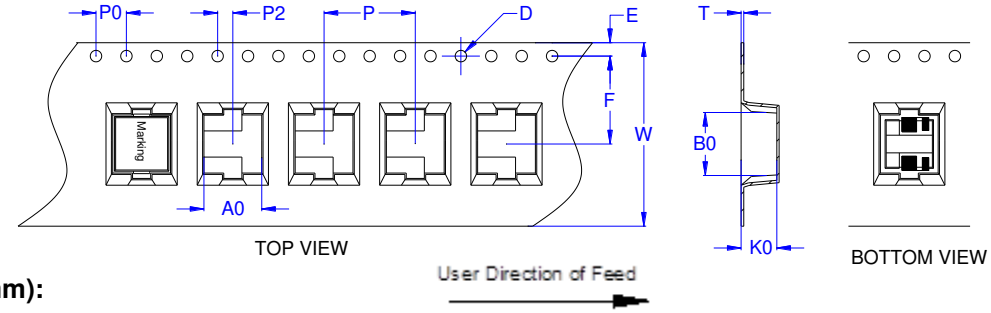


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# SL3732C Series

## 6. PACKAGE SPECIFICATION.(UNIT:mm):

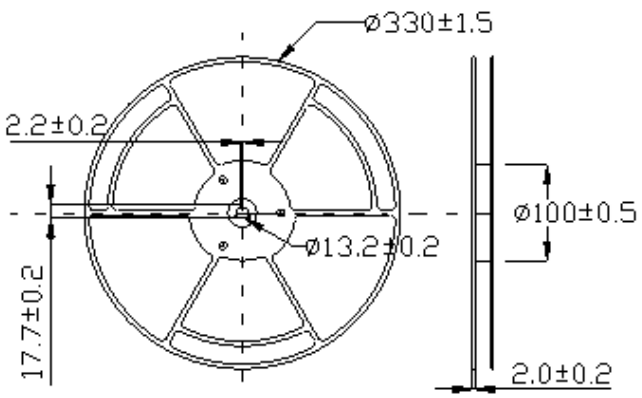
### (1).ENCAPSOLATION MODE:



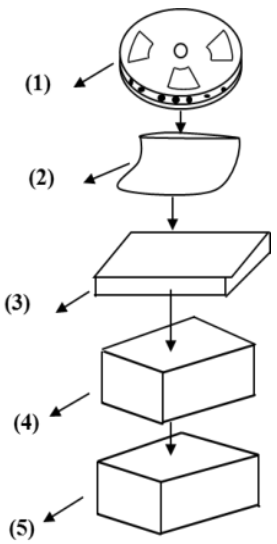

### (2).DIMENSION(mm):

| 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: 2.15g/pcs TOTAL5.59Kg(APPROX),G.W:TOTAL11.19Kg(APPROX).

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



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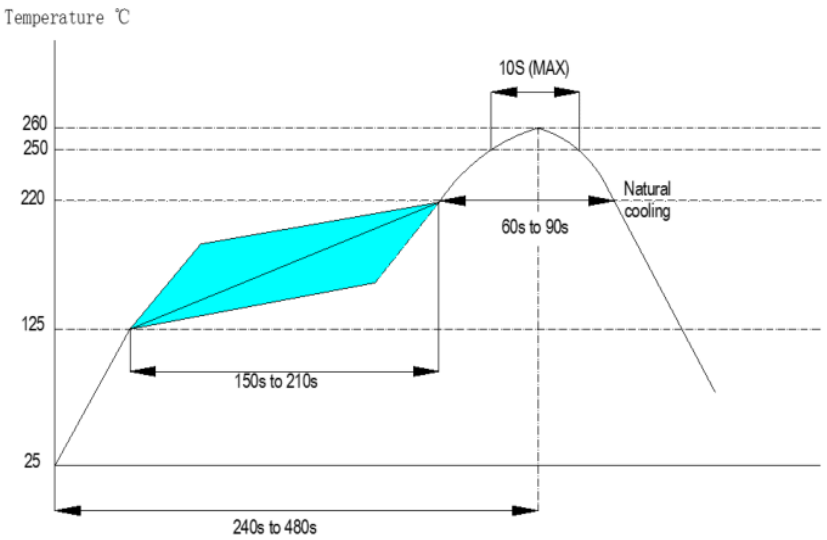
## 7.RELIABILITY TEST:

| 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.<br>1. Soldering temperature:245±5℃<br>2. Solder:99.3Sn/0.7Cu<br>3. Flux:Rosin<br>4. Immersion time:5±1Sec |
| Soldering heat resistance | 1. Appearance :no damage 2. Inductance change:within±10%of initial value | 1. Preheat temperature150℃.<br>2. Preheat time:1min<br>3. Solder temperature260±5℃<br>4. Dipping time:10±1Sec<br>5. Measured at room temperature after placing for 24hours |
| Vibration( OUT LAB) | 1. Appearance:no damage<br>2. All Electrical and mechanical parameters within tolerance | According to MIL-STD-202G Method 201A.<br>1.Frequency:10 to 55Hz.<br>2.Amplitude:1.52mm<br>3.Direction and timeX Y and Z Direction for 2 hours each |
| Humidity resistance test | 1. Appearance: no damage<br>2. All Electrical and mechanical parameters within tolerance | According to IEC68-2-1MethodCa:<br>1. Temp:40±2℃<br>2. Humidity:90%-95%RH<br>3. Test time:500±2H<br>4. The component should be stabilized at normal condition for24 Hours before test |
| High temperature resistance test | 1. Appearance: no damage<br>2. All Electrical and mechanical parameters within tolerance | According to IEC68-2-2.<br>1. 1. Temperature:85±3℃<br>2. Test time:500+24H<br>3. The component should be stabilized at normal condition for 24hours before test |
| Low Temperature resistance test | 1. Appearance: no damage<br>2. All Electrical and mechanical parameters within tolerance | According to IEC68-2-1 Method A(Ad).<br>1. Temperature:-40±3℃<br>2. Test time:500+24H<br>3. The component should be stabilized at normal condition for 24hours before test |
| Temperature cycles test | 1. Appearance: no damage<br>2. All Electrical and mechanical parameters within tolerance | According to IEC68-2-14 Method N(Nb).<br>1. High-temp:85±3duration:30min<br>2. room –temp:25±2℃Duration3H<br>3. Low-temp:-40±3Duration30min<br>4. room-temp: 25±2℃Duration3H<br>5. Number of cycle:10cycles<br>6. The component should be stabilized at normal condition for 24hours before test |


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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 .<br><br>**Note:**<br>please refer to the latest IPC/JEDEC J-STD-020: "Moisture/Reflow Sensitivity Classification for Nonhermetic Solid State Surface Mount Devices" |  |


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