AH4724 Series

1. Features of AH4724 Series:

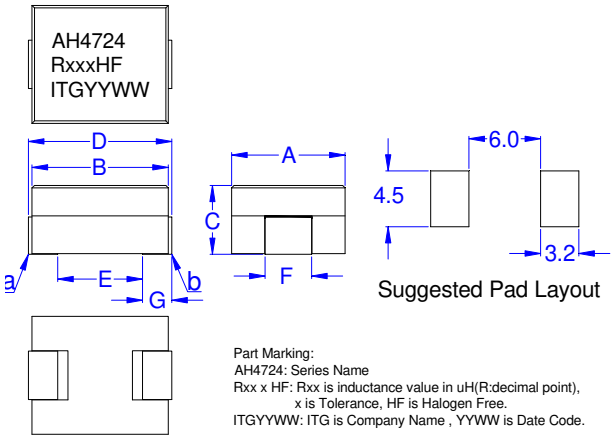
- Ferrite based SMD inductor with lower core loss.
- Inductance range: 180.0 nH to 365.0 nH , custom values are welcomed.
- High current output chokes up to 95.0 Amp with approx. 20% roll off.
- Low profile 6.0mm Max. height.
- 12.1 x 10.0 mm Foot Print.
- Ideal for Buck Converter, VRM & High Density 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: 500pcs, 13" Reel.

2. Electrical Characteristics of AH4724 Series:

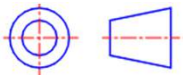
ITG Part Number	OCL [1] (nH) ± 10% or 15%	DCR [3] (mΩ) ± 7.0%	Isat1 [4] (A) @25℃	Isat2 [4] (A) @45℃	Isat3 [4] (A) @100℃	Irms [5] (A) @25℃
AH4724-R18KHF	180.00 ,10%	0.48	60.00	58.00	52.00	40.00
AH4724-R21KHF	215.00 ,10%	0.48	54.00	50.00	47.00	40.00
AH4724-R23KHF	230.00 ,10%	0.48	47.00	45.00	42.00	40.00
AH4724-R32KHF	325.00 ,10%	0.48	32.00	31.00	29.00	40.00
AH4724-R36LHF	365.00 ,15%	0.48	30.00	29.00	27.00	40.00

3. Mechanical Dimension of AH4724 Series:

A Max.	B Max.	C Max.	D Max.	E Nom.	F Nom.	G Nom.
10.00	11.70	6.00	12.10	7.00	3.80	2.30



Third Angle Projection:



Part Marking:
AH4724: Series Name
Rxx x HF: Rxx is inductance value in uH(R:decimal point), x is Tolerance, HF is Halogen Free.
ITGYYWW: ITG is Company Name , YYWW is Date Code.

Notes:

1. Open Circuit Inductance (OCL) test condition: 500KHz,0.25Vrms,0Adc at 25℃.
2. L @ Isat and L @ Irms Test condition: 500KHz,0.25Vrms (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 & Isat3 : 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.

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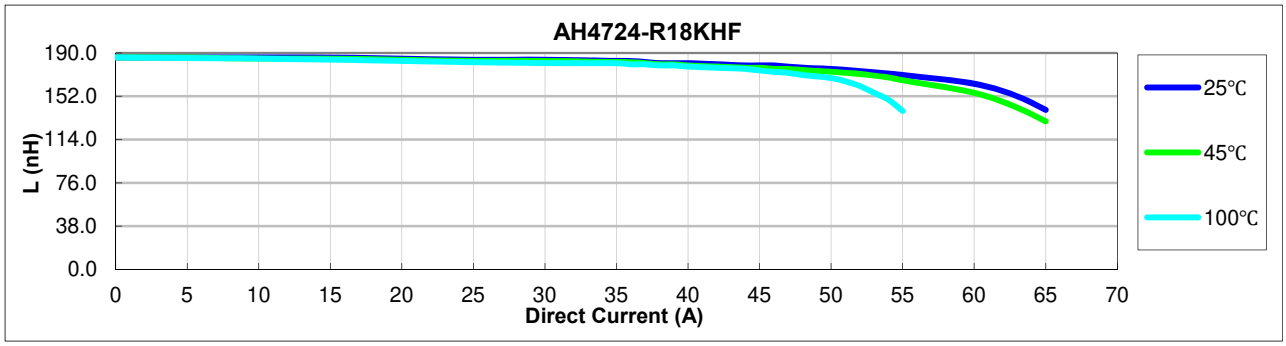
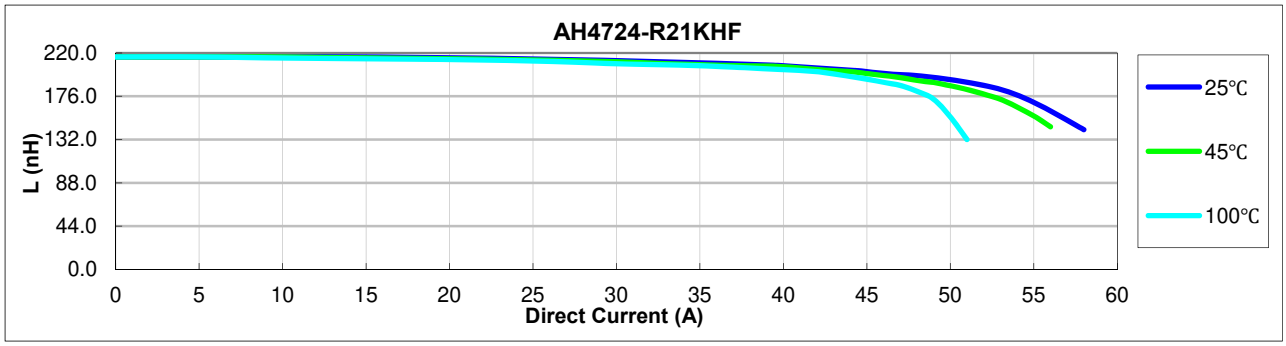
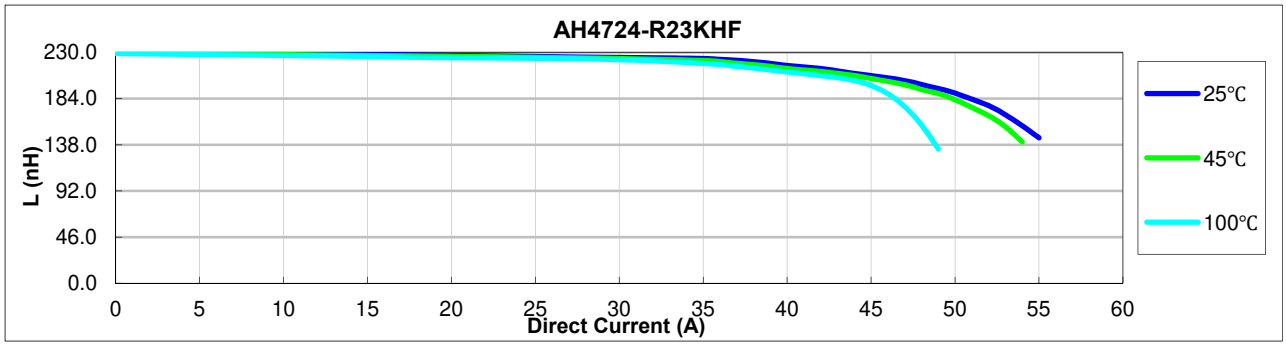
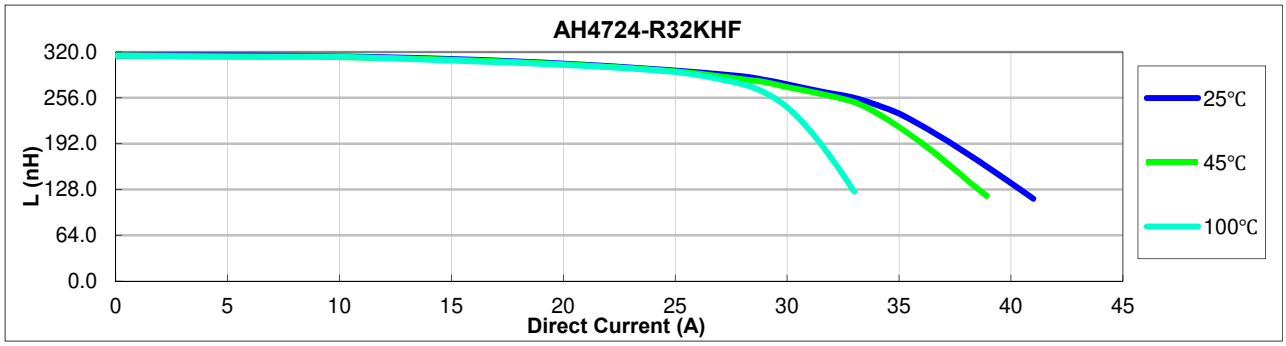
AH4724 Series

4. Inductance Characteristics of AH4724 Series (Inductance vs Current):









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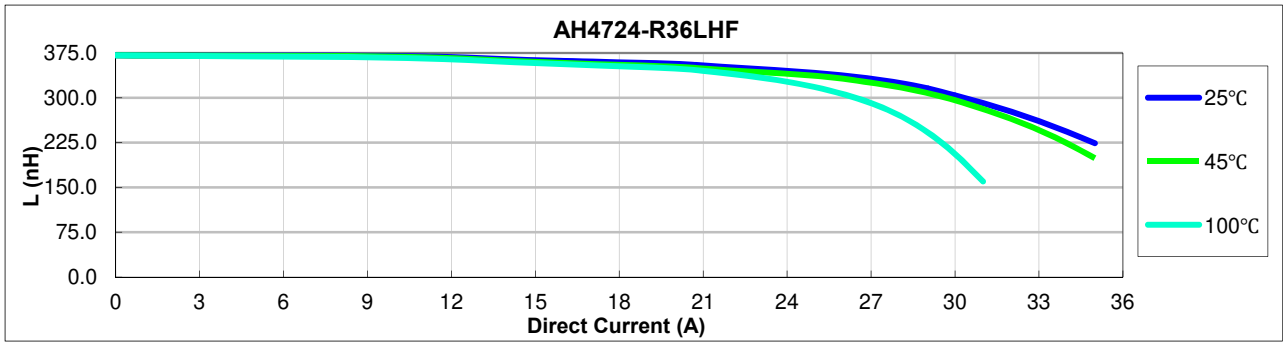
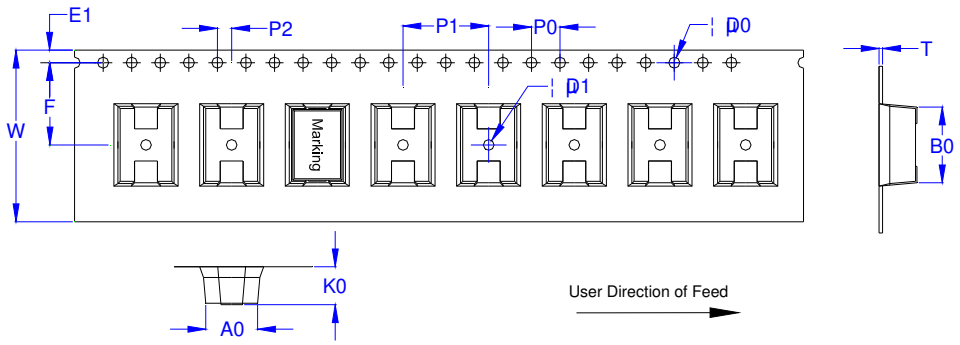


AH4724 Series

6.PACKAGE SPECIFICATION.(UNIT:mm):

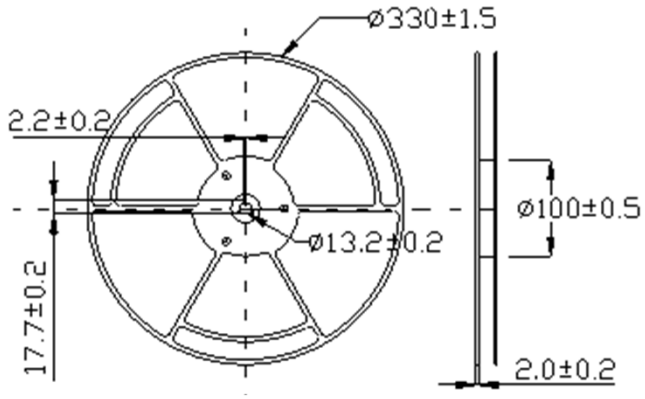
(1).ENCAPSOLATION MODE:



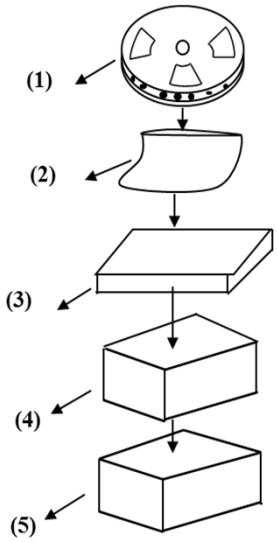
(2).DIMENSION(mm):

W	A0	B0	K0	P1	P0	P2	D0	D1	F	E1	T
24.0+0.3/-0.1	10.2±0.1	12.3±0.10	6.20±0.10	16.0±0.10	4.00±0.10	2.00±0.10	1.50+0.10/-0	1.50+0.10/-0	11.5±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	500Pcs/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: 2.95 g/pcs (APPROX), TOTAL 5.95 Kg(APPROX),G.W:TOTAL 8.90Kg (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. 1. Soldering temperature:245±5℃ 2. Solder:99.3Sn/0.7Cu 3. Flux:Rosin 4. Immersion time:5±1Sec
Soldering heat resistance	1. Appearance :no damage 2. Inductance change:within±10%of initial value	1. Preheat temperature150℃. 2. Preheat time:1min 3. Solder temperature260±5℃ 4. Dipping time:10±1Sec 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 timeX 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 IEC68-2-1MethodCa: 1. Temp:40±2℃ 2. Humidity:90%-95%RH 3. Test time:500±2H 4. The component should be stabilized at normal condition for24 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±3℃ 2. Test time:500+24H 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±3℃ 2. Test time:500+24H 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±3duration:30min 2. room –temp:25±2℃Duration3H 3. Low-temp:-40±3Duration30min 4. room-temp: 25±2℃Duration3H 5. Number of cycle:10cycles 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 . **Note:** please refer to the latest IPC/JEDEC J-STD-020: "Moisture/Reflow Sensitivity Classification for Nonhermetic Solid State Surface Mount Devices"