Low Profile (Metal Alloy) Inductors – *L301212HF Series*

1. Part No. Expression:

L 301212 HF 1R0 M

(a) (b) (c) (d) (e)

(a) Series Code

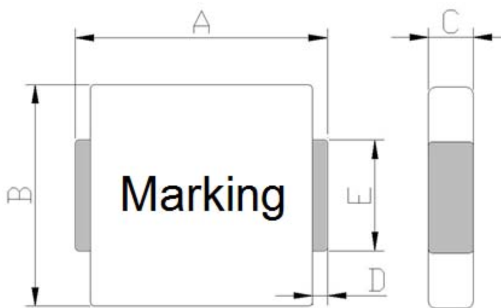
(b) Dimension Code

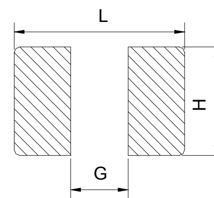
(c) Material Code

(d) Inductance Code

(e) Tolerance Code

2. Configuration & Dimensions:





Recommended PC Board Pattern

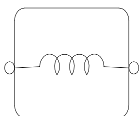
Note:

1. The above PCB layout is for reference only..
2. Marking: Inductance code

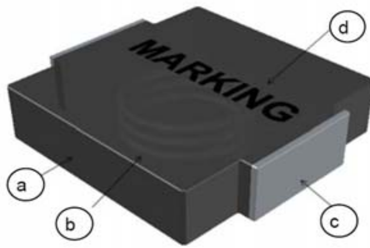
Unit: mm

A	B	C	D	E	G	H	L
3.50±0.20	3.20±0.20	1.20 Max.	0.30±0.20	1.20±0.20	1.90	1.45	4.10

3. Schematic:



4. Materials:



(a) Alloy Body
(b) Copper Wire
(c) Terminal
(d) Ink

5. General Specification:

(a) Test Freq. : L : 100KHz/1V
(b) Operating Temp. : -40°C to +125°C (Inclusive of coil temp rise)
(c) Storage Temp. : -40°C to +125°C (on board)
(d) Humidity Range : 85±2% RH
(e) Heat Rated Current (Irms) will cause the coil temperature rise Δt of Max. 40°C (keep 1min)
(f) Saturation Current (Isat) will cause ΔL/ L0A to drop ≦ 30%.
(g) Part Temperature (Ambient+Temp. Rise) : Should not exceed 125°C under worst case operating conditions.
(h) Storage condition (component in its packaging)
i) Temperature: Less than 40°C
ii) Humidity : 60% RH

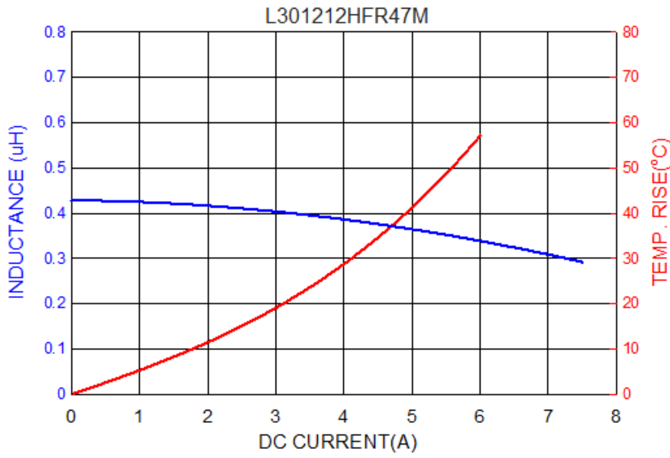
6. Electrical Characteristics:

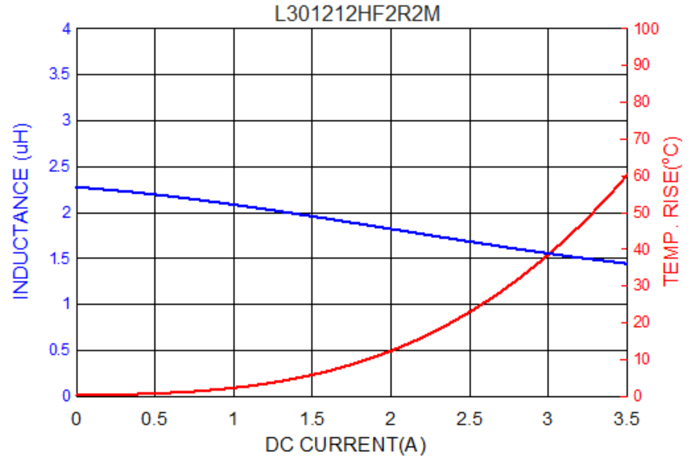
Part Number	Inductance (uH)±20%	DCR(mΩ)		I sat (A)		Irms (A)	
		Max.	Typ.	Max.	Typ.	Max.	Typ.
L301212HFR47M	0.47	30	25	5.80	7.20	4.00	5.00
L301212HF2R2M	2.20	106	85	2.80	3.40	2.40	3.00
L301212HF4R7M	4.70	212	170	2.30	2.80	1.30	1.60
L301212HF100M	10.00	420	338	1.20	1.50	0.80	1.00

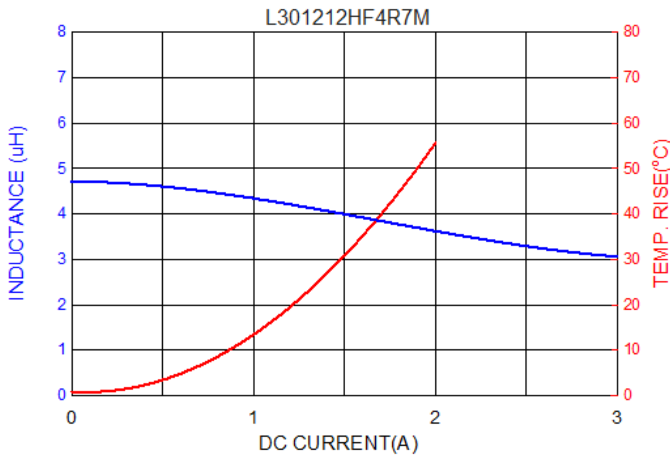
Notes:

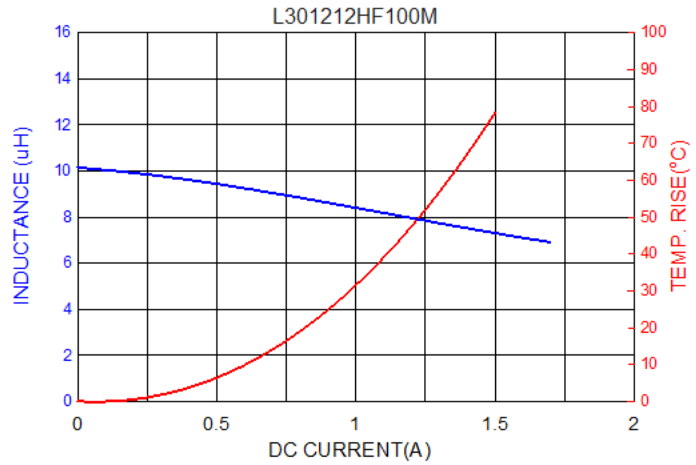
At all times, the current supplied to the product should not exceed Isat Max. value.

7. Characteristic Curves:









8. Soldering:

Mildly activated rosin fluxes are preferred. The minimum amount of solder can lead to damage from the stresses caused by the difference in coefficients of expansion between solder, chip and substrate. Our terminations are suitable for all re-flow soldering systems. If hand soldering cannot be avoided, the preferred technique is the utilization of hot air soldering tools.

Note:

-If wave soldering is used, there will be some risk.

-Reflow soldering temperatures below 240°C, there will be non-wetting risk.

8-1: Solder Re-flow:

Recommended temperature profiles for re-flow soldering in Figure 1

8-2: Soldering Iron (Figure 2):

Products attachment with soldering iron is discouraged due to the inherent process control limitations. In the event that a soldering iron must be employed the following precautions are recommended.

Note:

a) Preheat circuit and products to 150°C

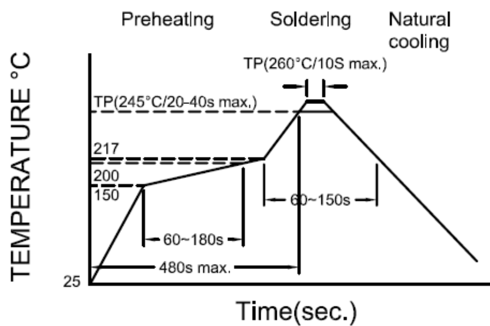
b) 350°C tip temperature (Max.)

c) Never contact the ceramic with the iron tip

d) 1.0mm tip diameter (Max.)

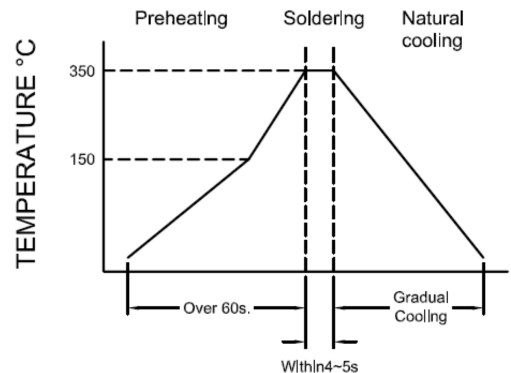
e) Use a 20watt soldering iron with tip diameter of 1.0mm

f) Limit soldering time to 4-5 sec



Reflow times: 3 times max

Fig.1

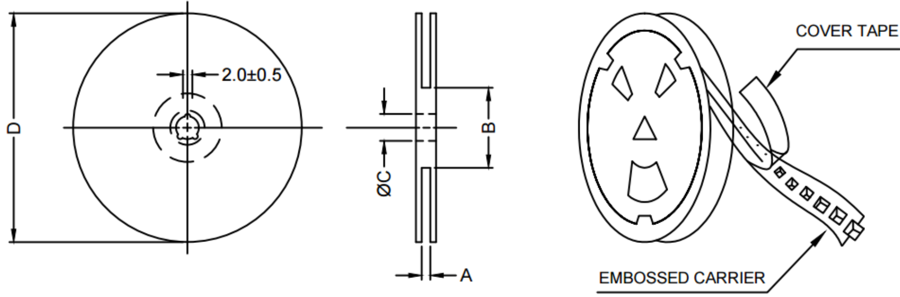


Iron Soldering times： 1 times max

Fig.2

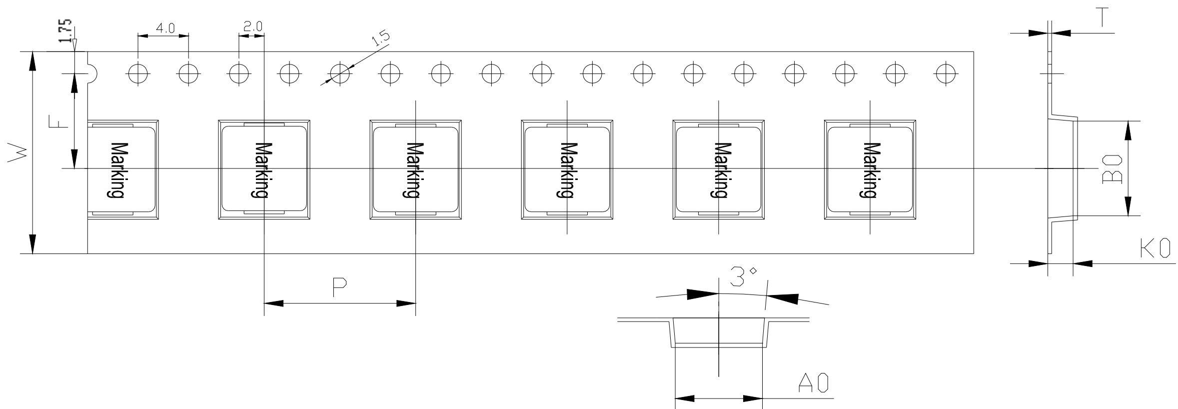
9. Packaging Information:

9-1 Reel Dimension



Type	A(mm)	B(mm)	C(mm)	D(mm)
13"x12mm	12.4+2/-0	100±2	13.5±0.5	330

9-2 Tape Dimension

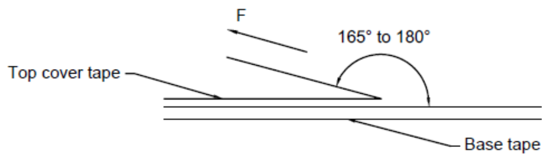


Series	Size	Bo(mm)	Ao(mm)	Ko(mm)	P(mm)	W(mm)	F(mm)	T(mm)
L	301212	3.8±0.1	3.5±0.1	1.5±0.1	8.0±0.1	12.0±0.3	5.5±0.1	0.35±0.05

9-3 Packaging Quantity

L	301212
Chip / Reel	4000
Inner box	8000
Carton	32000

9-4 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. (°C)	Room Humidity (%)	Room atm (hPa)	Tearing Speed mm/min
5~35	45~85	860~1060	300

Application Notice:

1. Storage Conditions:

   To maintain the solderabililty of terminal electrodes:

   a) Recommended products should be used within 12 months from the time of delivery.

   b) The packaging material should be kept where no chlorine or sulfur exists in the air.

2. Transportation:

   a) Products should be handled with care to avoid damage or contamination from perspiration and skin oils.

   b) Vacuum pick up is strongly recommended for individual components.

   c) Bulk handling should ensure that abrasion and mechanical shock are minimized.