



上海立凯电控科技有限公司

Shanghai LineKey Technology Co., Ltd.



# Specification For Approval

## 规格书

客户名称:

\_\_\_\_\_

部件名称:

叠层射频电感

\_\_\_\_\_

客户料号:

\_\_\_\_\_

立凯料号:

HFM0603-12NH

\_\_\_\_\_

供方确认			客户确认
制作	审核	核准	
吴子晗	薄双燕	陈余想	

### Spec 变更记录:

版本	序号	更改描述	更改原因	备注
A0	01	Released		

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### 1. Scope

This specification applies to the HFM0603-12NH of SMD multilayer RF inductor.

### 2. Product Description and Identification (Part Number)

HFM      0603      -      12N      H  
 ①                      ②                                      ③                      ④



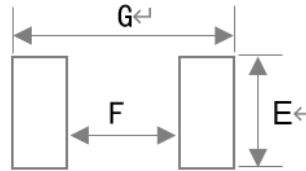
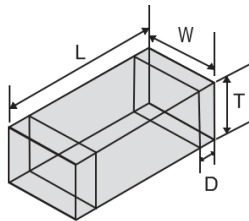
- ① Product Series: HFM Series
- ② Size: 0.6mm×0.3mm×0.3mm
- ③ Inductance: 12N = 12nH
- ④ Tolerance: H = ±3%

### 3. Operating & Storage Temperature

1) Operating temperature range : -55℃ ~ +125℃ (Including Self-heating) .

### 4. Shape and Dimensions (Unit: mm)

Dimensions and recommended PCB pattern for reflow soldering



Series	L(mm)	W(mm)	T(mm)	D(mm)	E(mm)	F(mm)	G(mm)
HFW0603	0.6±0.03	0.3±0.03	0.3±0.03	0.15±0.05	0.3 Typ.	0.3 Typ	0.8 Typ.

### 5. Electrical Characteristics

Part Number	Inductance (nH)	Tolerance	Q Value (Min)	Test Freq. L/Q (MHz)	SRF Min. (GHz)	DCR Max(Ω)	Rated Current Max (mA)
HFM0603-12NH	12	± 3%	12	500	3.3	0.85	230

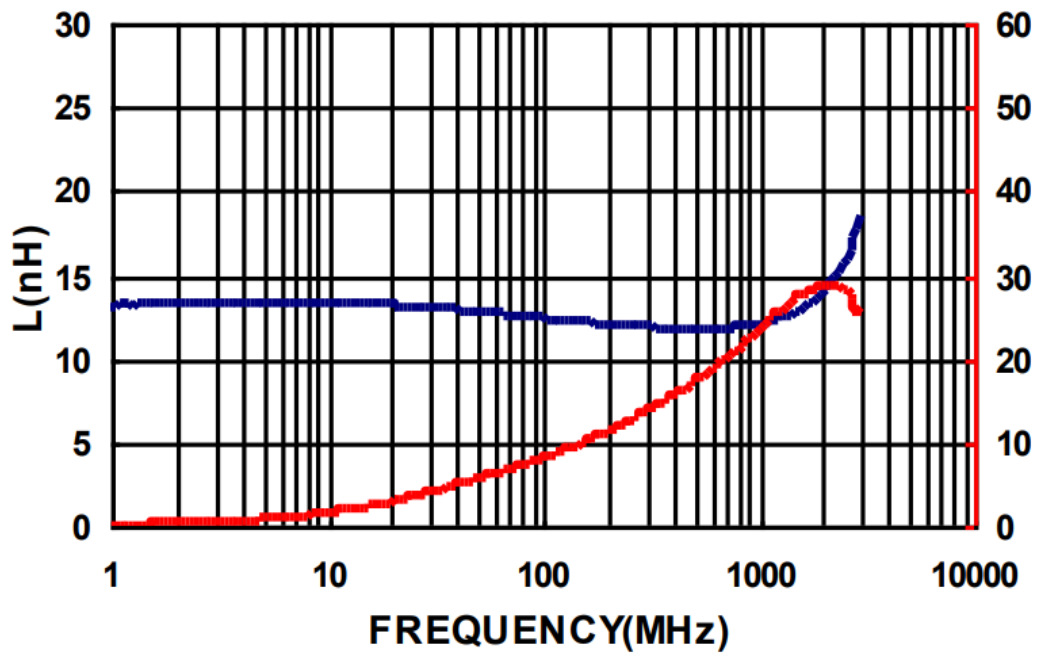
拟制/PREPARED BY: 吴子晗	审核/CHECKED BY: 薄双燕	批准/APPROVED BY: 陈余想
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Note\*

- 1) Rated Current: Max. DC current which causes 20K temperature rise from 20° C ambient;
- 2) Measuring Instrument: L/Q:CH-1062, DCR: HIOKI-3540, Rated Current:CH-1062

6. Typical Characteristic Chart

L/Q Vs. Frequency



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客户/CLIENT:

承制方/MANUFACTURER: 上海立凯电控科技有限公司

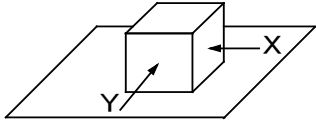
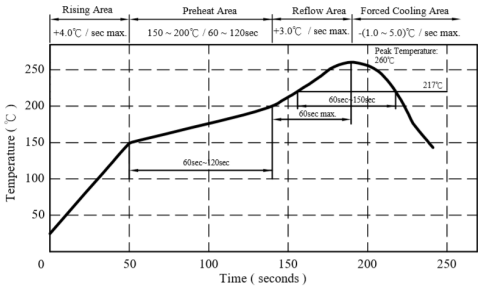
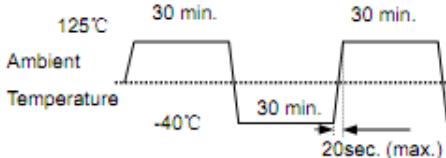
型号/MODEL:

HFM0603-12NH

版本/REV.: A0

页数: 4/4

## 6. Reliability Test

Items	Requirements	Test Methods and Remarks
6.1 Terminal Strength		<ol style="list-style-type: none"> <li>1) Solder the inductor to the testing jig using eutectic solder. Then apply a force in the direction of the arrow.</li> <li>2) No removal or split of the termination or other defects shall occur.</li> <li>3) 10N force.</li> <li>4) Keep time: 5±2s.</li> </ol>
6.2 High Temperature	<ol style="list-style-type: none"> <li>1) No visible mechanical damage.</li> <li>2) Inductance change: Within ±10%</li> </ol>	<ol style="list-style-type: none"> <li>1) Storage Temperature :125+/-5°C.</li> <li>2) Duration: 96 ±4 Hours.</li> <li>3) Recovery: then measured at room ambient temperature after placing 24 hours.</li> </ol>
6.3 Low Temperature	<ol style="list-style-type: none"> <li>1) No visible mechanical damage.</li> <li>2) Inductance change: Within ±10%</li> </ol>	<ol style="list-style-type: none"> <li>1) Storage Temperature :125+/-5°C</li> <li>2) Duration: 96 ±4 Hour.</li> <li>3) Recovery: then measured at room ambient temperature after placing 24 hours.</li> </ol>
6.4 Vibration test	<ol style="list-style-type: none"> <li>1) No visible mechanical damage.</li> <li>2) Inductance change: Within ±10%</li> </ol>	<ol style="list-style-type: none"> <li>1) Frequency range:10HZ~55HZ~10HZ.</li> <li>2) Amplitude:1.5mm p-p.</li> <li>3) Direction: X, Y, Z.</li> <li>4) Time:1 minute/cycle,2hours per axis</li> </ol>
6.5 High Temperature Storage Tested	<ol style="list-style-type: none"> <li>1) No visible mechanical damage.</li> <li>2) Inductance change: Within ±10%</li> </ol>	<ol style="list-style-type: none"> <li>1) Storage Temperature :60+/-2°C.</li> <li>2) Relative Humidity:90-95% RH.</li> <li>3) Duration: 96 ±4 Hours.</li> <li>4) Recovery: then measured at room ambient temperature after placing 24 hours.</li> </ol>
6.6 Resistance to Soldering Heat	<ol style="list-style-type: none"> <li>1) No visible mechanical damage.</li> <li>2) Inductance change: Within ±10%</li> </ol> 	<ol style="list-style-type: none"> <li>1) Re-flowing Profile: Please refer to the left graph.</li> <li>2) Test board thickness: 1.0mm.</li> <li>3) Test board material: glass epoxy resin.</li> <li>4) The chip shall be stabilized at normal condition for 1~2 hours before measuring.</li> </ol>
6.7 Thermal Shock	<ol style="list-style-type: none"> <li>1) No visible mechanical damage.</li> <li>2) Inductance change: Within ±10%</li> </ol> 	<ol style="list-style-type: none"> <li>1) Temperature and time: -40±3°C for 30±3 min→105°C for 30±3min, please refer to the left graph.</li> <li>2) Transforming interval: Max, 3 minutes</li> <li>3) Tested cycle: 100 cycles.</li> <li>4) The chip shall be stabilized at normal condition for 1~2 hours before measuring.</li> </ol>

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