

■立式固定电感器

Vertical Fixed Inductors

◆特征 Feature

*体积小，占用安装空间小，适合自动安装的编带包装

Small volume, small installation space, suitable for automatic installation of ribbon packaging

*分布电容小；自共振频率高特殊导针结构，不易产生开路现象

Small distributed capacitance; The special guide pin structure with high self resonance frequency is not easy to produce open circuit

*工业生产标准尺寸及多种脚型产品.

Standard size, various lead configuration



◆应用 Application

*一般用途品.

General purpose goods

◆型号表示法 Part Number

VL	U	0406	-	220	K	B	C00
①	②	③		④	⑤	⑥	⑦

①

②

产品类别 Product Type	
代号 Code	类别 Type
VL/VLU/VLP	立式固定电感器 Vertical fixed inductor

③

本体尺寸代码 Nominal Body Size Code		
类型 Type	外径 Dmax (mm)	体长 Lmax (mm)
0406	5.5	8.5
0507	6.5	9.0
0608	8.0	11.0
0810	10.0	12.5
0912	11.0	14.5
1010	12.0	12.5
1012	12.0	14.5
1215	14.5	16.5
1415	16.5	17.0

⑥

包装 Packaging	
T	盒带包装 Ammo
B	散包装 Bulk

封装形式 Envelopment configuration	
U	UL 套管 UL sleeve
P	磁屏蔽 Magnetic shielding
空格	无封装 NO Encapsulation

④

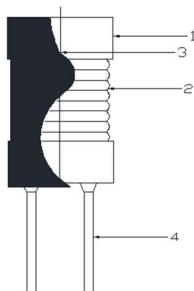
标称电感量 Nominal Inductance(μH)
前两位数字为有效数字，后一位数字表示零的个数 First two digits are signify cant and the thirddigit is number of zeros . 例如：For example: 101=100μH 5R6=5.6μH R22=0.22μH

⑤

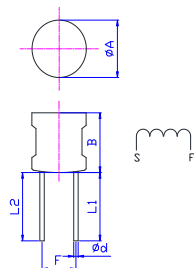
感量偏差 Tolerance	
J、K、M	±5%、±10%、±20%

⑦

标准代码 Standard code
空缺-标准品 Vacant-Standard product, 标示-定制产品 Indicate-custom produc

◆产品结构 Product Structure


No.	组件 Component
1	磁芯 Core
2	线材 Wire
3	套管 Tube
4	引脚 PINS

◆规格尺寸 Dimension


类型 Yype	尺寸 Dimensions(mm)				
	A(Max)	B(Max)	L	Φd	F
0406	5.5	8.5	15±2/20±2	0.5±0.1	2.0±0.5
0507	6.5	9.0	15±2/20±2	0.5±0.1	2.5±0.5
0608	8.0	11.0	15±2/20±2	0.6±0.1	3.0±0.5
0810	10.0	12.5	15±2/20±2	0.6/0.65±0.1	5.0±0.5
0912	11.0	14.5	15±2/20±2	0.65/0.8±0.1	5.0±0.5
1010	12.0	12.5	15±2/20±2	0.65±0.1	5.0±0.5
1012	12.0	14.5	15±2/20±2	0.8±0.1	5.0±0.5
1215	14.5	16.5	3.5±1.0	0.8±0.1	7.5±0.5
1415	16.5	17.0	13±3.0	0.8±0.1	7.5±0.5

*套管包裹与本体顶部齐平 The tube covers the top of the product

◆工作温度范围 Operating Temperature Range

*工作温度范围(包括自身发热):(-25~+105)°C。

*Operating Temperature Range(Including self-heating):(-25~+105)°C.

◆电性能参数 Electrical Characteristics

型号 Part Number	电感量 L (μH)	公差 Tolerance	测试频率 Test Freq	直流电阻 DCR (Ω) Max	Lsat (A)
0406	1.0-1000	J/K/M	1KHZ 1.0V	0.025-9.0	0.15-2.0
0507	1.0-2000	J/K/M	1KHZ 1.0V	0.03-10.0	0.18-2.0
0608	1.0-10000	J/K/M	1KHZ 1.0V	0.015-40.0	0.04-2.0
0810	1.0-10000	J/K/M	1KHZ 1.0V	0.013-19.0	0.1-8.5
0912	3.3-15000	J/K/M	1KHZ 1.0V	0.015-17.5	0.1-5.2
1010	3.3-6800	J/K/M	1KHZ 1.0V	0.0165-9.8	0.2-6.1
1012	3.3-2200	J/K/M	1KHZ 1.0V	0.02-3.5	0.35-5.5
1215	10-2200	J/K/M	1KHZ 1.0V	0.025-2.5	0.7-9.8
1415	22-330	J/K/M	1KHZ 1.0V	0.13-5.2	1.0-8.0

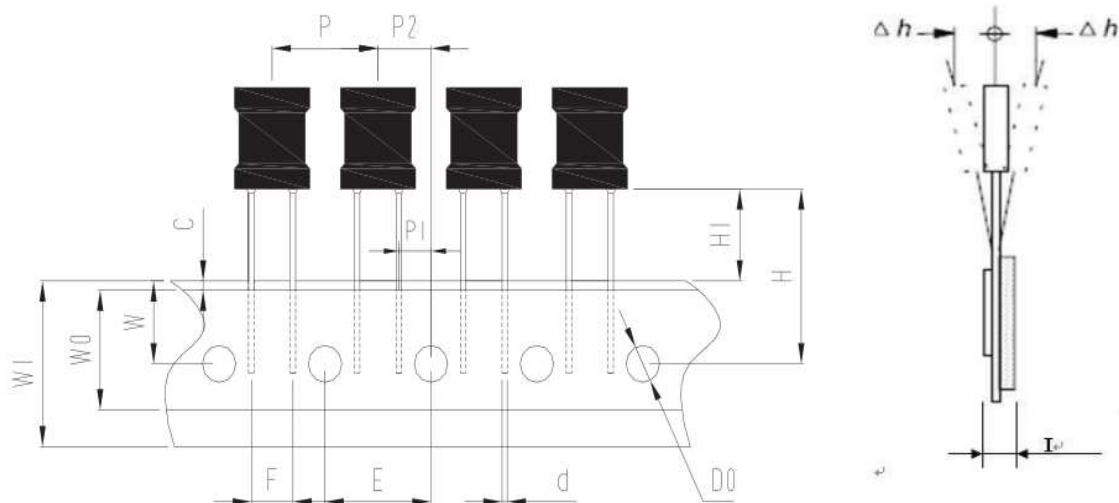
◆可靠性测试方法 Reliability Test Method

试验项目 Test items	试验方法 test method	判定标准 Criteria
可焊性 Weldability	焊锡温度: 245°C±3°C Solder temperature: 245 °C ± 3°C 浸渍时间: 3s±0.3s Immersion time: 3s ± 0.3s	上锡率≥95% Tinning rate ≥ 95%
恒定湿热 Steady damp-heat	试验温度: 40°C±2°C; 试验湿度: (90%~95%) RH 试验时间: 500 h±2 h 恢复时间: 24 h±2 h Test temperature: 40 °C ± 2 °C; Test humidity: (90%~95%) RH Test time: 500 h ± 2 h Recovery time: 24 h ± 2 h	外观无明显损伤, There is no obvious damage to the appearance, -10%≤ΔL/L≤10%
引出端强度 Terminal tensile strength	拉力计 tensimeter	①磁芯外径>5mm: ≥3.0Kg ②磁芯外径≤5mm: ≥2.0Kg ① Outer diameter of magnetic core > 5mm: ≥ 3.0Kg ② Outer diameter of magnetic core ≤ 5mm: ≥ 2.0Kg

跌落 drop	1m 高度自由落下水泥地, 3 次 Free fall on the cement floor at a height of 1m, twice	外观无明显损伤, 产品电气性能符合要求 There is no obvious damage to the appearance, and the electrical performance of the product meets the requirements
耐焊接热 Resistance to welding heat	焊锡温度: $260^{\circ}\text{C} \pm 5^{\circ}\text{C}$ Solder temperature: $260^{\circ}\text{C} \pm 5^{\circ}\text{C}$ 浸渍时间: $10\text{s} \pm 1\text{s}$ 。 Immersion time: $10\text{s} \pm 1\text{s}$ 。	外观无明显损伤, There is no obvious damage to the appearance, $10\% \leq \Delta L/L \leq 10\%$
温度冲击 Temperature shock	阶段 1: $+125^{\circ}\text{C}/30\text{min}$ Phase 1: $+125^{\circ}\text{C}/30\text{min}$ 阶段 2: $-25^{\circ}\text{C}/30\text{min}$ Stage 2: $-25^{\circ}\text{C}/30\text{min}$ 转换时间 $< 5\text{min}$, 循环次数: 32 次 Conversion time $< 5\text{min}$, number of cycles: 32 恢复时间: 2 h Recovery time: 2 h	外观无明显损伤, There is no obvious damage to the appearance, $10\% \leq \Delta L/L \leq 10\%$
工作寿命 working life	温试验度: $85^{\circ}\text{C} \pm 2^{\circ}\text{C}$, 施加额定电流 Temperature test degree: $85^{\circ}\text{C} \pm 2^{\circ}\text{C}$, apply rated current 试验时间: 1000 h Test time: 1000 h 恢复时间: $24\text{ h} \pm 2\text{ h}$ Recovery time: $24\text{ h} \pm 2\text{ h}$	
耐高温 High temperature resistance	温试验度: $+125^{\circ}\text{C} \pm 2^{\circ}\text{C}$ Temperature test degree: $+125^{\circ}\text{C} \pm 2^{\circ}\text{C}$ 试验时间: 96h Test time: 96 h 恢复时间: $24\text{ h} \pm 2\text{ h}$ Recovery time: 2 h	
耐低温 Low temperature resistance	温试验度: $-40^{\circ}\text{C} \pm 2^{\circ}\text{C}$ Temperature test degree: $-25^{\circ}\text{C} \pm 2^{\circ}\text{C}$ 试验时间: 96 h Test time: 96 h 恢复时间: 2 h Recovery time: 2 h	
振动 Vibration	振动频率: $10\text{Hz} \sim 55\text{Hz} \sim 10\text{Hz}$ (1min) 全振幅: 1.5mm 水平、垂直方向各 2h Vibration frequency: $10\text{Hz} \sim 55\text{Hz} \sim 10\text{Hz}$ (1min) Full amplitude: 1.5mm 2h in horizontal and vertical directions respectively	

◆包装 Packaging

*包装方式&数量 Packaging Style&Quantitye



代号 CodeI	P	E	P1	P2	d	Δh	W	W0	W1	C	H	H1	D0	I	F
尺寸 Dim.	12.7	12.7	3.85	6.35	0.6	0	9	13	18	2.0	20	10	4.0	1.5	5.0
误差 Tol.	1.0	0.3	0.7	0.4	0.1	1.0	1.0	1.0	1.0	Max	2.0	2.0	0.2	Max	0.5

*d 和 F 尺寸根据规格变化而变化

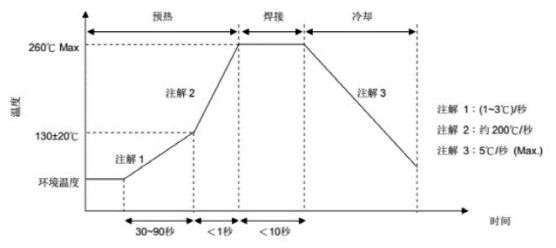
*包装数量单位 Packaging Quantity (单位: Unit: pcs)

型号规格	包装方式 Packaging style	
	散包装 Bulk	盒带包装 Ammo
0406	500PCS	2300
0507	500PCS	2000
0608	500PCS	1500
0810	200PCS	700
0912	200PCS	700
1010	200PCS	500
1012	200PCS	500
1215	672PCS	---
1415	100PCS	---

◆推荐焊接条件 Recommended Soldering Conditions

*本产品建议使用波峰焊接法。Applicable soldering process to the products is reflow soldering.

* 焊接曲线 Soldering Profile



* 烙铁焊接 Soldering Iron

使用烙铁进行返修时要求在 150℃下预热至少 1 分钟，不能直接用焊头接触磁体，返修焊接条件如下：

Reworking with Soldering Iron must preheating at 150℃ for 1 minute is required, and do not directly touch the core with the tip of the soldering iron. The reworking soldering conditions are as follows:

烙铁头温度：Temperature of soldering iron tip: 350℃;

烙铁输出功率：Soldering iron power output: 30W max.

烙铁头直径：≤1.0mm Diameter of soldering iron end: 1.0mm max.

焊接时间：Soldering time: within 3 sec.



◆贮存方法 Storage Methods

*存储期限 Storage Period

为保证端子电极的焊接特性和包装材料处于良好状态，请于本公司发货后 6 个月内使用本产品。同时，由于端子电极的焊接特性会随时间发生变化，如果贮存时间超过 6 个月，请首先确认其焊接特性后再安装使用。

To maintain the solderability of terminal electrodes and to keep the packing material in good condition, product should be used within 6 months from the time of delivery. And the solderability of products electrodes may decrease as time passes, so in case of storage over 6 months, solderability shall be checked before actual usage.

* 存储条件 Storage conditions

存放货物的仓库应满足以下条件:The warehouse must meet with the following condition:

温度(Temperature): Inductors (product with taping):(+5~+35)℃;

相对湿度(Humidity):(30~70)%RH.

* 禁止将产品保管在腐蚀性物质中，如硫磺、氯气或酸，否则将引起端头氧化，导致降低焊接性。Don't keep products in corrosive gases such as sulfur, chlorine gas or acid, or it may cause oxidation of Electrodes resulting in poor solder ability.

* 为了避免受潮气、灰尘等物质的影响，产品应保管于货架上。

Products should be stored on the palette for the prevention of the influence from humidity, dust and so on.

* 产品保管在库房中，应避免热冲击、振动以及直接光照等等。

Products should be stored in the warehouse without heat shock, vibration, direct sunlight and so on.

*产品应密封包装。

Products should be stored under the airtight packaged condition.

◆使用注意事项 Precautions For Use

*本公司产品适用于 AV 设备、OA 设备、家电、信息服务等一般电子设备中。

Our products are designed and promoted for use in general electronic devices such as audio-video equipment, office automation equipment, home appliance and information service.

*当本公司的产品使用在一般电子设备以外的领域时，对于此所引发的设备失效我司将不承担任何法律责任。

In case of using the product for the purpose other than general electronics devices, we shall not be held liable for any dysfunctions in or damage to the equipment with which the product is used.

* 本承诺书只保证我司产品作为一个单体时的质量情况，当我司产品被安装到贵司产品上时，请贵司对使用在贵司电路上的产品情况进行了有效评价和确认。

Our specification limits the quality of the component as a single unit. Please ensure the component is thoroughly evaluated in your application circue.

*不要对产品施加过大的振动或机械冲击；

Do not apply excessive vibration or mechanical shock to products.

*为防止断线，请不要使用锋利的物体接触线圈，如镊子

Do not touch wire with sharp objects such as tweezers to prevent wire breakage.

在产品贴装时不要使用过大的压力，避免磁芯断裂。

Do not apply excessive stress to products mounted on boards to prevent core breakage

[illegible]

Note: The above content is the specification of products, Fenghua reserves the right to modify this content without prior notice, and any product changes will be notified to customers via PCN.