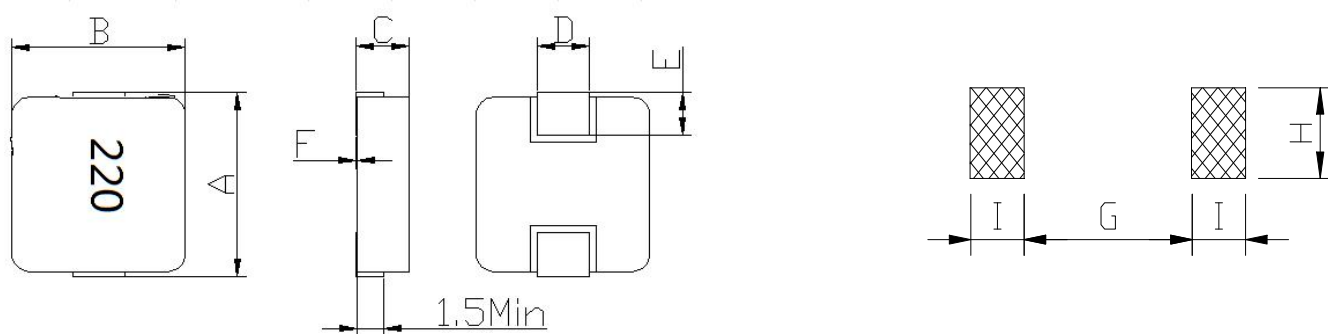


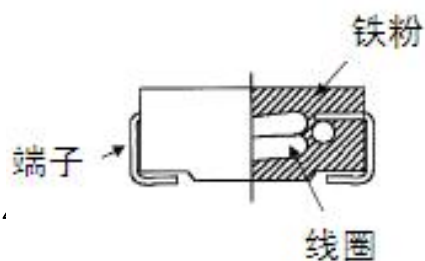
## 1. 结构及尺寸 Structure And Dimensions

单位 Unit: mm

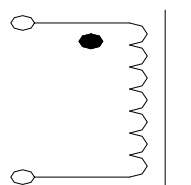


RECOMMENDED  
LAND PATTERNS

| 型号<br>Part No. | A       | B       | C      | D       | E       | F<br>TYP | G<br>TYP | H<br>TYP | I<br>TYP |
|----------------|---------|---------|--------|---------|---------|----------|----------|----------|----------|
| L0530          | 5.7±0.3 | 5.2±0.3 | 3.0MAX | 2.0±0.5 | 1.0±0.5 | 0.15     | 2.0      | 2.5      | 1.6      |



产品结构示意图



电路示意图

| NO. | Component Name | Material       |
|-----|----------------|----------------|
| 1   | 粉料 CORE        | 铁粉 iron powder |
| 2   | 线圈 Coil        | 漆包线 Wire       |
| 3   | 电极 Electrode   | 电极 Electrode   |
| 4   | 标记 Marking     | 油墨 Ink         |

## 2. 电气性能 Performance Specification

| 型号<br>Part No. | 电感量<br>Inductance<br>Lo ( $\mu$ H) $\pm 20\%$ | Rdc<br>(m $\Omega$ )<br>Max | SATURATION<br>CURRENT<br>(Isat) | HEAT RATING<br>CURRENT<br>(IDC) |
|----------------|-----------------------------------------------|-----------------------------|---------------------------------|---------------------------------|
| L0530/22UH     | 22                                            | 290                         | 1.8                             | 1.3                             |

测试仪器 Test equipment: Inductance\RDC---同惠 TH2827C/502BC or equivalent, Isat\Irms---同惠 TH2827C Precision LCR Meter & TH1778 BIAS.

测试频率/电压 Ls Test frequency/Voltage: 100kHz/0.5V;

饱和电流: 指使电感量比初始值下降 35% 的电流值。

Isat: The DC current is that which cause a 35% inductance reduction from the initial value.

温升电流: 指使电感器表面温度上升 65℃ 的电流值 (参考周围环境温度 25℃)。

IDC: The DC current is inductor surface temperature to rise by 65℃ (Reference ambient temperature 25℃).

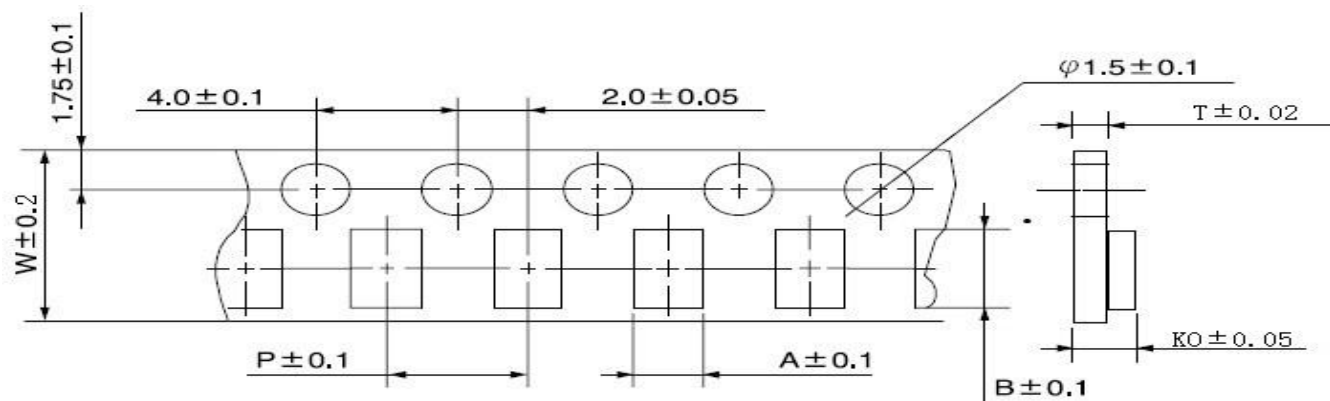
## 3. 可靠性 Reliability Data

| 项目<br>Items                              | 要求<br>Requirements                                                                                            | 试验方法及备注<br>Test Methods and Remarks                                                                                                                                                                |
|------------------------------------------|---------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 工作温度范围<br>Operating<br>Temperature Range | -40℃ ~ +125℃                                                                                                  | 包括自身发热的上升温度<br>Including self-heating temperature rise.                                                                                                                                            |
| 可焊性<br>Solderability                     | 电极面 90% 以上覆盖新的焊料。<br>90% or more of electrode area shall be coated by new solder.                             | 在 245℃ $\pm 5^\circ\text{C}$ 熔融的焊锡 (96.5Sn/3.0Ag/0.5Cu) 中浸 5 s $\pm 1$ s。<br>Dip pads in flux and dip in solder pot (96.5Sn/3.0Ag/0.5Cu) at 245℃ $\pm 5^\circ\text{C}$ for (5 $\pm 1$ ) seconds.   |
| 耐焊接热<br>Resistance to<br>Soldering Heat  | 外观无可见机械损伤;<br>电感量变化率: $\pm 10\%$ 以内。<br>No visible mechanical damage.<br>Inductance change: Within $\pm 10\%$ | 在 260℃ $\pm 5^\circ\text{C}$ 熔融的焊锡 (96.5Sn/3.0Ag/0.5Cu) 中浸 10 s $\pm 1$ s。<br>Dip pads in flux and dip in solder pot (96.5Sn/3.0Ag/0.5Cu) at 260℃ $\pm 5^\circ\text{C}$ for (10 $\pm 1$ ) seconds. |
| 低温<br>Low temperature<br>stroe           | 外观无可见机械损伤;<br>电感量变化率: $\pm 10\%$ 以内。<br>No visible mechanical damage.<br>Inductance change: Within $\pm 10\%$ | 温度 -40℃ $\pm 2^\circ\text{C}$ , 时间 1000 h<br>Stroe temperature -40℃ $\pm 2^\circ\text{C}$ for total 1000hr.                                                                                        |

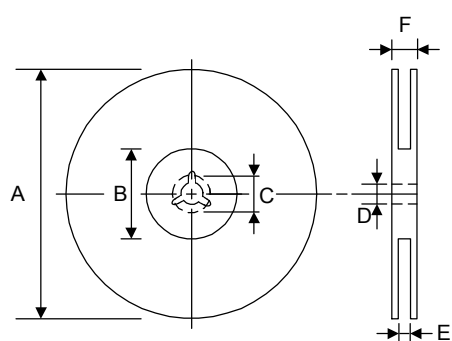
|                                           |                                                                                                                                                                                |                                                                                                                                                                                                                                                                                             |
|-------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 高温<br>High temperature<br>stroe           | 外观无可见机械损伤；电感量变化率：±10%以内。<br>No visible mechanical damage. Inductance change: Within ±10%                                                                                       | 温度 125 °C ±2°C，时间 1000 h<br>Stroe temperature<br>125±2°C for total 1000hr.                                                                                                                                                                                                                  |
| 恒定湿热<br>Static Humidity                   | 外观无可见机械损伤；电感量变化率：±10%以内。<br>No visible mechanical damage. Inductance change: Within ±10%                                                                                       | 将电感器放置在于湿度 (93±3)%RH, 温度 40 °C ±2 °C 的环境中存放 96 h ±2 h，在室温下放置 2 小时后、48 小时内测试。<br>Inductors shall be subjected to (93±3)%RH . at 40 °C ±2 °C for 96 h ±2 h . Inductors are to be tested after having air dried for 2 hours.                                                                   |
| 温度变化<br>Thermal shock                     | 外观无可见机械损伤；电感量变化率：±10%以内。<br>No visible mechanical damage. Inductance change: Within ±10%                                                                                       | (-40±3) °C, 时间 (30±3) min ↔ (85°C ±2) °C / (30±3) min, 转换时间 (2~3) min, 循环5次；<br>在室温下放置 2 小时后、48 小时内测试。<br>The test sample shall be placed at (-40±3)°C and (85±2)°C for (30±3) min, different temperature conversion time is 2~3 minutes. The temperature cycle shall be repeated 5 cycles. |
| 机械冲击<br>Mechanical Shock                  | <br>0.5m 自然下落<br>基板<br>电感无出现电极脱落、断线现象。<br>No evidence of terminal peel off and wire broken. | 把电感焊在厚度为 1.0mm 的基板上, 并固定在黄铜制 15cm 大, 重 1.4Kg 的立方体内, 然后从 0.5m 高度往地板自然下落 (X, Y, Z 方向各一回)<br>Inductors shall be Soldering on the PCB with 1.0mm thick and fixed them in a 15cm big., 1.4Kg weight cube with brass base, let it nature fallen form 0.5m height (X, Y, Z three axes)             |
| 端子强度<br>Adhesion of<br>terminal electrode | 元件的端子与本体结合无松动、无脱落。<br>Strong bond between the pad and the core, without come off PC board.                                                                                     | 将电感器用 260 °C ±5 °C，20 s ±5 s 焊在带有 0.3 mm 厚锡膏的基板上，然后用治具垂直电极面方向加压<br>10 N, 10 s ±1 s。<br>Inductors shall be subjected to 260 °C ±5 °C for 20 s ±5 s Soldering in the base whit 0.3mm solder. And then aplomb electrode way plus tax 10 N for 10± 1s seconds.                                  |

## 4. 包装 Package

### 4.1 载带尺寸 Tape Dimension(单位: 毫米 Unit:mm)



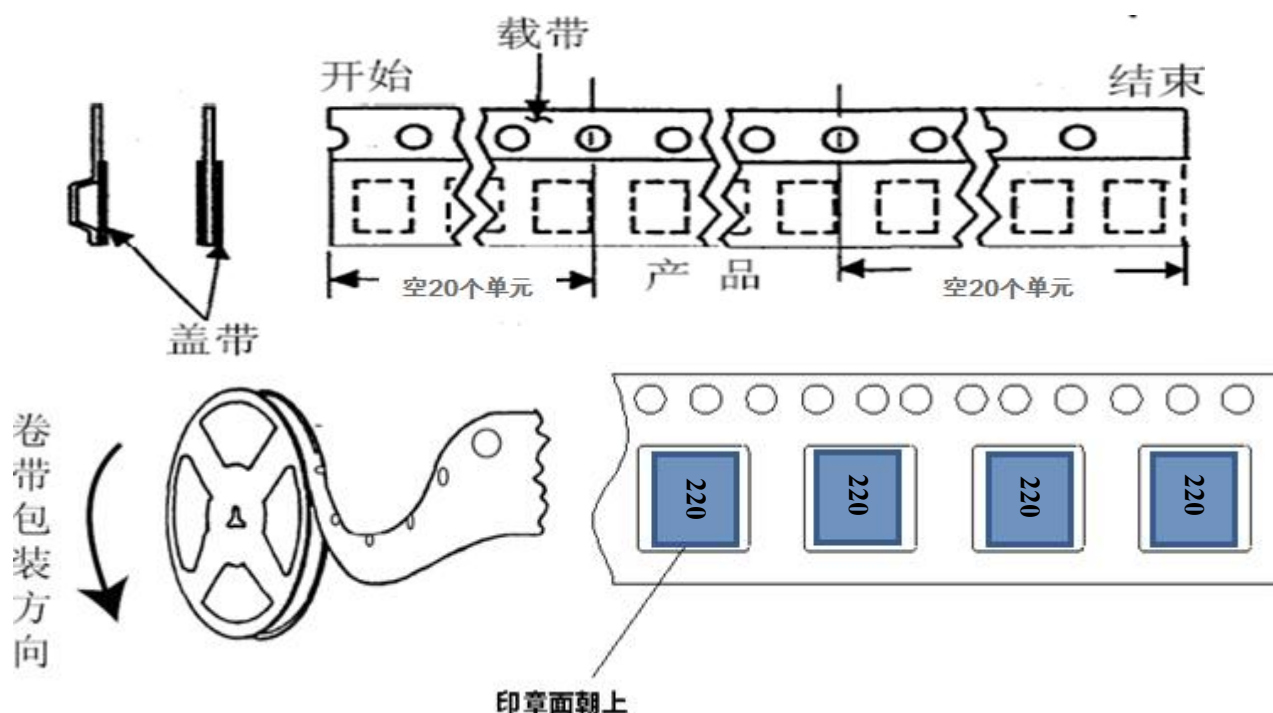
| A   | B | K0  | W  | P | T    |
|-----|---|-----|----|---|------|
| 6.5 | 6 | 3.1 | 16 | 8 | 0.35 |



| TYPE | A   | B   | C            | D            | E            | F            |
|------|-----|-----|--------------|--------------|--------------|--------------|
| 16mm | 330 | 100 | 21.0<br>±0.8 | 13.0<br>±1.0 | 16.0<br>±0.5 | 20.0<br>±2.0 |

### 4.2 包装数量 Packing quantity

| Series | 卷盘 REEL<br>(PCS) |
|--------|------------------|
| L0530  | 2000             |



## 5. 推荐使用的焊接曲线 Recommended soldering profile

本产品建议使用回流焊接法。

Applicable soldering process to the products is reflow soldering.

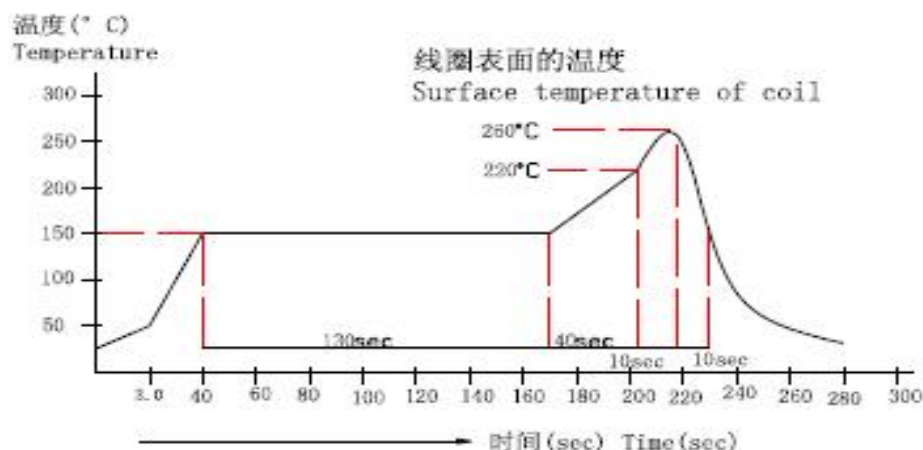
### 5.1 焊接材料 Soldering Materials

①焊料: Sn-3.0Ag-0.5Cu

Solder: Sn-3.0Ag-0.5Cu

②助焊剂: 使用松香基助焊剂, 禁止使用卤化物含量超过 0.2wt%的强酸性助焊剂和水溶性助焊剂。  
Flux: Use rosin-based flux, but not strongly acidic flux (with chlorine exceeding 0.2 wt%).  
Do not use water-soluble flux.

### 5.2 焊接曲线 Soldering Profile



## 6. 验收规则 Inspection Rules

1 产品的验收按 GB/T2828.1-2003 规定进行, 其检查水平: 外观、尺寸, II, AQL=0.4; LOA, L30DC, S-4, AQL=0.15。

The inspection must be performed per GB/T2828.1-2003, with its examination level: Appearance and dimensions, II, AQL=0.4; LOA and L30DC, S-4, AQL: 0.15;

2 客户在收到磁芯产品后一个月内须验收完毕, 并将验收结果书面通知供货方, 否则视为已验收合格。Inspection will be completed and inspection result will be feedback to WTRL in written within one month after cores are received from WTRL or it will be considered approved by customer.

## 7. 贮存方法 Storage Methods

### 7.1 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.

### 7.2 存储条件 Storage Conditions

①存放货物的仓库应满足以下条件:

温度:  $-10 \sim +40^{\circ}\text{C}$       相对湿度: 30~70%RH

Store products in a warehouse in compliance with the following condition:

Temperature:  $-10$  to  $+40^{\circ}\text{C}$       Humidity: 30~70%RH

②不要使产品遭受温度和湿度的快速变化。

Do not subject products to rapid changes in temperature and humidity.

③不要将产品存放在化学环境中, 如硫酸气体或碱性气体中, 否则会降低电极端子的焊接特性和使电感器腐蚀。

Do not store the products in chemical atmosphere such as one containing sulfurous acid gas or alkaline gas, that will causes poor solderability and corrosion of inductors.

④不要以散包装的形式存放产品以防止电感器间的相互碰撞造成磁芯破裂或断线。

Do not store products in bulk packaging to prevent collision among inductors which causes core chipping and wire breakage.

⑤为了避免受潮气、灰尘等物质的影响, 产品应保管于货架上。

Store products on pallets to protect from humidity, dust, etc.

⑥产品应避免热冲击、振动以及直接光照等等。

Avoid heat shock, vibration, direct sunlight, etc.