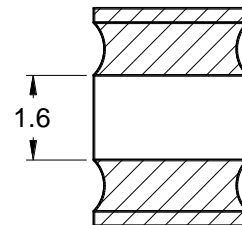
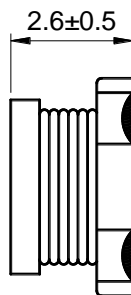
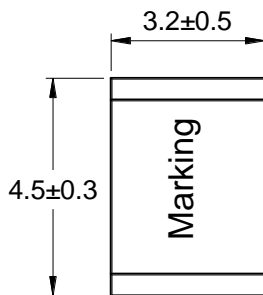




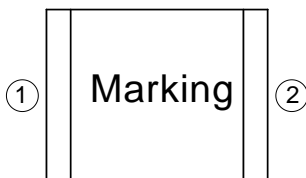
### Outline: 产品概要

- Small size, high rated current, low DCR.  
小尺寸, 耐大电流, 低直流电阻。
- Lead free product, RoHS compliant.  
无铅产品, 符合 RoHS 指令。
- Carrier tape packing, suitable for SMT process.  
载带包装, 适用于回流焊 SMT 工艺。
- Widely used in buck converter, displayer, laptop, network communication equipment, and etc.  
广泛应用于升降压转换器, 显示器, 笔记本电脑, 网络通信设备等。
- Operating temperature :  $-40^{\circ}\text{C} \sim +125^{\circ}\text{C}$   
(Including coil's temperature rise)  
工作温度:  $-40^{\circ}\text{C} \sim +125^{\circ}\text{C}$  (包含线圈发热)

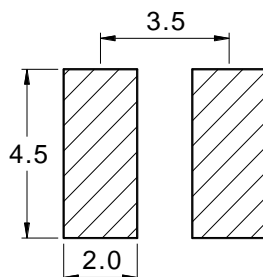
### 1 Appearance and dimensions (mm) 外形尺寸



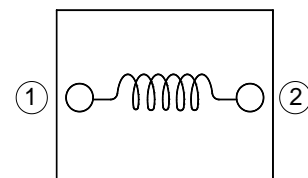
### 2 Marking 印字标识



### 3 Reference land pattern (mm) 参考基板尺寸



### 4 Schematic 原理图



## 5 Electrical characteristics

### 电气特性

| Part No.<br>型号 | Inductance (μH)<br>电感值 ※1 | D.C.R. (mΩ)<br>直流电阻 |       | Saturation<br>current (A)<br>饱和电流 ※2 |      | Temperature rise<br>current (A)<br>温升电流 ※3 |
|----------------|---------------------------|---------------------|-------|--------------------------------------|------|--|
|                |                           | Typical             | Max   | Typical                              | Max  | Typical                                    |
| SPE453226-1R0M | 1.00 ± 20%                | 30.6                | 36.7  | 5.00                                 | 4.00 | 2.84                                       |
| SPE453226-2R5M | 2.50 ± 20%                | 50.0                | 60.0  | 3.30                                 | 2.64 | 2.22                                       |
| SPE453226-3R3M | 3.30 ± 20%                | 61.0                | 73.2  | 3.00                                 | 2.40 | 2.01                                       |
| SPE453226-4R7M | 4.70 ± 20%                | 86.0                | 103   | 2.60                                 | 2.08 | 1.70                                       |
| SPE453226-6R8M | 6.80 ± 20%                | 115                 | 138   | 2.15                                 | 1.72 | 1.47                                       |
| SPE453226-8R2M | 8.20 ± 20%                | 158                 | 190   | 1.85                                 | 1.48 | 1.25                                       |
| SPE453226-100K | 10.0 ± 10%                | 174                 | 209   | 1.75                                 | 1.40 | 1.19                                       |
| SPE453226-120K | 12.0 ± 10%                | 193                 | 232   | 1.60                                 | 1.28 | 1.13                                       |
| SPE453226-150K | 15.0 ± 10%                | 220                 | 264   | 1.45                                 | 1.16 | 1.06                                       |
| SPE453226-180K | 18.0 ± 10%                | 272                 | 326   | 1.35                                 | 1.08 | 0.95                                       |
| SPE453226-220K | 22.0 ± 10%                | 300                 | 360   | 1.20                                 | 0.96 | 0.91                                       |
| SPE453226-270K | 27.0 ± 10%                | 450                 | 540   | 1.08                                 | 0.86 | 0.74                                       |
| SPE453226-330K | 33.0 ± 10%                | 508                 | 610   | 0.95                                 | 0.76 | 0.70                                       |
| SPE453226-390K | 39.0 ± 10%                | 545                 | 654   | 0.90                                 | 0.72 | 0.67                                       |
| SPE453226-470K | 47.0 ± 10%                | 700                 | 840   | 0.82                                 | 0.66 | 0.59                                       |
| SPE453226-560K | 56.0 ± 10%                | 790                 | 948   | 0.74                                 | 0.59 | 0.56                                       |
| SPE453226-680K | 68.0 ± 10%                | 1,050               | 1,260 | 0.68                                 | 0.54 | 0.49                                       |
| SPE453226-820K | 82.0 ± 10%                | 1,150               | 1,380 | 0.62                                 | 0.50 | 0.46                                       |
| SPE453226-101K | 100 ± 10%                 | 1,500               | 1,800 | 0.56                                 | 0.45 | 0.41                                       |
| SPE453226-121K | 120 ± 10%                 | 1,700               | 2,040 | 0.51                                 | 0.41 | 0.38                                       |
| SPE453226-151K | 150 ± 10%                 | 1,930               | 2,316 | 0.45                                 | 0.36 | 0.36                                       |
| SPE453226-181K | 180 ± 10%                 | 2,750               | 3,300 | 0.42                                 | 0.34 | 0.30                                       |
| SPE453226-221K | 220 ± 10%                 | 3,000               | 3,600 | 0.37                                 | 0.30 | 0.29                                       |
| SPE453226-271K | 270 ± 10%                 | 3,450               | 4,140 | 0.33                                 | 0.26 | 0.27                                       |
| SPE453226-331K | 330 ± 10%                 | 4,700               | 5,640 | 0.31                                 | 0.25 | 0.23                                       |
| SPE453226-391K | 390 ± 10%                 | 5,300               | 6,360 | 0.28                                 | 0.22 | 0.22                                       |
| SPE453226-471K | 470 ± 10%                 | 7,300               | 8,760 | 0.26                                 | 0.21 | 0.18                                       |

■ All data is tested based on 25°C ambient temperature.

所有数据基于环境温度 25°C 条件下测试。

※1 Inductance measure condition at 1kHz, 0.25V.

电感测试条件为 1kHz, 0.25V。

※2 Saturation current: the actual value of DC current when the inductance decrease 20% of its initial value.

饱和电流: 电感值下降其初始值的 20% 时所加载的实际直流电流值。

※3 Temperature rise current: the actual value of DC current when the temperature rise is ΔT40°C (Ta=25°C).

温升电流: 使产品温度上升到 ΔT40°C 时所加载的实际直流电流值 (Ta=25°C)。

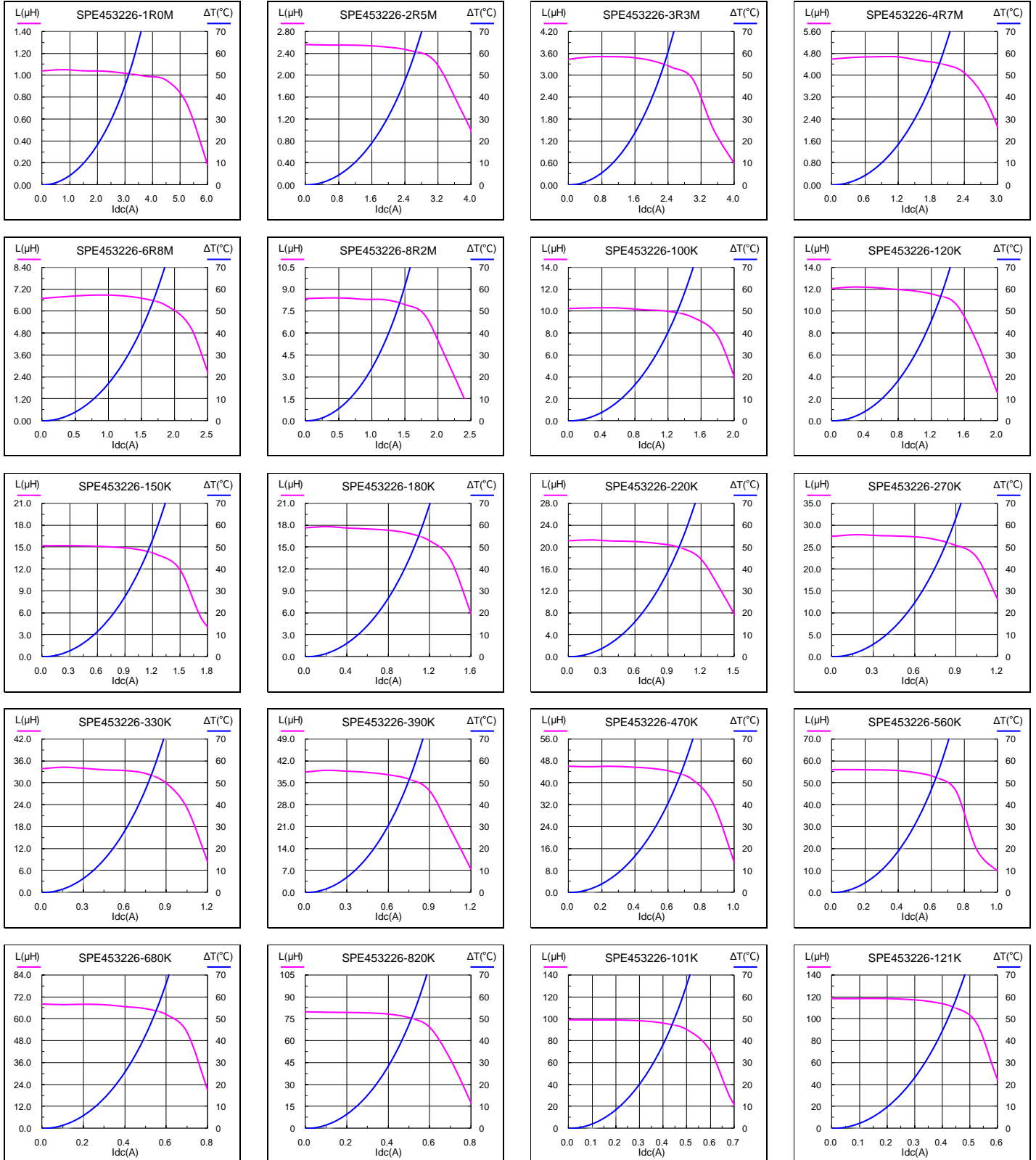
※ Special remind: Circuit design, component placement, PWB size and thickness, cooling system and etc.

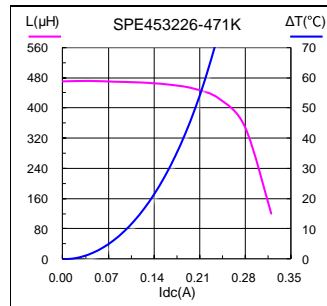
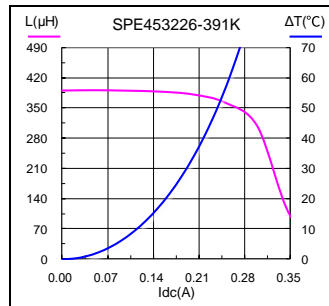
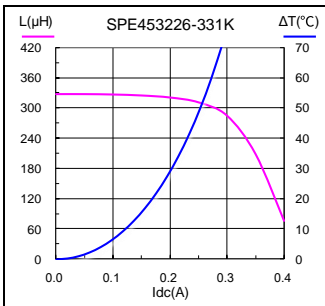
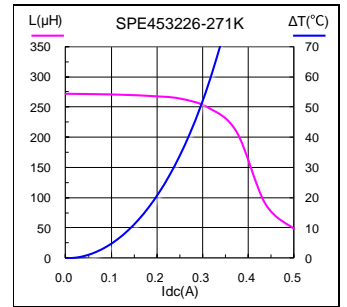
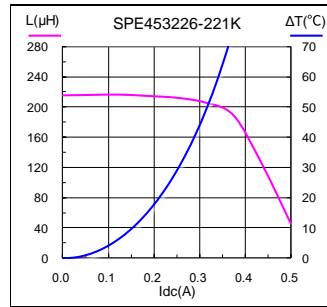
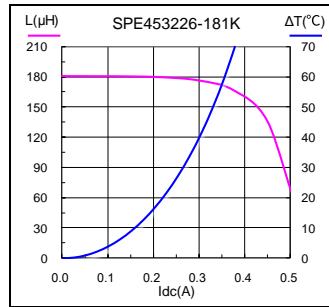
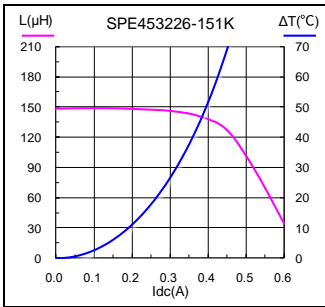
all will affect the product temperature. Please verify the product temperature in the final application.

特别提醒: 线路设计, 组件布局, 印刷电路板(PWB)尺寸及厚度, 散热系统等均会影响产品温度。

请务必在最终应用时, 验证产品发热状况。

## 6 Saturation current VS temperature rise current curve 饱和电流 VS 温升电流曲线



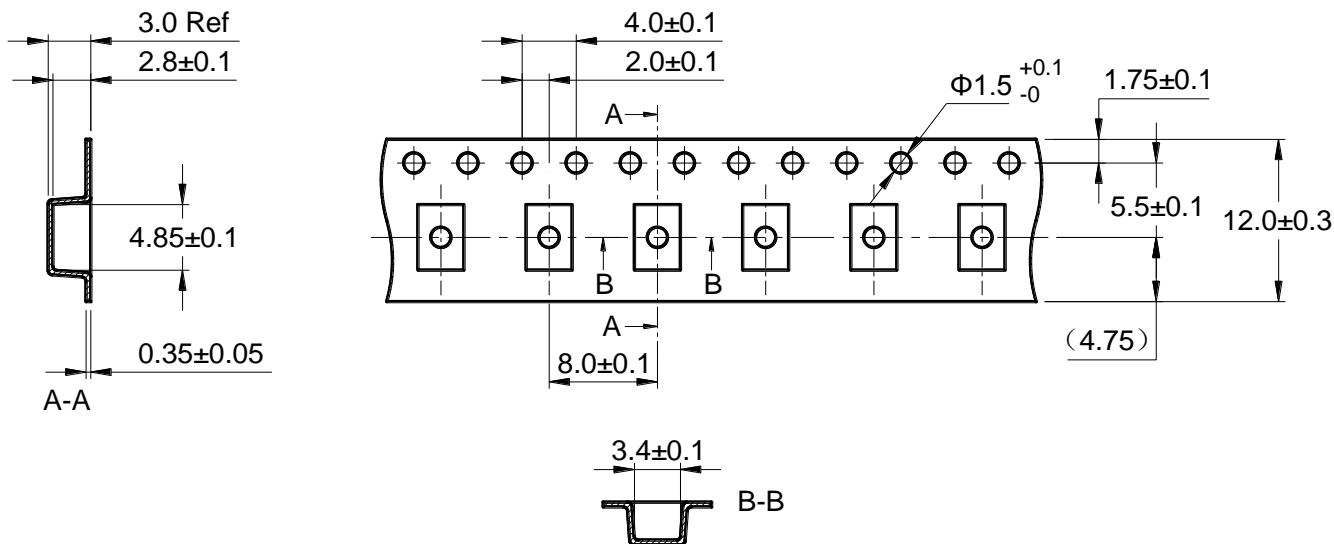


## 7 Packing specification

### 包装规格

#### 7.1 Carrier tape dimensions (mm)

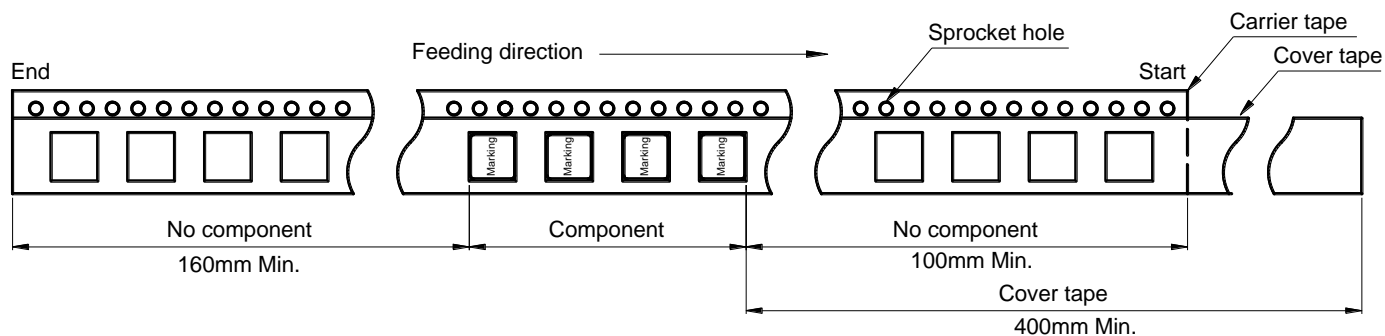
##### 载带尺寸



※ Packing is referred to the international standard IEC 60286-3.  
包装参照国际标准 IEC 60286-3。

#### 7.2 Tape direction

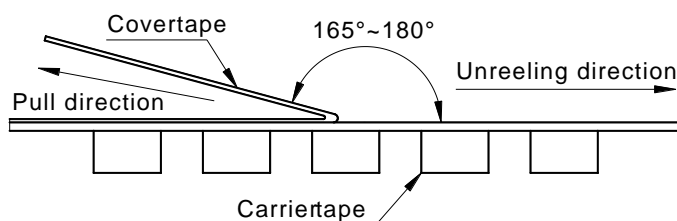
##### 捆包方向



#### 7.3 Cover tape peel off condition

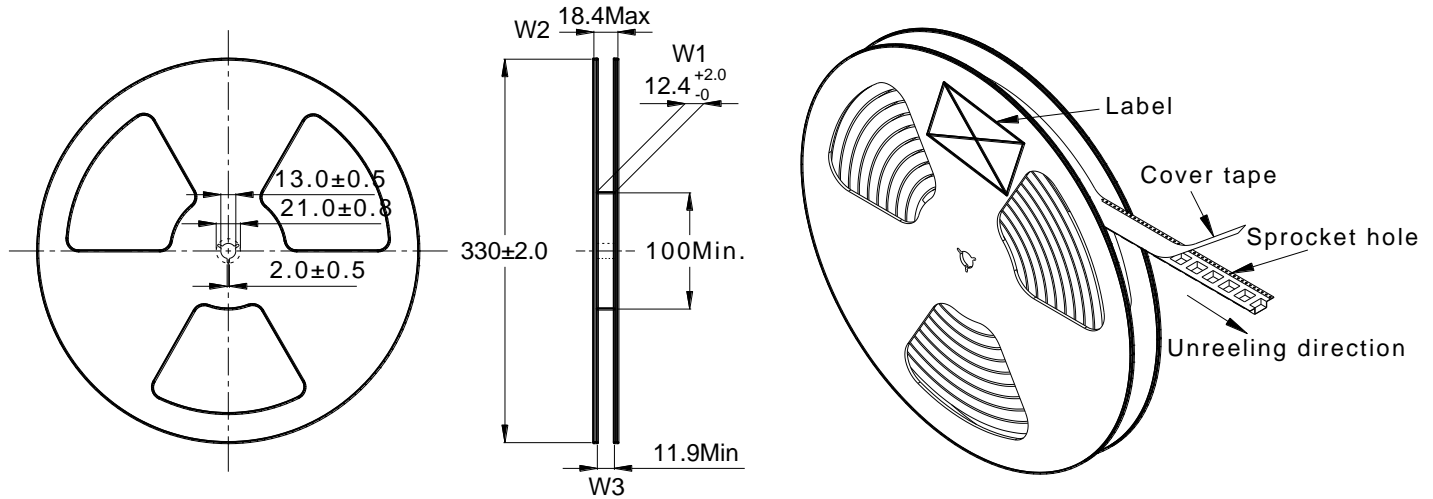
##### 盖带剥离条件

- Cover tape peel force shall be 0.1 to 1.3N.  
盖带剥离力度为 0.1~1.3N。
- Reference peel speed 300±10mm/min.  
参考剥离速度 300±10mm/分钟。



## 7.4 Reel dimensions (mm)

卷盘尺寸



## 7.5 Carton dimensions and packing quantity

包装箱尺寸和包装数量

■ Inner Carton: 365×345×105mm  
内包装盒

■ Out Carton : 385×365×245mm  
外包装箱

| Product Series<br>产品系列 | Quantity / Reel<br>数量 / 卷 | Inner Carton Quantity<br>内盒 包装数量 | Out Carton Quantity<br>外箱 包装总数量 |
|------------------------|---------------------------|----------------------------------|---------------------------------|
| SPE453226              | 2000pcs                   | (2000×5) = 10000pcs              | (10000×2) = 20000pcs            |

## 7.6 Label making

标签标识

The following items will be marked on the reel of product label and shipping label.  
以下项目将明确标识于产品卷盘标签以及运输标签上。

| Production Label<br>产品标签           |
|------------------------------------|
| ■ Part No.<br>产品型号                 |
| ■ Electrical Information<br>产品电性信息 |
| ■ Quantity<br>数量                   |
| ■ Packing No.<br>包装流水号             |

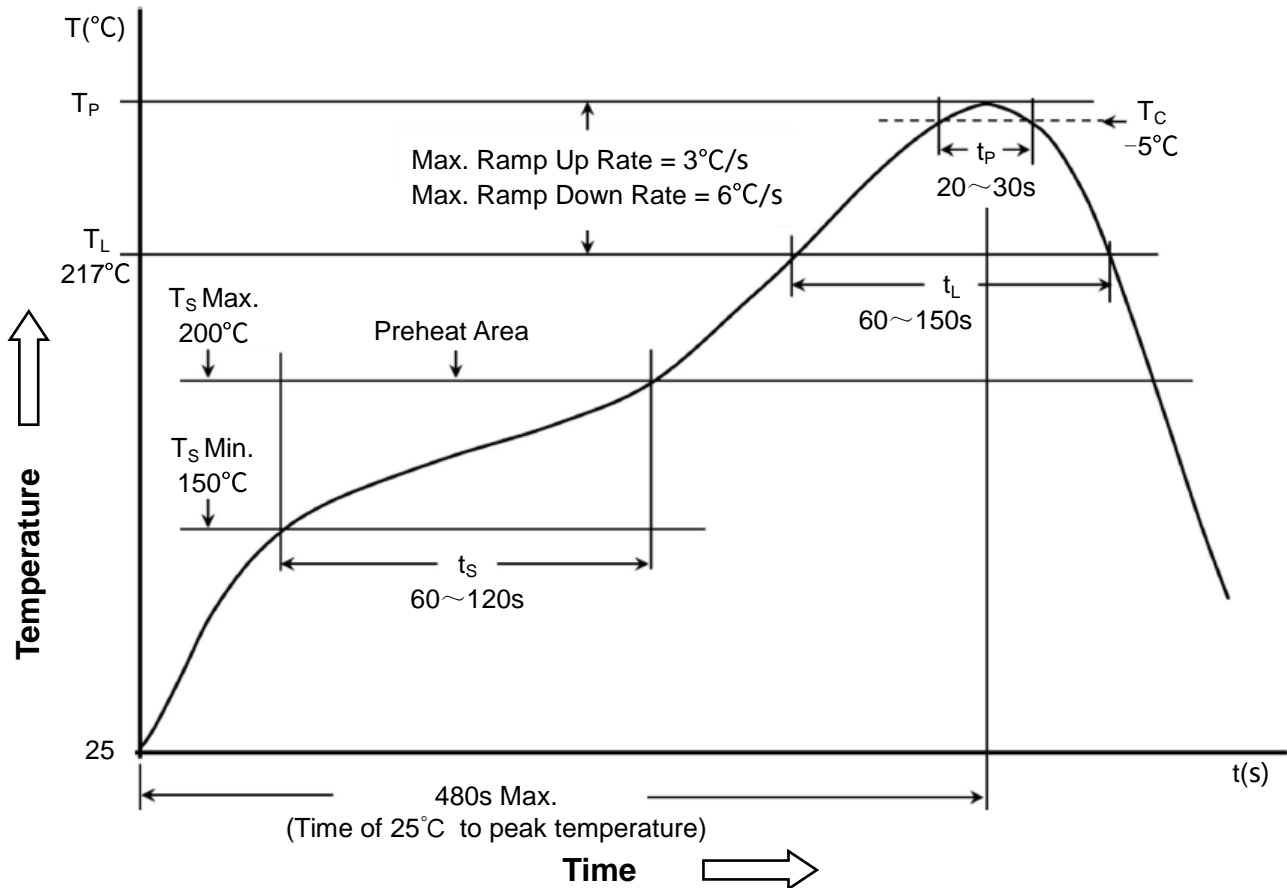
| Shipping Label<br>运输标签       |
|------------------------------|
| ■ Customer Name<br>客户名称      |
| ■ Customer Part No.<br>客户型号  |
| ■ Supplier Part No.<br>供应商型号 |
| ■ Supplier Name<br>供应商名称     |
| ■ Country of origin<br>产品产地  |

## 8 Soldering specification

### 焊接规格

#### 8.1 Reflow profile for SMT components

SMT 回流焊温度曲线



#### 8.2 Classification of peak package body temperature (T<sub>P</sub>)

封装体峰值温度(T<sub>P</sub>)分类

|                          | Package Thickness<br>封装厚度 | Package Volume<br>封装体积 |                          |                       |
|--------------------------|---------------------------|------------------------|--------------------------|-----------------------|
|                          |                           | <350 mm <sup>3</sup>   | 350~2000 mm <sup>3</sup> | >2000 mm <sup>3</sup> |
| PB-Free Assembly<br>无铅装配 | <1.6mm                    | 260°C                  | 260°C                    | 260°C                 |
|                          | 1.6~2.5mm                 | 260°C                  | 250°C                    | 245°C                 |
|                          | ≥2.5mm                    | 250°C                  | 245°C                    | 245°C                 |

※ Reflow is referred to standard IPC/JEDEC J-STD-020D.  
回流焊参照标准 IPC/JEDEC J-STD-020D.