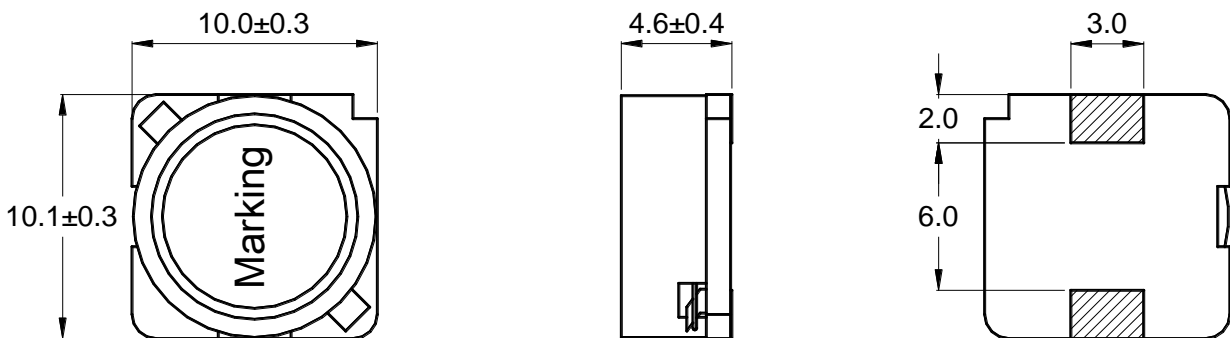




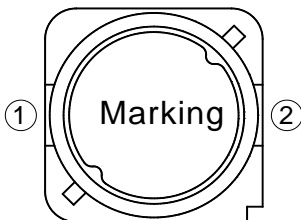
### Outline: 产品概要

- Low DCR, high rated current.  
低直流电阻, 耐大电流。
- Magnetic shielded structure  
磁性屏蔽结构
- 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, automotive electronics, household appliance, and etc.  
广泛应用于升降压转换器, 显示器, 汽车电子, 家用电器等。
- 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)

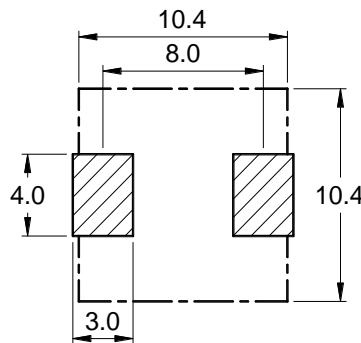
### 1 Appearance and dimensions (mm) 外形尺寸



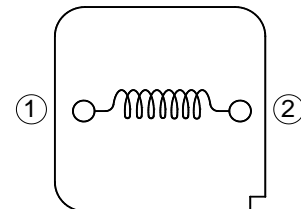
### 2 Marking 印字标识



### 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. 型号	Inductance (μH) 电感值 ※1	D.C.R. (mΩ) 直流电阻		Saturation current (A) 饱和电流 ※2		Temperature rise current (A) 温升电流 ※3
		Typical	Max	Typical	Max	Typical
SPBL1045-1R2N	1.20 ±30%	10.9	13.0	10.0	8.00	6.35
SPBL1045-2R2N	2.20 ±30%	12.8	15.3	8.10	6.48	5.86
SPBL1045-3R3N	3.30 ±30%	17.0	20.4	6.00	4.80	5.08
SPBL1045-4R7N	4.70 ±30%	19.4	23.2	5.30	4.24	4.76
SPBL1045-6R8N	6.80 ±30%	24.2	29.0	4.30	3.44	4.26
SPBL1045-8R2N	8.20 ±30%	26.5	31.8	3.90	3.12	4.07
SPBL1045-100M	10.0 ±20%	29.5	35.4	3.60	2.88	3.86
SPBL1045-150M	15.0 ±20%	45.6	54.7	2.90	2.32	3.10
SPBL1045-220M	22.0 ±20%	65.0	78.0	2.45	1.96	2.52
SPBL1045-330M	33.0 ±20%	86.0	103	1.90	1.52	2.26
SPBL1045-470M	47.0 ±20%	114	137	1.65	1.32	1.96
SPBL1045-680M	68.0 ±20%	169	203	1.35	1.08	1.61
SPBL1045-820M	82.0 ±20%	215	258	1.24	0.99	1.43
SPBL1045-101M	100 ±20%	244	293	1.10	0.88	1.34
SPBL1045-151M	150 ±20%	373	448	0.90	0.72	1.08
SPBL1045-221M	220 ±20%	535	642	0.75	0.60	0.91
SPBL1045-331M	330 ±20%	800	960	0.62	0.50	0.74
SPBL1045-471M	470 ±20%	1,230	1,476	0.52	0.42	0.60
SPBL1045-681M	680 ±20%	1,530	1,836	0.43	0.34	0.54
SPBL1045-821M	820 ±20%	2,100	2,520	0.39	0.31	0.46
SPBL1045-102M	1,000 ±20%	2,350	2,820	0.35	0.28	0.43

■ 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 100kHz, 0.1V.

电感测试条件为 100kHz, 0.1V。

※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)。

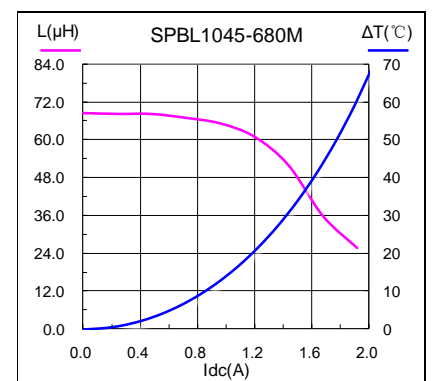
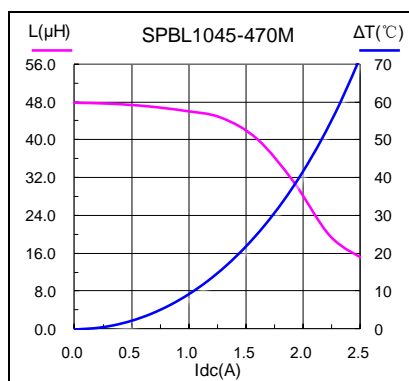
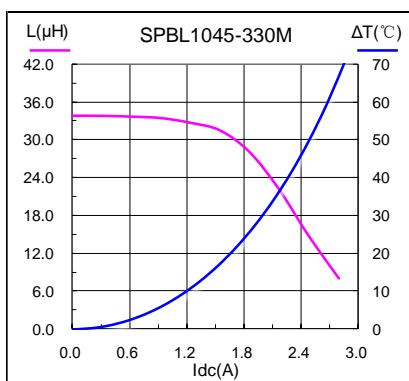
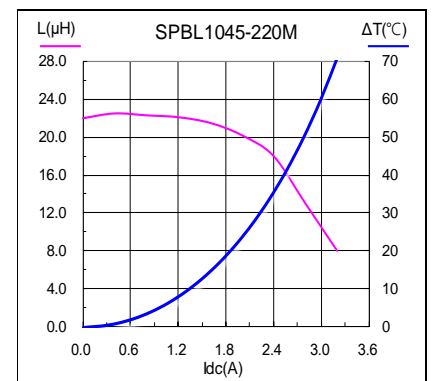
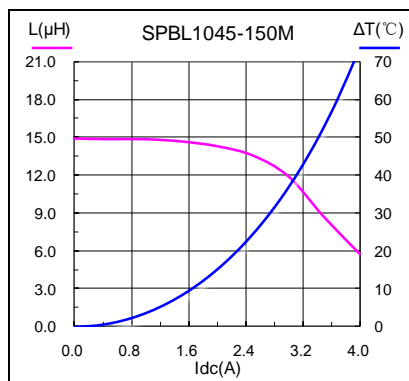
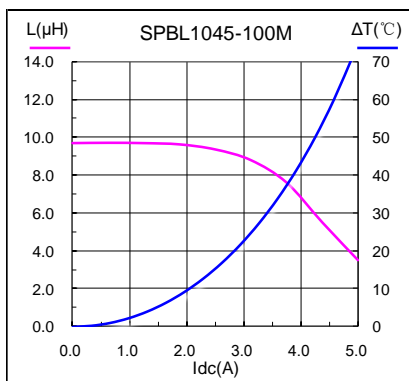
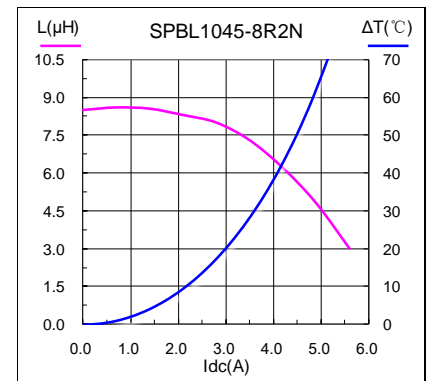
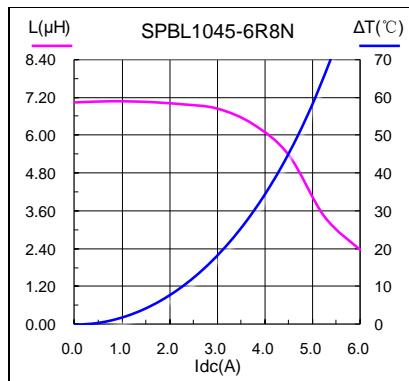
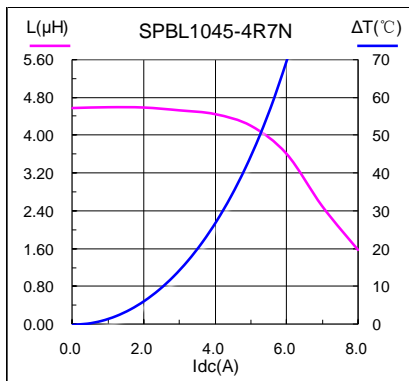
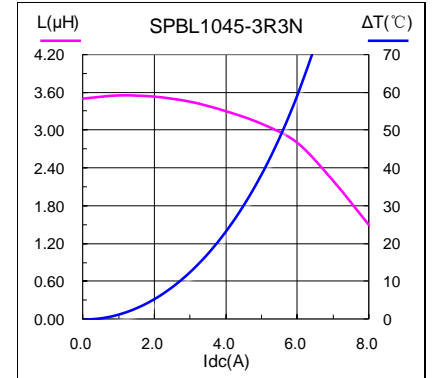
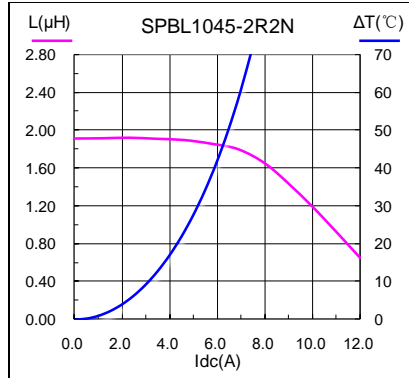
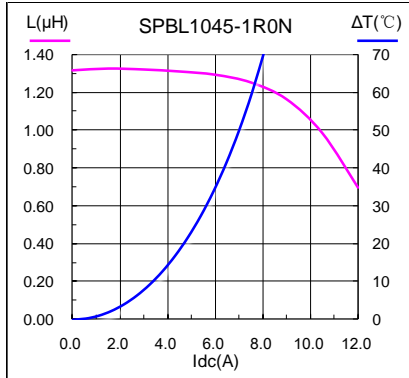
※ Special remind: Circuit design, component placement, PWB size and thickness, cooling system and etc.

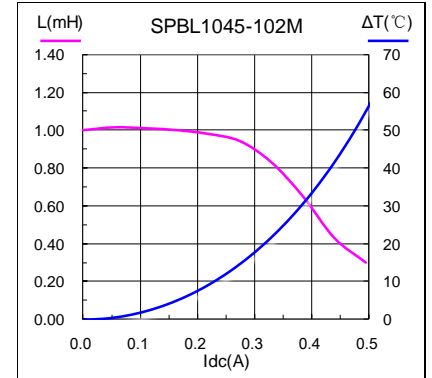
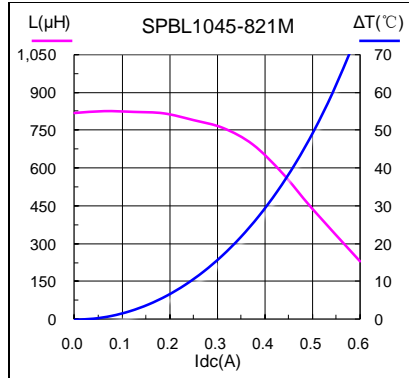
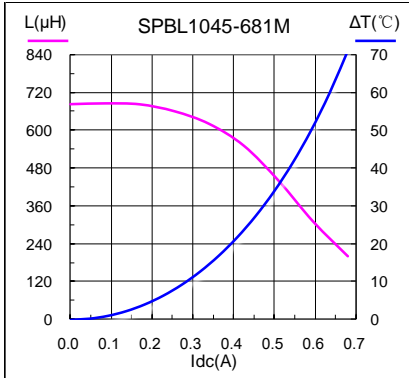
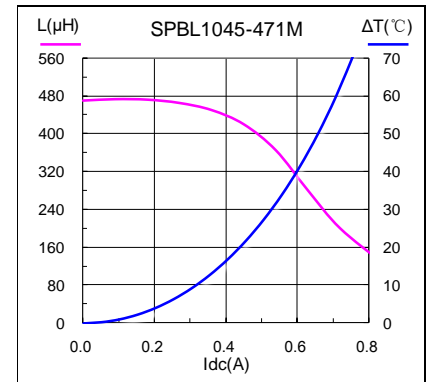
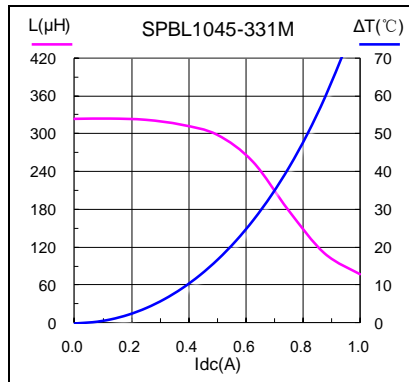
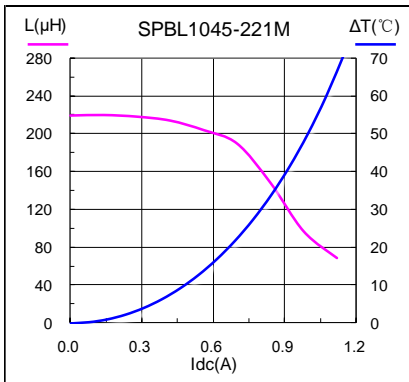
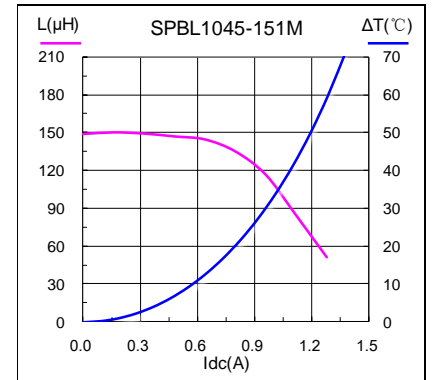
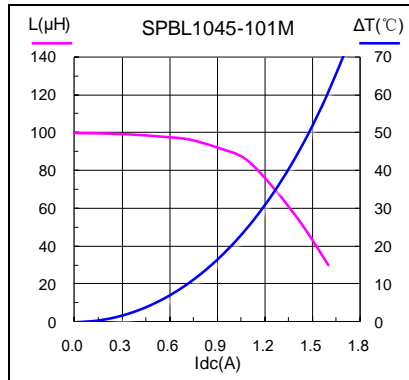
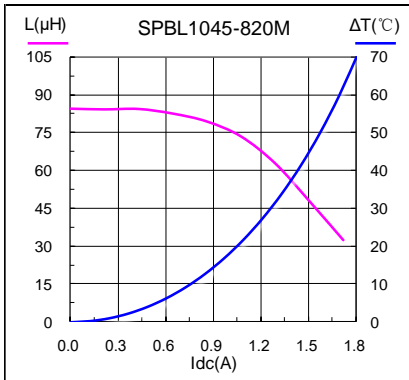
all will affect the product temperature. Please verify the product temperature in the final application.

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



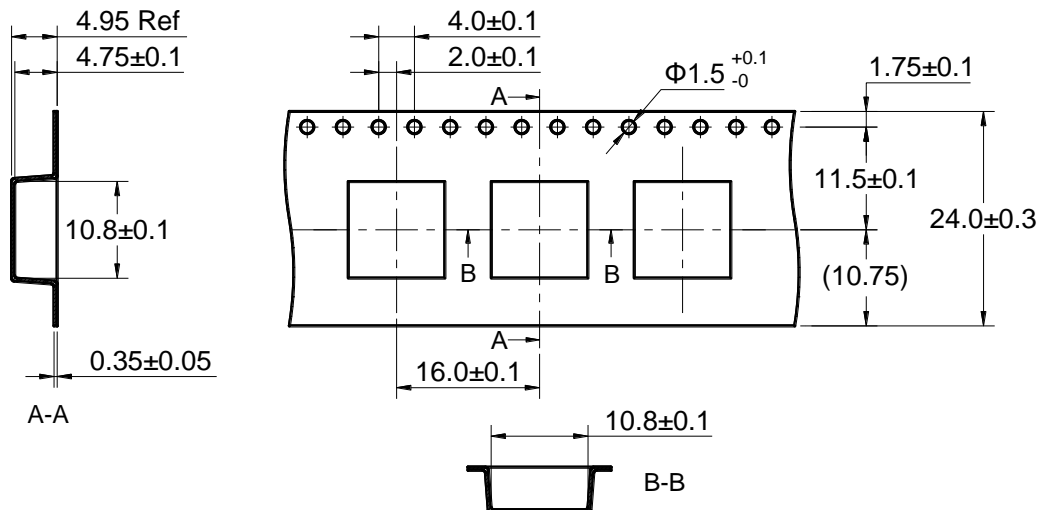


## 7 Packing specification

### 包装规格

#### 7.1 Carrier tape dimensions (mm)

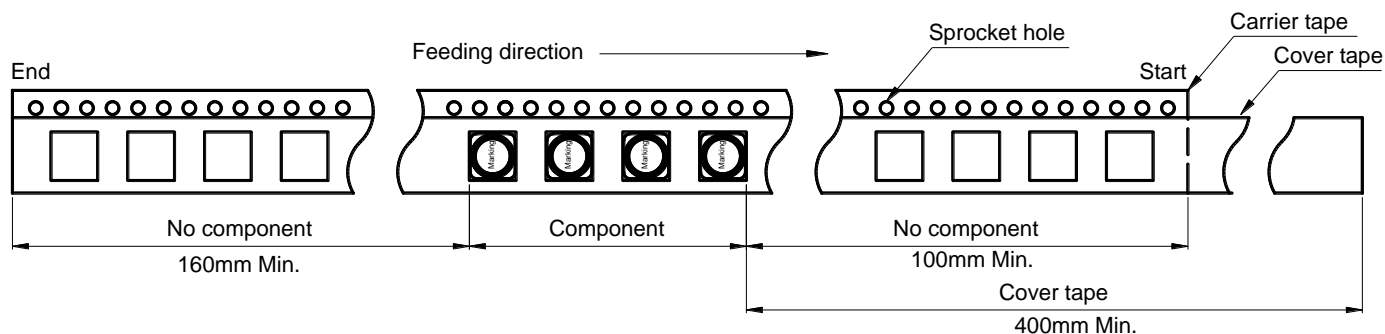
##### 载带尺寸



※ 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

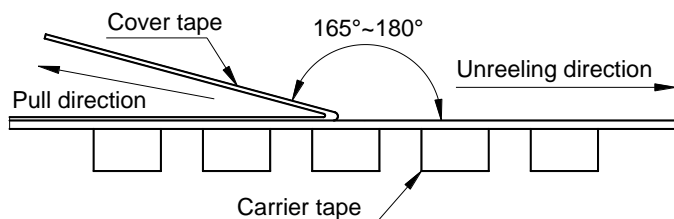
##### 捆包方向



#### 7.3 Cover tape peel off condition

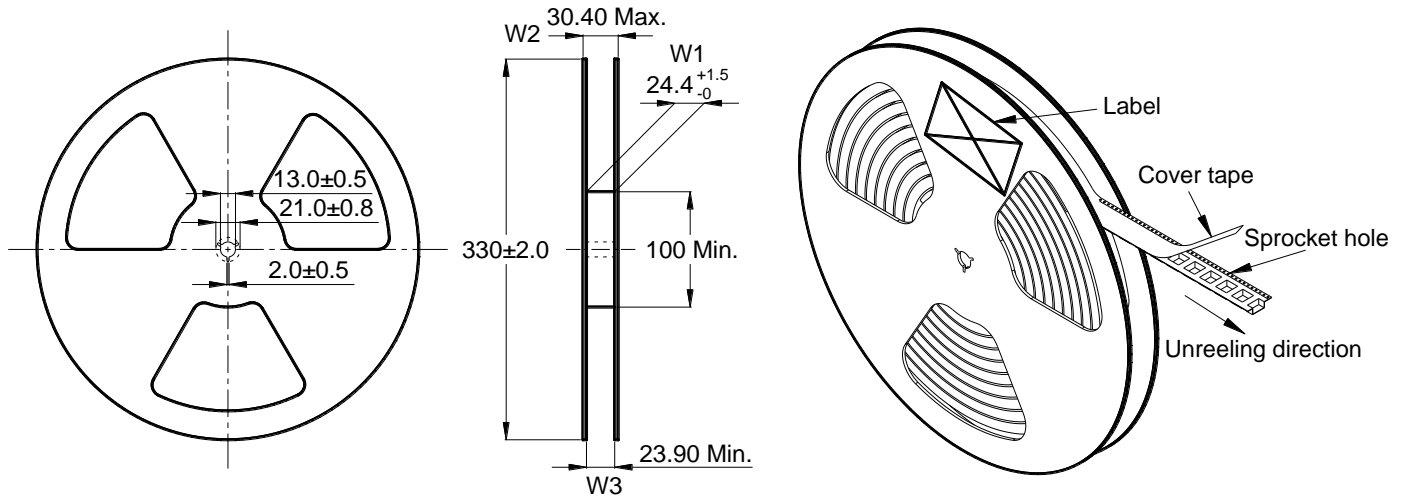
##### 盖带剥离条件

- 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 产品系列	Quantity / Reel 数量 / 卷	Inner Carton Quantity 内盒 包装数量	Out Carton Quantity 外箱 包装总数量
SPBL1045	800pcs	(800×3) = 2400pcs	(2400×2) = 4800pcs

## 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 产品标签
■ Part No. 产品型号
■ Electrical Information 产品电性信息
■ Quantity 数量
■ Packing No. 包装流水号

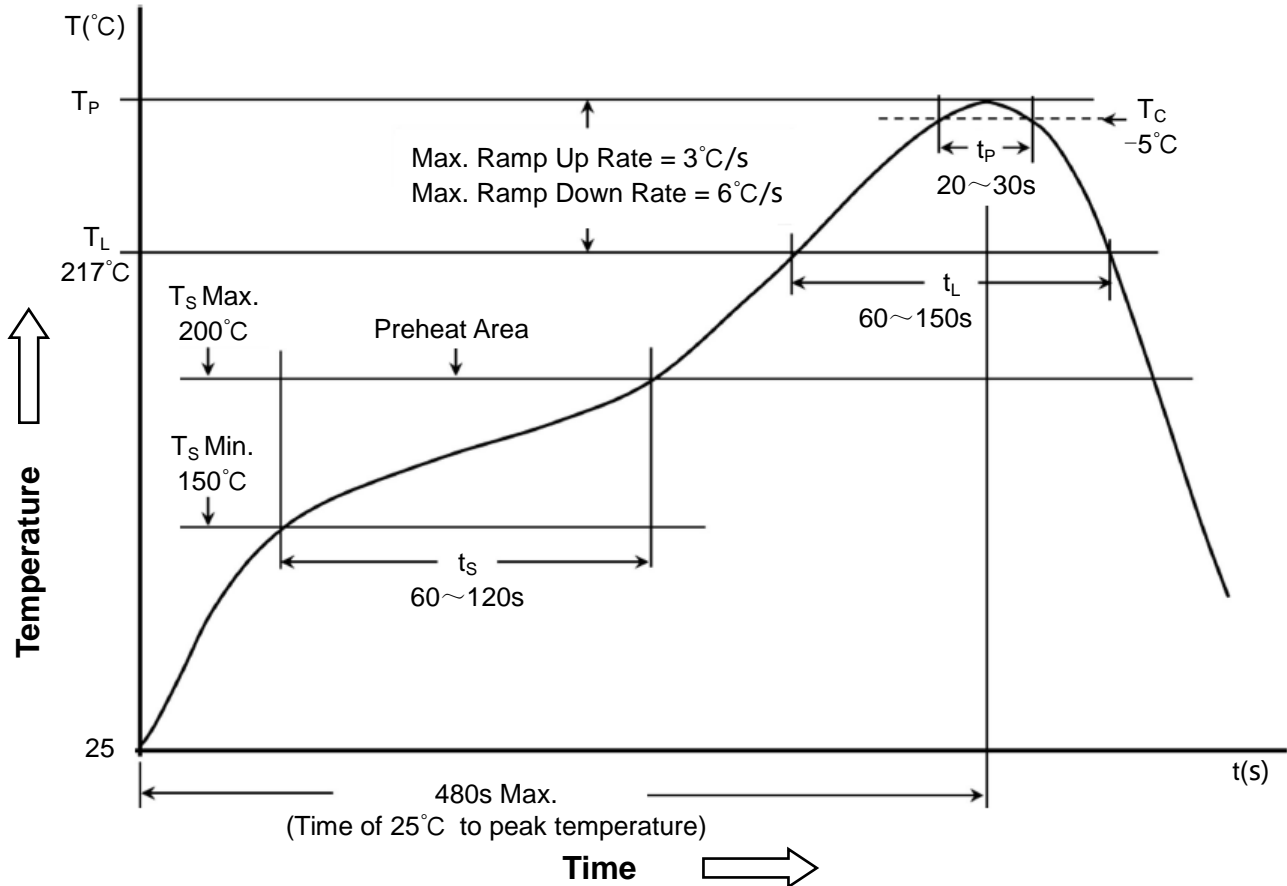
Shipping Label 运输标签
■ Customer Name 客户名称
■ Customer Part No. 客户型号
■ Supplier Part No. 供应商型号
■ Supplier Name 供应商名称
■ Country of origin 产品产地

## 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 (TP)

封装体峰值温度(TP)分类

	Package Thickness 封装厚度	Package Volume 封装体积		
		<350 mm <sup>3</sup>	350~2000 mm <sup>3</sup>	>2000 mm <sup>3</sup>
PB-Free Assembly 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.