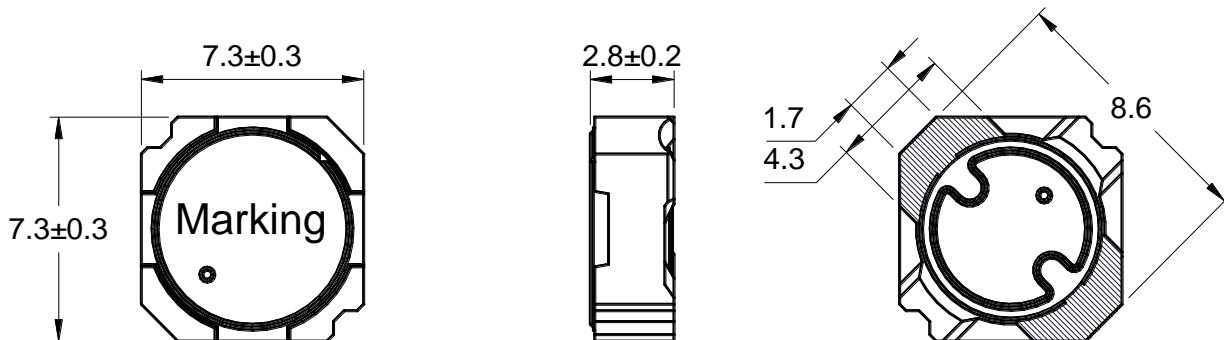




### Outline: 产品概要

- 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, laptop, displayer, network communication equipment, and etc.  
广泛应用于升降压转换器, 笔记本电脑, 显示器, 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)

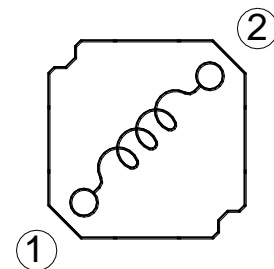
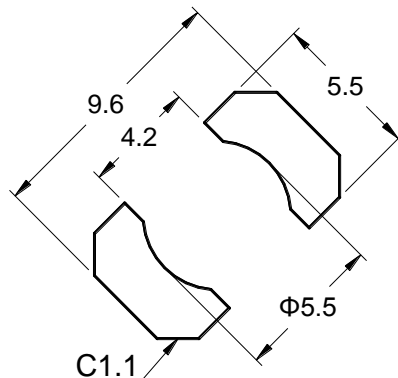
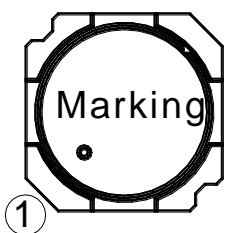
### 1 Appearance and dimensions (mm) 外形尺寸



### 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. 型号	Inductance (μH) 电感值 ※1 ±25%	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
SPDU7D28-1R2N	1.20	11.7	14.0	8.00	7.20	5.01
SPDU7D28-2R0N	2.00	14.8	17.8	6.60	5.94	4.45
SPDU7D28-2R7N	2.70	17.2	20.6	5.90	5.31	4.13
SPDU7D28-3R6N	3.60	20.3	24.3	5.00	4.50	3.80
SPDU7D28-4R6N	4.60	23.2	27.8	4.50	4.05	3.55
SPDU7D28-4R6N	5.30	26.7	32.0	4.00	3.60	3.31
SPDU7D28-6R8N	6.80	30.2	36.2	3.60	3.24	3.12
SPDU7D28-8R0N	8.00	33.3	40.0	3.30	2.97	2.97
SPDU7D28-100N	10.0	45.7	54.8	2.90	2.61	2.53
SPDU7D28-120N	12.0	49.3	59.1	2.70	2.43	2.44
SPDU7D28-150N	15.0	65.4	78.5	2.40	2.16	2.12
SPDU7D28-180N	18.0	69.0	82.8	2.20	1.98	2.06
SPDU7D28-220N	22.0	97.9	117	2.00	1.80	1.73
SPDU7D28-270N	27.0	107	129	1.80	1.62	1.65
SPDU7D28-330N	33.0	127	152	1.70	1.53	1.52
SPDU7D28-390N	39.0	172	207	1.50	1.35	1.30
SPDU7D28-470N	47.0	190	227	1.40	1.26	1.24
SPDU7D28-560N	56.0	244	293	1.25	1.13	1.10
SPDU7D28-680N	68.0	305	366	1.15	1.04	0.98
SPDU7D28-820N	82.0	367	440	1.05	0.95	0.89
SPDU7D28-101N	100	448	538	0.95	0.86	0.81
SPDU7D28-121N	120	507	608	0.85	0.77	0.76
SPDU7D28-151N	150	650	780	0.75	0.68	0.67
SPDU7D28-181N	180	922	1,106	0.68	0.61	0.56
SPDU7D28-221N	220	1,039	1,247	0.62	0.56	0.53
SPDU7D28-271N	270	1,330	1,596	0.58	0.52	0.47
SPDU7D28-331N	330	1,527	1,832	0.53	0.48	0.44
SPDU7D28-391N	390	1,655	1,986	0.48	0.43	0.42
SPDU7D28-471N	470	1,880	2,256	0.44	0.40	0.39

■ 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 35% of its initial value.

饱和电流: 电感值下降其初始值的 35% 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  $\Delta T 40^{\circ}\text{C}$  ( $T_a=25^{\circ}\text{C}$ ).

温升电流: 使产品温度上升到  $\Delta T 40^{\circ}\text{C}$  时所加载的实际直流电流值 ( $T_a=25^{\circ}\text{C}$ )。

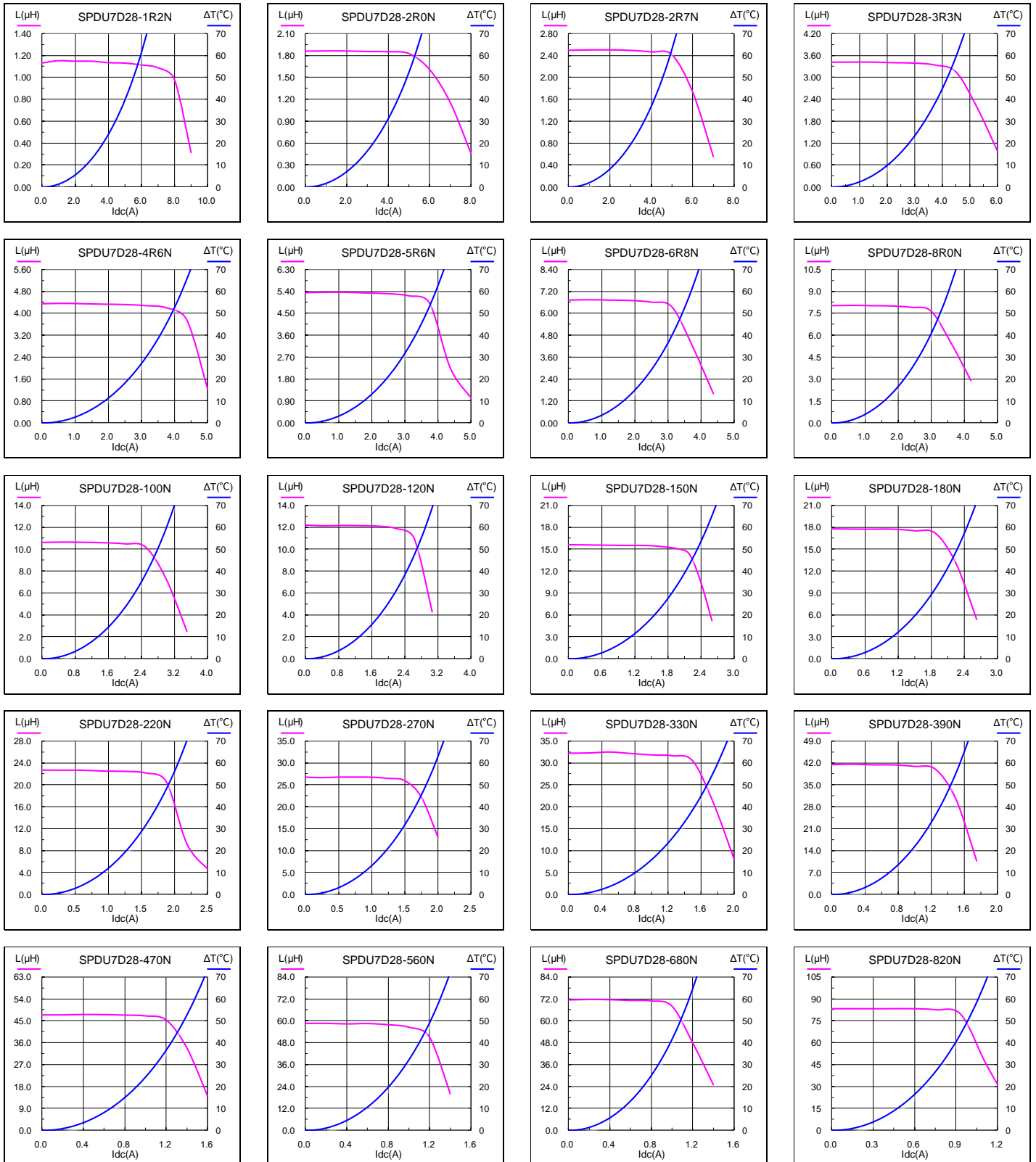
※ Special remind: Circuit design, component placement, PWB size and thickness, cooling system and etc.

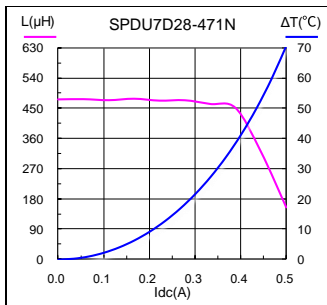
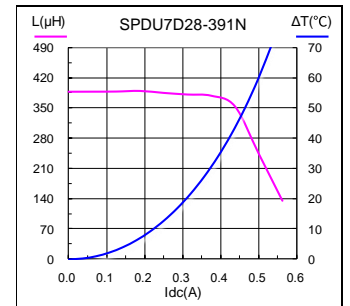
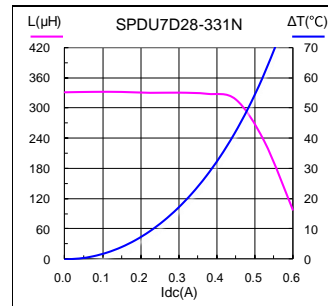
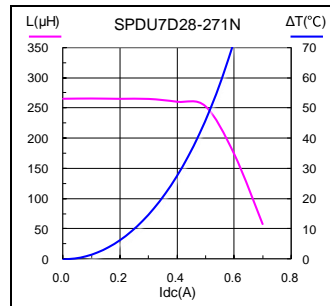
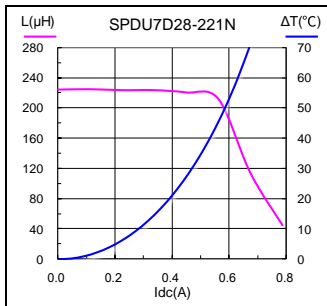
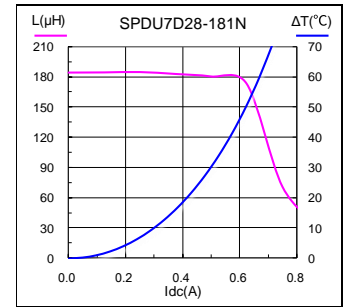
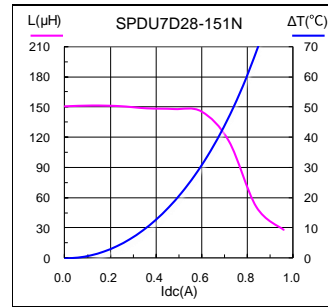
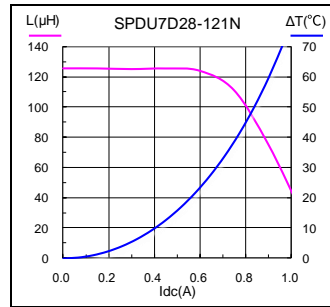
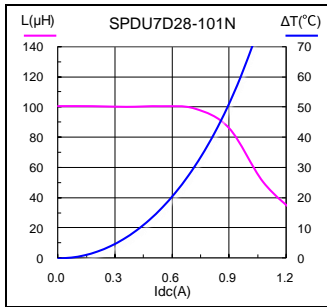
all will affect the product temperature. Please verify the product temperature in the final application.

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



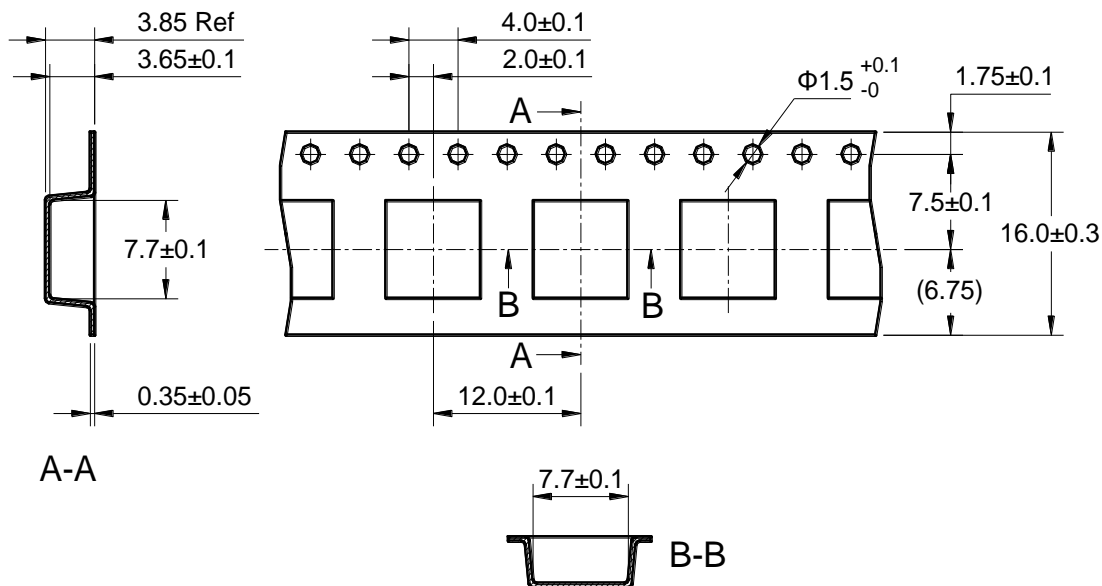


## 7 Packing specification

### 包装规格

#### 7.1 Carrier tape dimensions (mm)

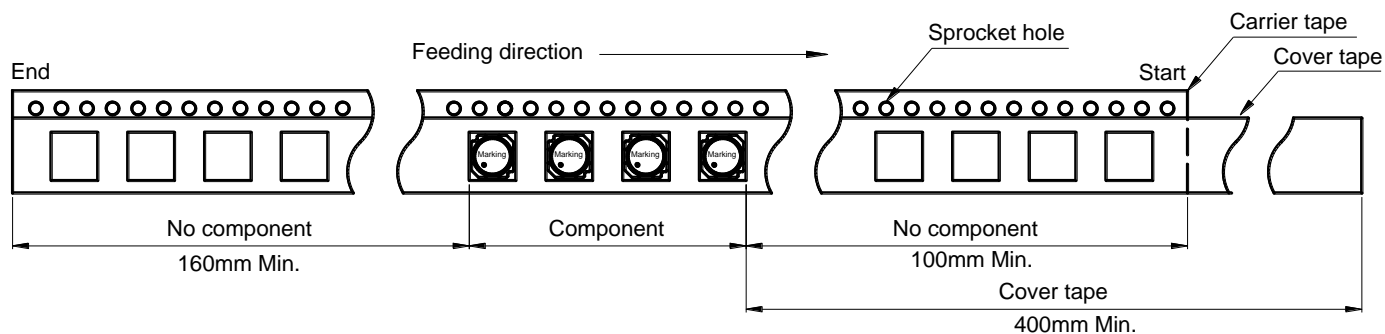
##### 载带尺寸



※ 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

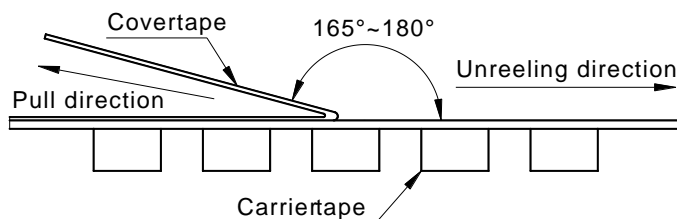
##### 捆包方向



#### 7.3 Cover tape peel off condition

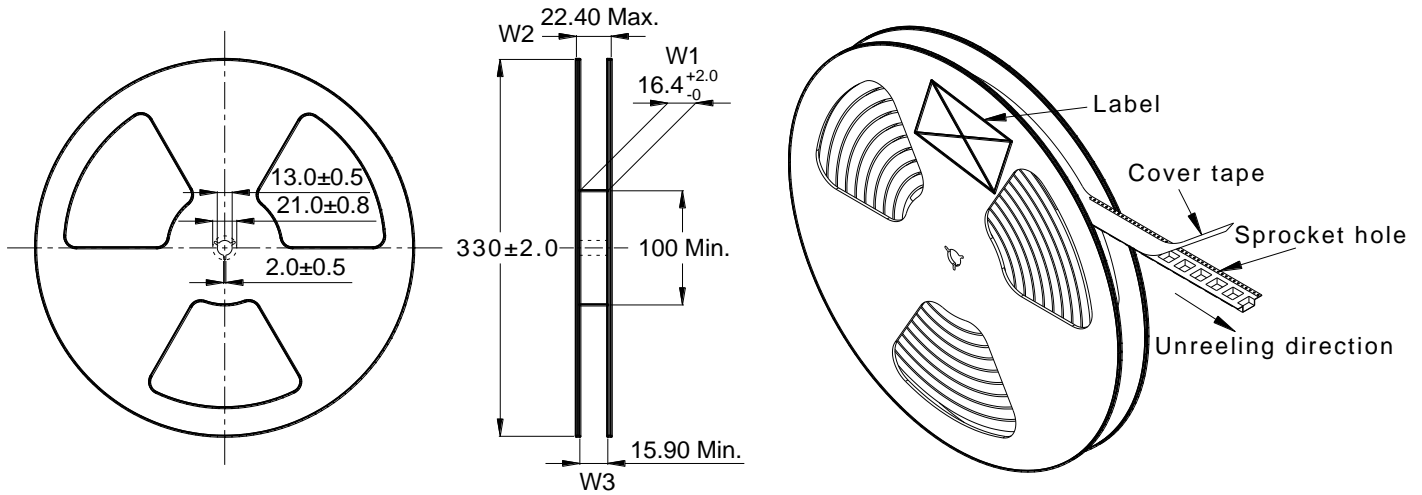
##### 盖带剥离条件

- 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
SPDU7D28	1000pcs	(1000×4) = 4000pcs	(4000×2) = 8000pcs

## 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

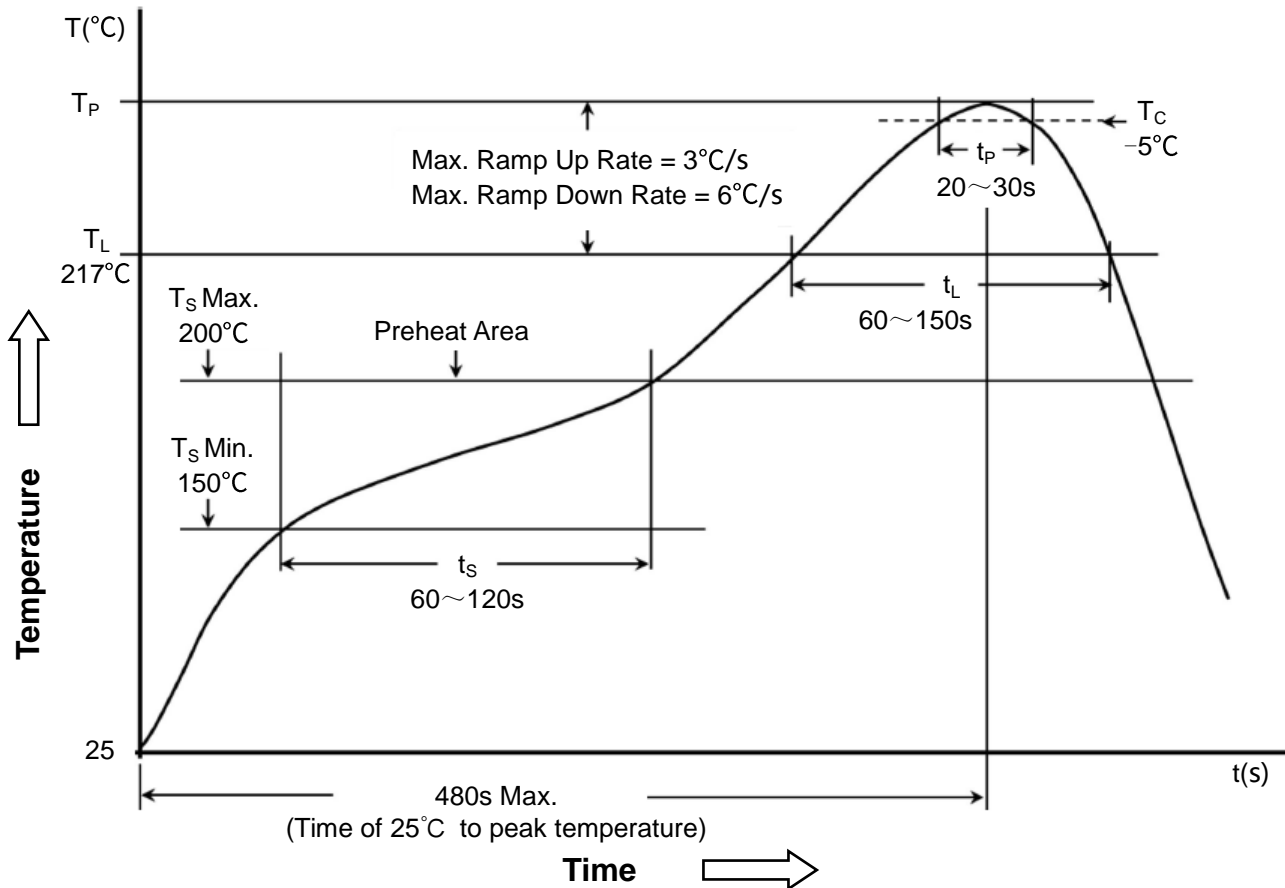
Shipping Label 运输标签
■ Customer Name 客户名称
■ Customer Part No. 客户型号
■ Supplier Part No. 供应商型号
■ Supplier Name 供应商名称
■ Country of origin 产品产地

## 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 ( $T_P$ )

封装体峰值温度( $T_P$ )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.