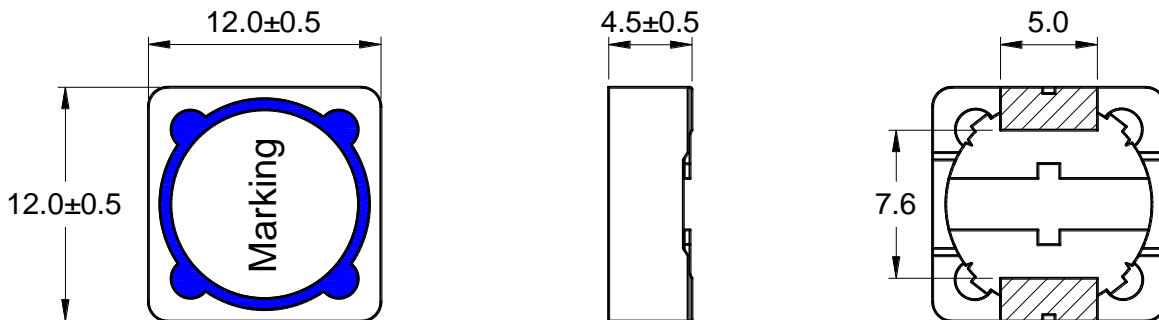




### Outline: 产品概要

- 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)

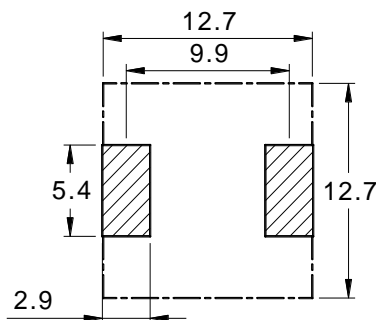
### 1 Appearance and dimensions (mm) 外形尺寸



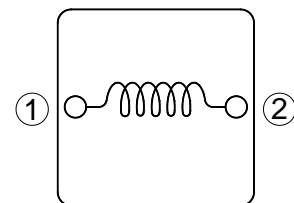
### 2 Marking 印字标识



### 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	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
SPRH124-1R0N	1.00 ±30%	8.78	10.5	22.0	17.6	7.64
SPRH124-2R2N	2.20 ±30%	13.4	16.1	14.5	11.6	6.38
SPRH124-3R3N	3.30 ±30%	15.8	19.0	13.0	10.4	5.88
SPRH124-4R7N	4.70 ±30%	18.5	22.2	11.0	8.80	5.44
SPRH124-6R8N	6.80 ±30%	23.3	27.9	9.00	7.20	4.85
SPRH124-8R2N	8.20 ±30%	26.0	31.2	8.40	6.72	4.59
SPRH124-100M	10.0 ±20%	28.9	34.7	7.50	6.00	4.35
SPRH124-120M	12.0 ±20%	31.8	38.1	7.00	5.60	4.15
SPRH124-150M	15.0 ±20%	42.0	50.4	6.00	4.80	3.61
SPRH124-180M	18.0 ±20%	45.4	54.5	5.50	4.40	3.47
SPRH124-220M	22.0 ±20%	61.4	73.7	5.00	4.00	2.98
SPRH124-270M	27.0 ±20%	79.9	95.9	4.60	3.68	2.62
SPRH124-330M	33.0 ±20%	90.4	108	4.20	3.36	2.46
SPRH124-390M	39.0 ±20%	114	137	3.70	2.96	2.19
SPRH124-470M	47.0 ±20%	140	168	3.40	2.72	1.98
SPRH124-560M	56.0 ±20%	155	186	3.20	2.56	1.88
SPRH124-680M	68.0 ±20%	193	231	2.80	2.24	1.68
SPRH124-820M	82.0 ±20%	217	260	2.70	2.16	1.59
SPRH124-101M	100 ±20%	262	315	2.40	1.92	1.44
SPRH124-121M	120 ±20%	312	374	2.20	1.76	1.32
SPRH124-151M	150 ±20%	386	463	1.90	1.52	1.19
SPRH124-181M	180 ±20%	491	590	1.75	1.40	1.06
SPRH124-221M	220 ±20%	560	672	1.60	1.28	0.99
SPRH124-271M	270 ±20%	705	846	1.45	1.16	0.88
SPRH124-331M	330 ±20%	804	964	1.30	1.04	0.83
SPRH124-391M	390 ±20%	946	1,136	1.20	0.96	0.76
SPRH124-471M	470 ±20%	1,122	1,346	1.10	0.88	0.70
SPRH124-561M	560 ±20%	1,387	1,664	1.00	0.80	0.63
SPRH124-681M	680 ±20%	1,715	2,058	0.90	0.72	0.56
SPRH124-821M	820 ±20%	2,065	2,478	0.83	0.66	0.51
SPRH124-102M	1,000 ±20%	2,353	2,824	0.75	0.60	0.48

■ 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)。

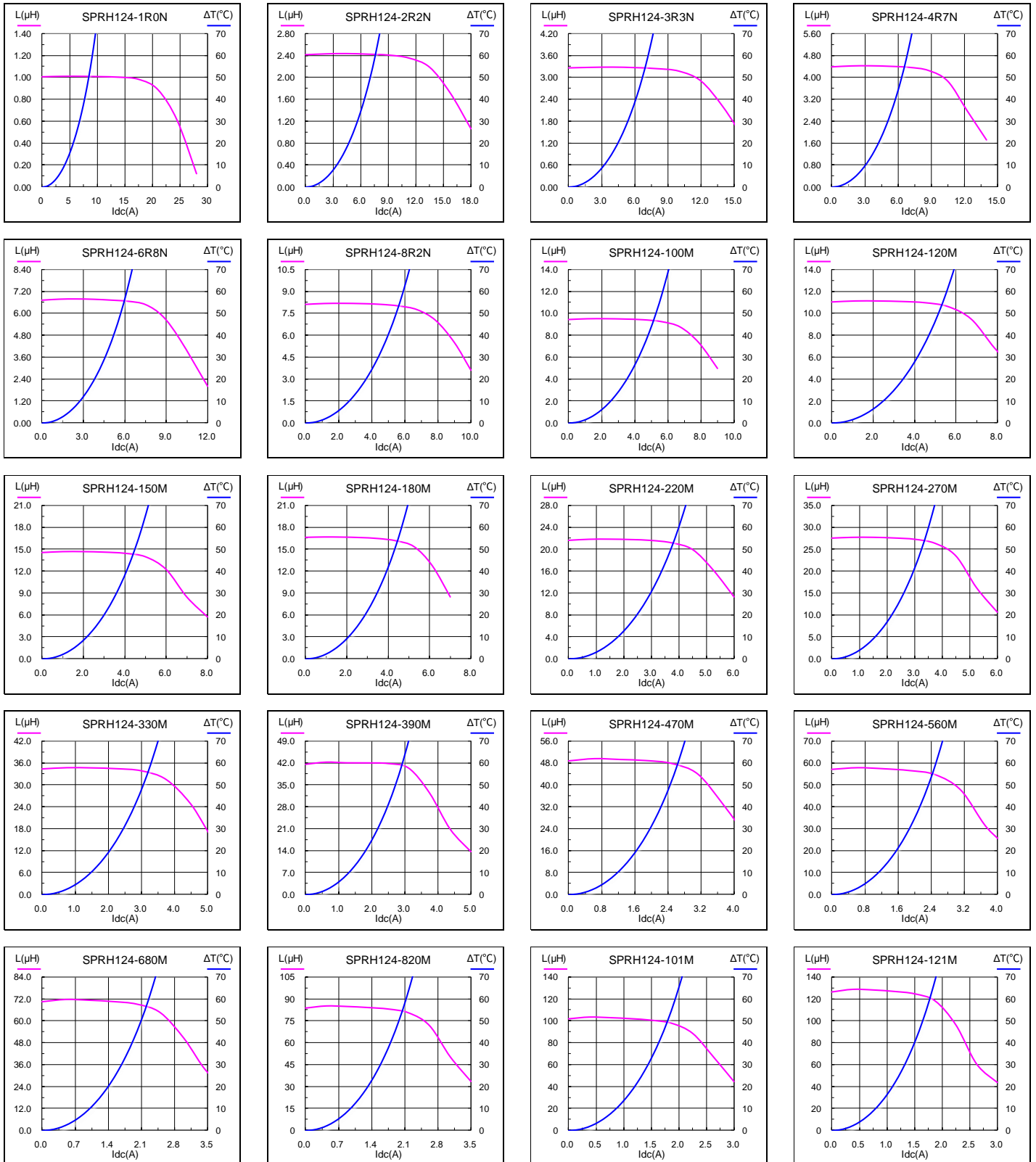
※ Special remind: Circuit design, component placement, PWB size and thickness, cooling system and etc.

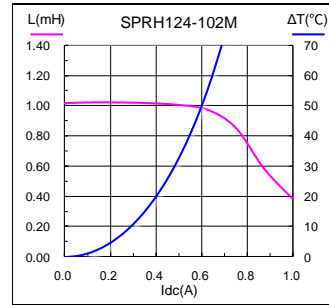
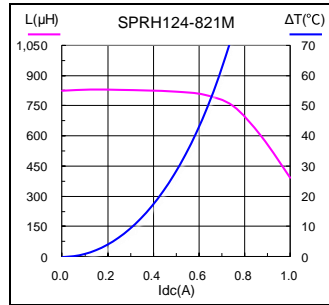
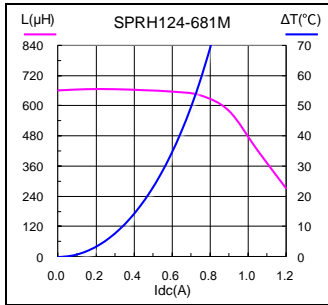
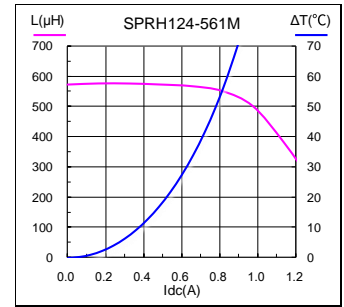
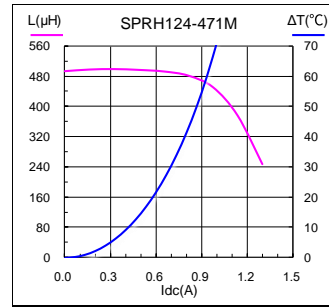
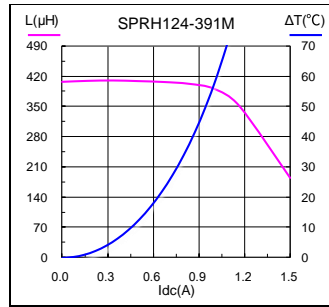
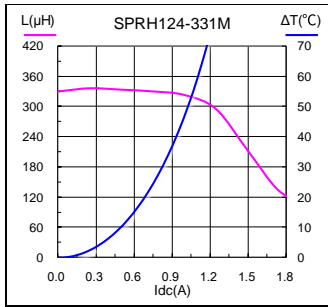
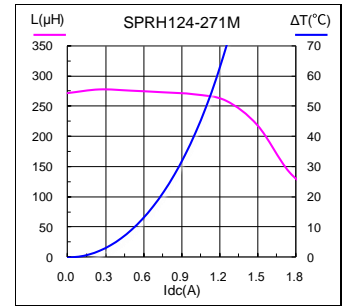
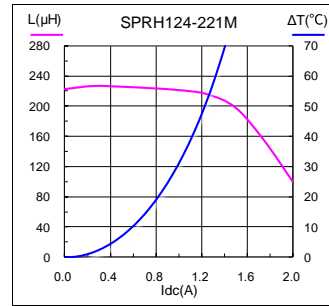
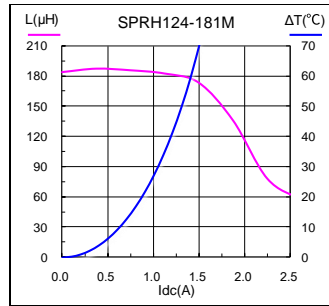
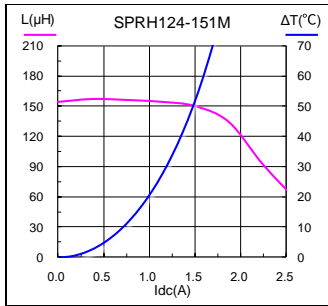
all will affect the product temperature. Please verify the product temperature in the final application.

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



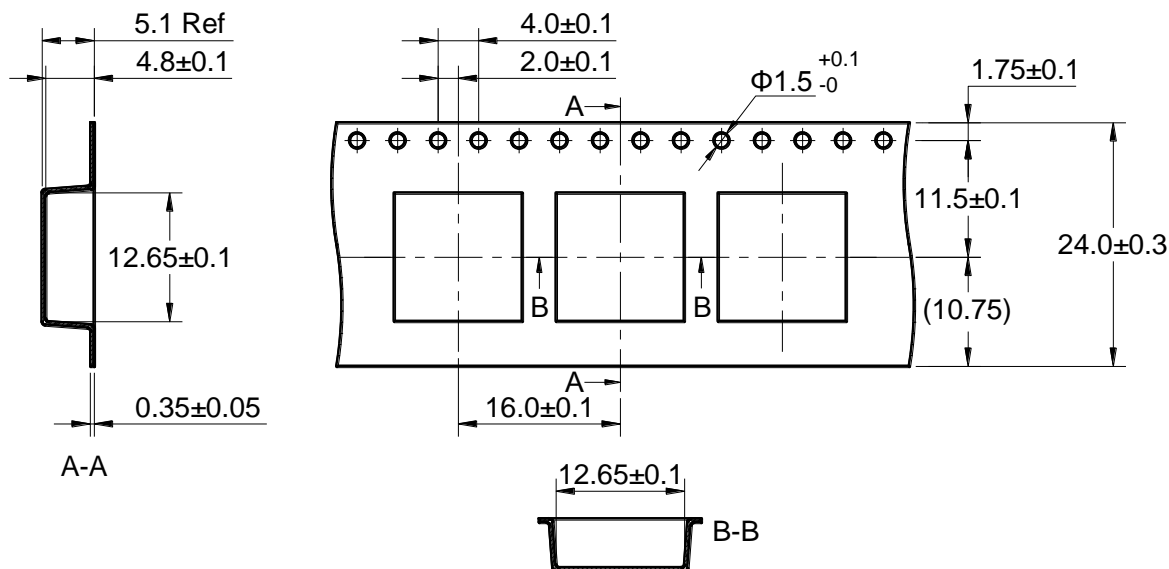


## 7 Packing specification

### 包装规格

#### 7.1 Carrier tape dimensions (mm)

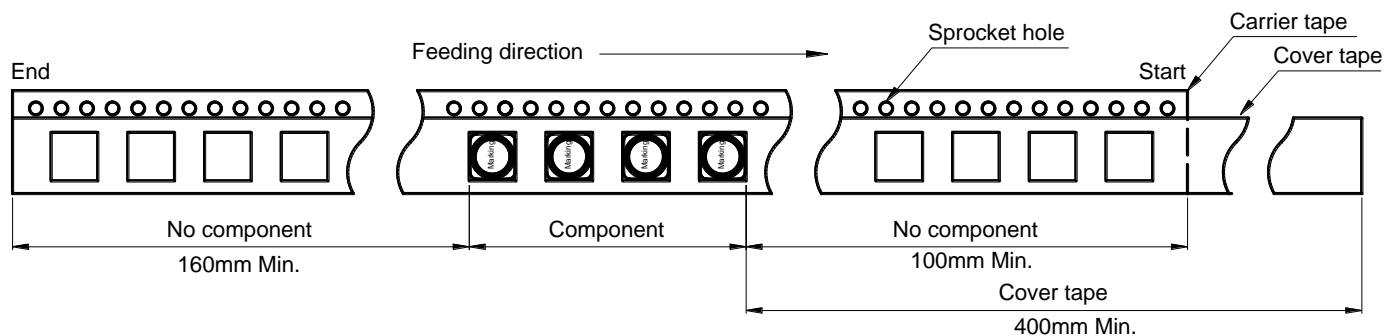
##### 载带尺寸



※ 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

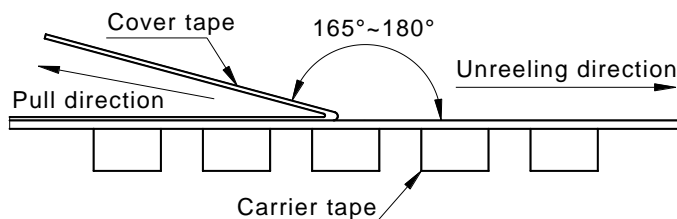
##### 捆包方向



#### 7.3 Cover tape peel off condition

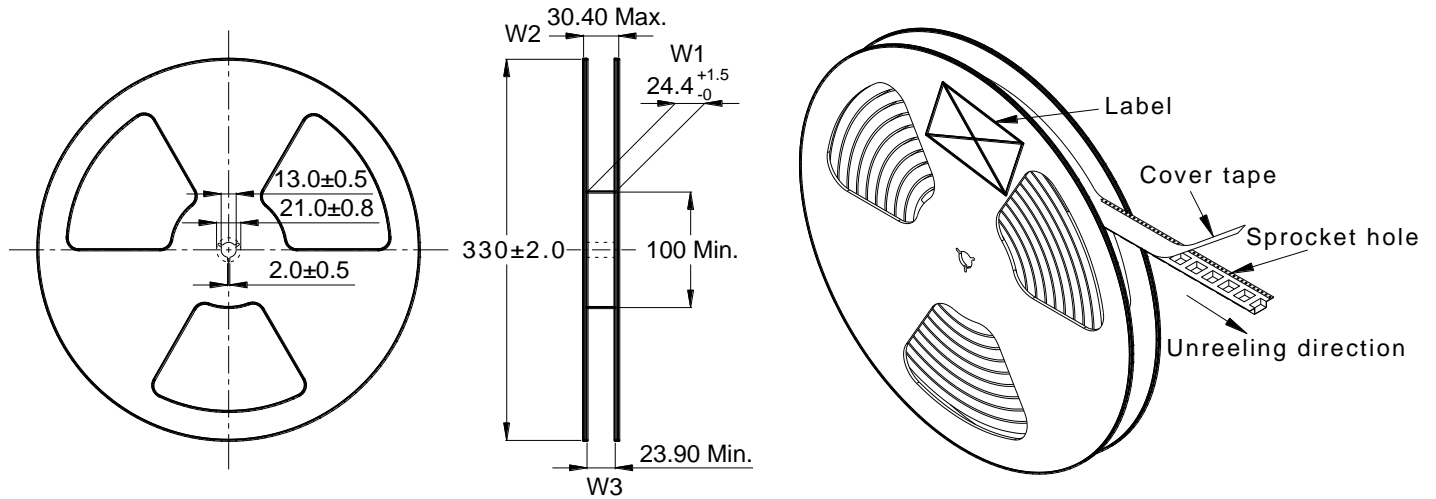
##### 盖带剥离条件

- 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
SPRH124	500pcs	(500×3) = 1500pcs	(1500×2) = 3000pcs

## 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

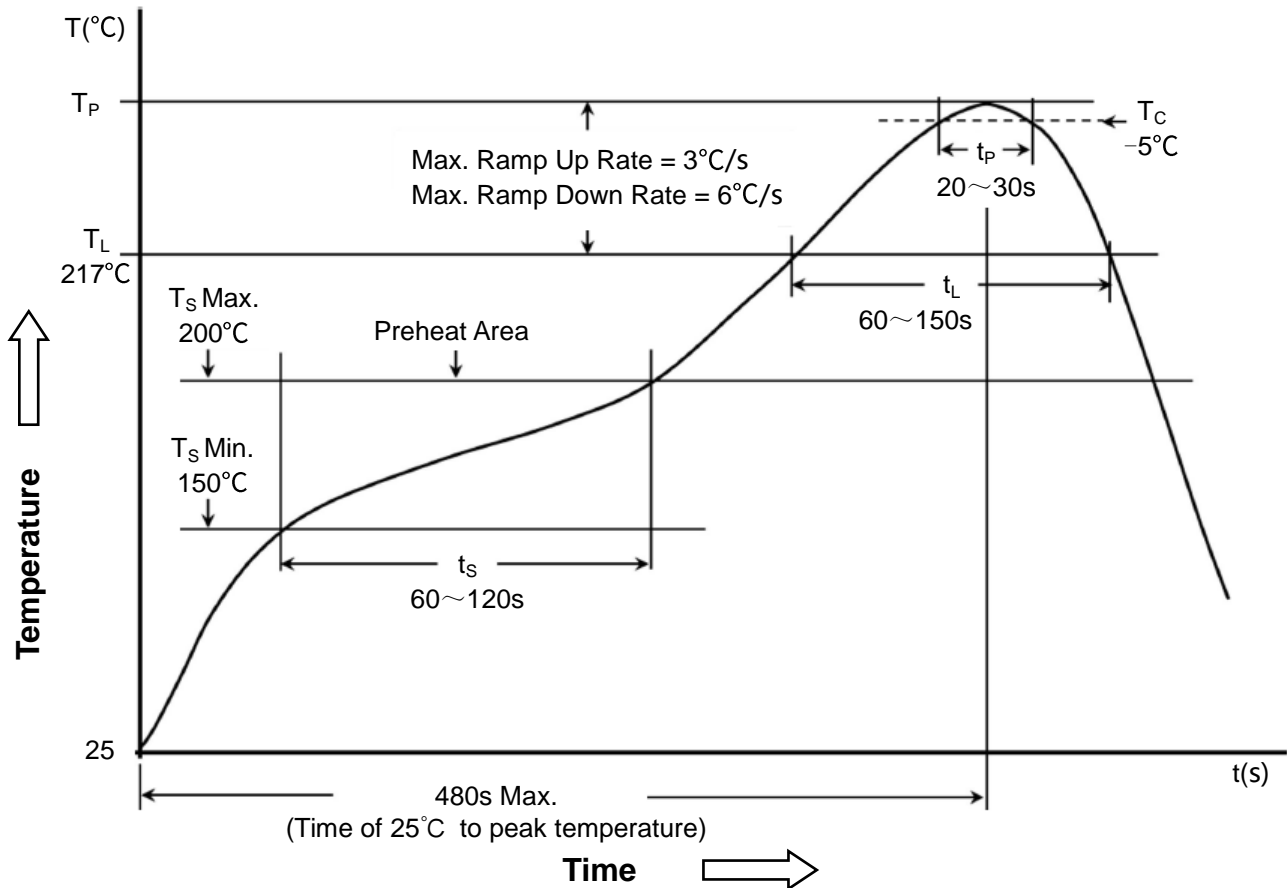
Shipping Label 运输标签
■ Customer Name 客户名称
■ Customer Part No. 客户型号
■ Supplier Part No. 供应商型号
■ Supplier Name 供应商名称
■ Country of origin 产品产地

**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。