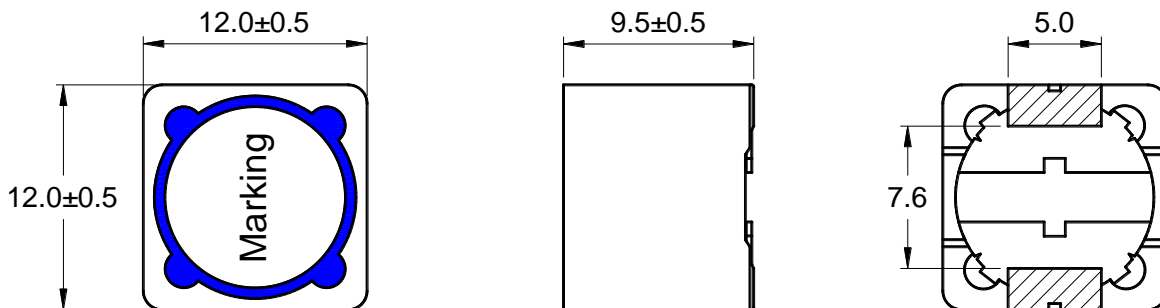




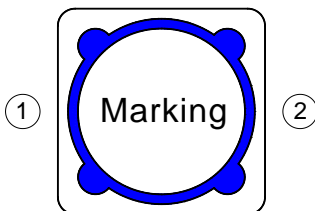
Outline: 产品概要

- 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)

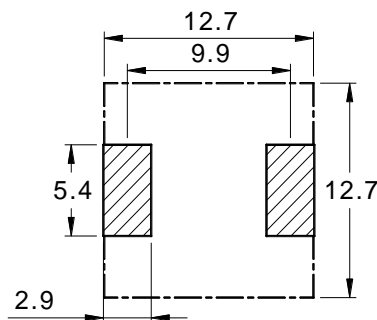
1 Appearance and dimensions (mm) 外形尺寸



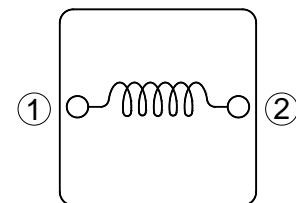
2 Marking 印字标识



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
SPRH1210-1R0N	1.00 ± 30%	7.00	8.40	32.0	25.6	10.1
SPRH1210-2R2N	2.20 ± 30%	10.0	12.0	22.0	17.6	8.59
SPRH1210-3R3N	3.30 ± 30%	11.7	14.0	19.0	15.2	8.00
SPRH1210-4R7N	4.70 ± 30%	13.4	16.1	16.0	12.8	7.55
SPRH1210-6R8N	6.80 ± 30%	16.8	20.2	14.0	11.2	6.86
SPRH1210-8R2N	8.20 ± 30%	18.5	22.2	12.0	9.60	6.68
SPRH1210-100M	10.0 ± 20%	20.0	24.0	11.0	8.80	6.51
SPRH1210-120M	12.0 ± 20%	22.0	26.4	10.0	8.00	6.20
SPRH1210-150M	15.0 ± 20%	25.5	30.6	9.00	7.20	5.76
SPRH1210-180M	18.0 ± 20%	27.3	32.8	8.00	6.40	5.57
SPRH1210-220M	22.0 ± 20%	30.5	36.6	7.50	6.00	5.27
SPRH1210-270M	27.0 ± 20%	32.9	39.5	7.00	5.60	5.07
SPRH1210-330M	33.0 ± 20%	39.0	46.8	6.30	5.04	4.66
SPRH1210-390M	39.0 ± 20%	51.4	61.7	6.00	4.80	4.06
SPRH1210-470M	47.0 ± 20%	59.0	70.8	5.20	4.16	3.79
SPRH1210-560M	56.0 ± 20%	63.8	76.6	4.90	3.92	3.64
SPRH1210-680M	68.0 ± 20%	83.0	99.6	4.50	3.60	3.19
SPRH1210-820M	82.0 ± 20%	94.0	113	4.10	3.28	3.00
SPRH1210-101M	100 ± 20%	125	150	3.50	2.80	2.60
SPRH1210-121M	120 ± 20%	140	168	3.30	2.64	2.46
SPRH1210-151M	150 ± 20%	180	216	2.90	2.32	2.17
SPRH1210-181M	180 ± 20%	200	240	2.70	2.16	2.06
SPRH1210-221M	220 ± 20%	246	295	2.30	1.84	1.86
SPRH1210-271M	270 ± 20%	324	389	2.20	1.76	1.62
SPRH1210-331M	330 ± 20%	362	434	2.05	1.64	1.53
SPRH1210-391M	390 ± 20%	396	475	1.85	1.48	1.46
SPRH1210-471M	470 ± 20%	501	601	1.70	1.36	1.30
SPRH1210-561M	560 ± 20%	546	655	1.55	1.24	1.25
SPRH1210-681M	680 ± 20%	685	822	1.40	1.12	1.11
SPRH1210-821M	820 ± 20%	836	1,003	1.25	1.00	0.98
SPRH1210-102M	1,000 ± 20%	955	1,146	1.15	0.92	0.94

■ 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)。

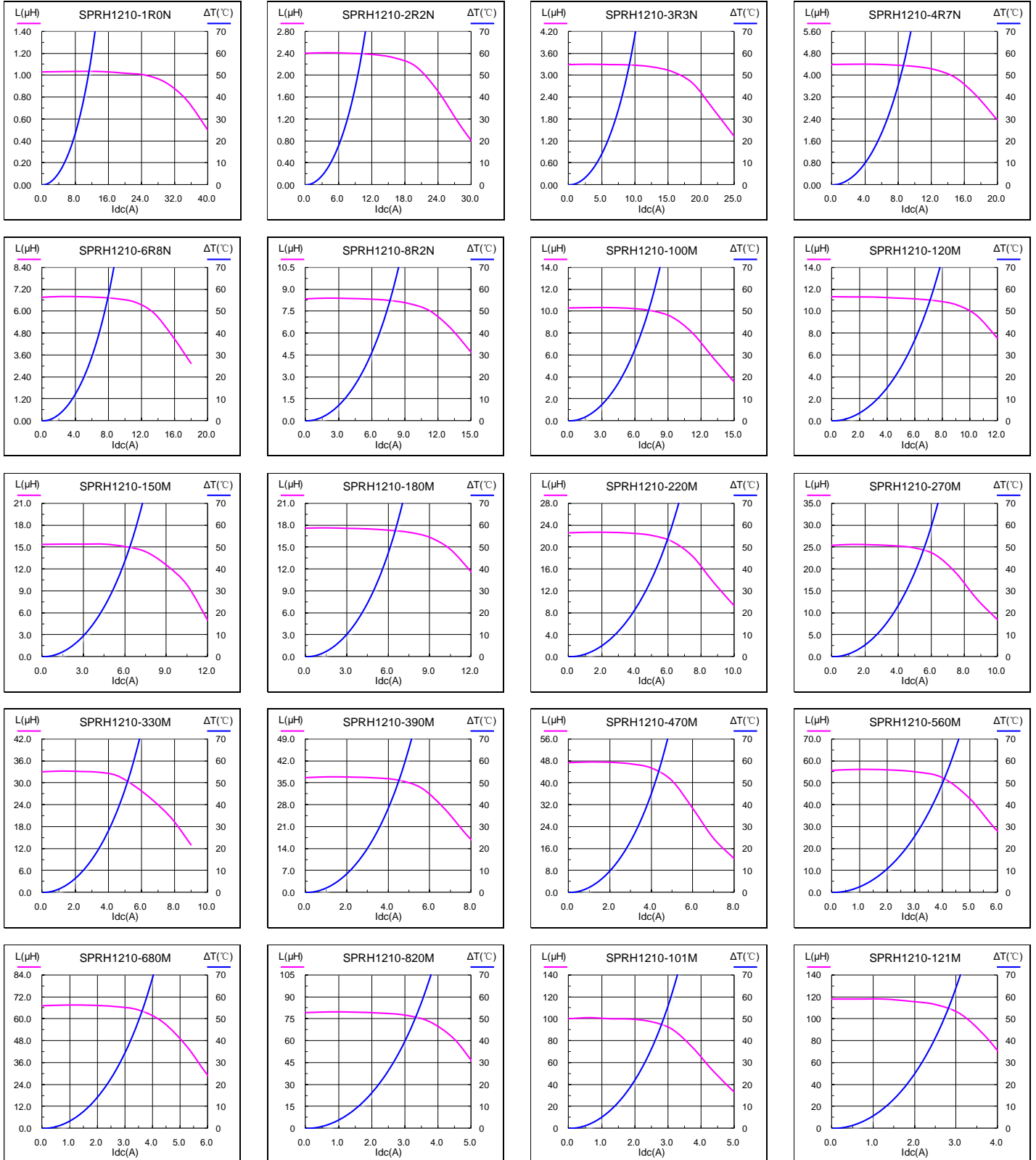
※ Special remind : Circuit design, component placement, PWB size and thickness, cooling system and etc.

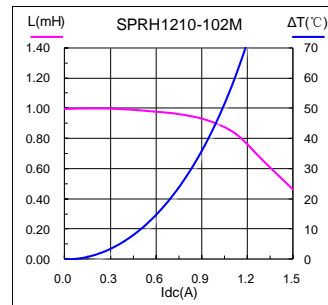
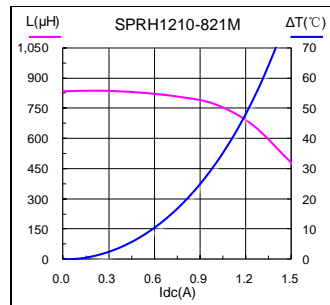
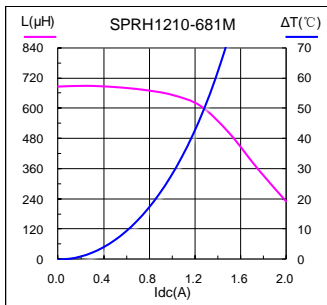
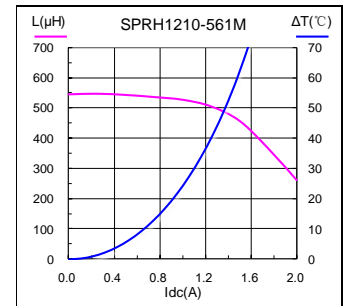
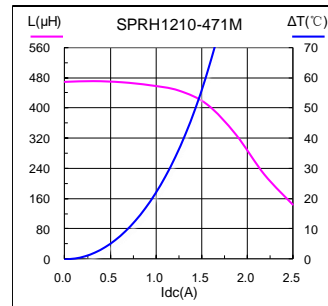
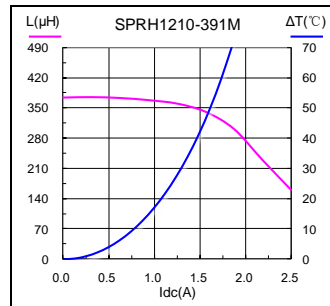
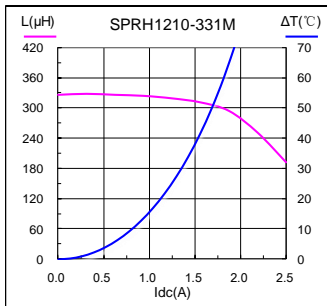
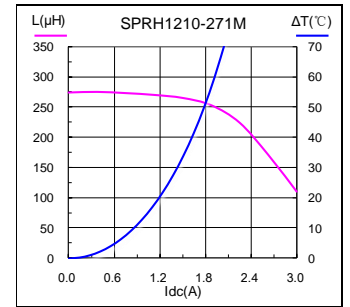
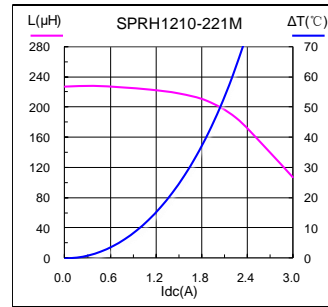
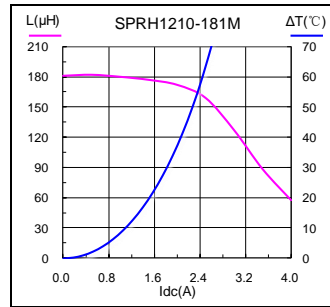
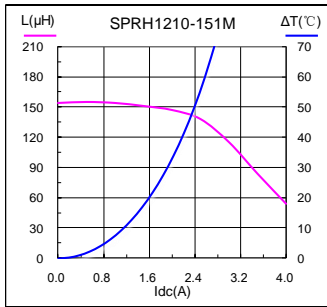
all will affect the product temperature. Please verify the product temperature in the final application.

特别提醒 : 线路设计, 组件布局, 印刷线路板 (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



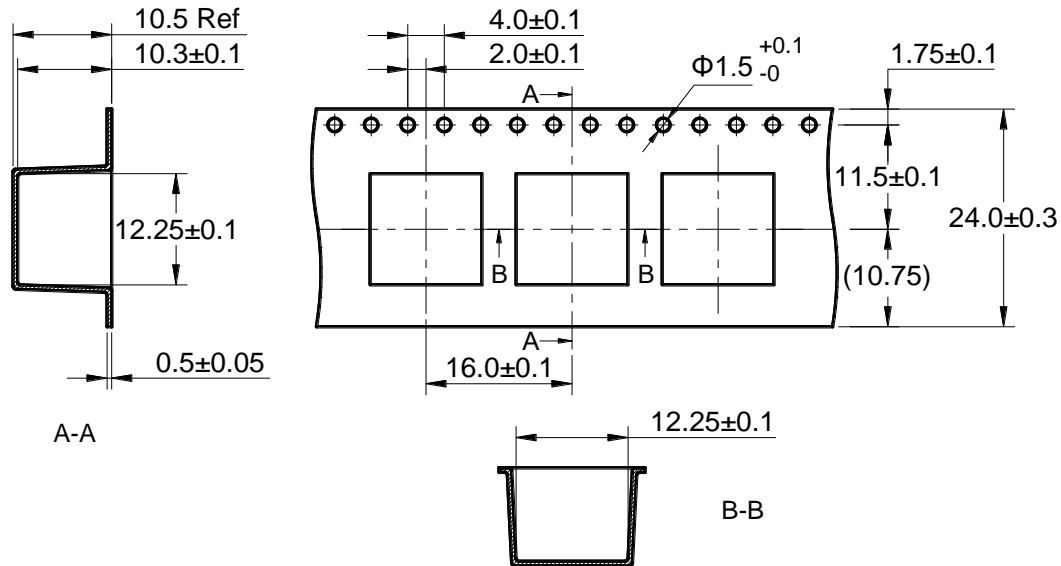


7 Packing specification

包装规格

7.1 Carrier tape dimensions (mm)

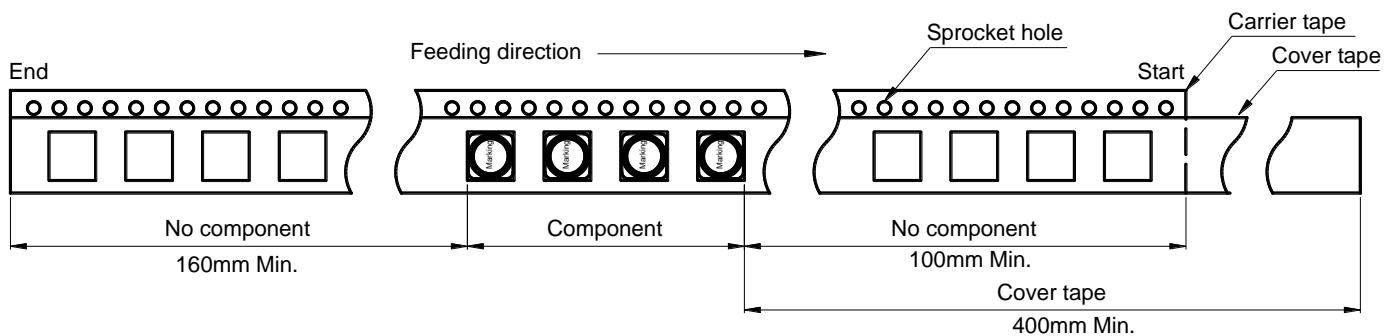
载带尺寸



※ 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

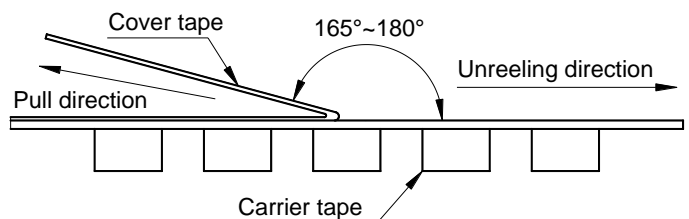
捆包方向



7.3 Cover tape peel off condition

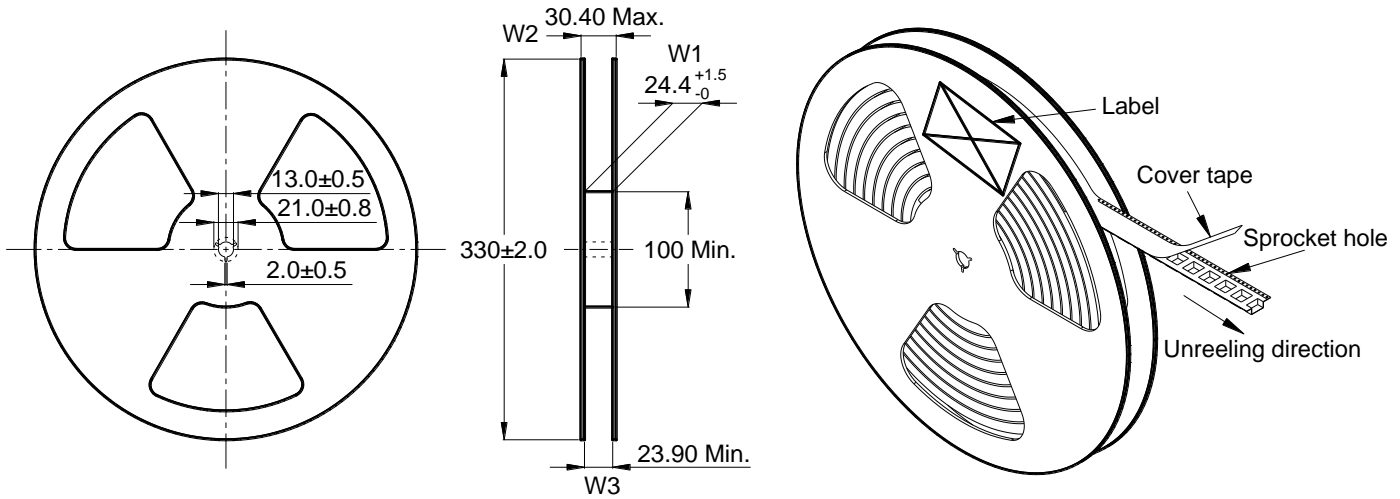
盖带剥离条件

- 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
SPRH1210	250pcs	(250×3) = 750pcs	(750×2) = 1500pcs

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

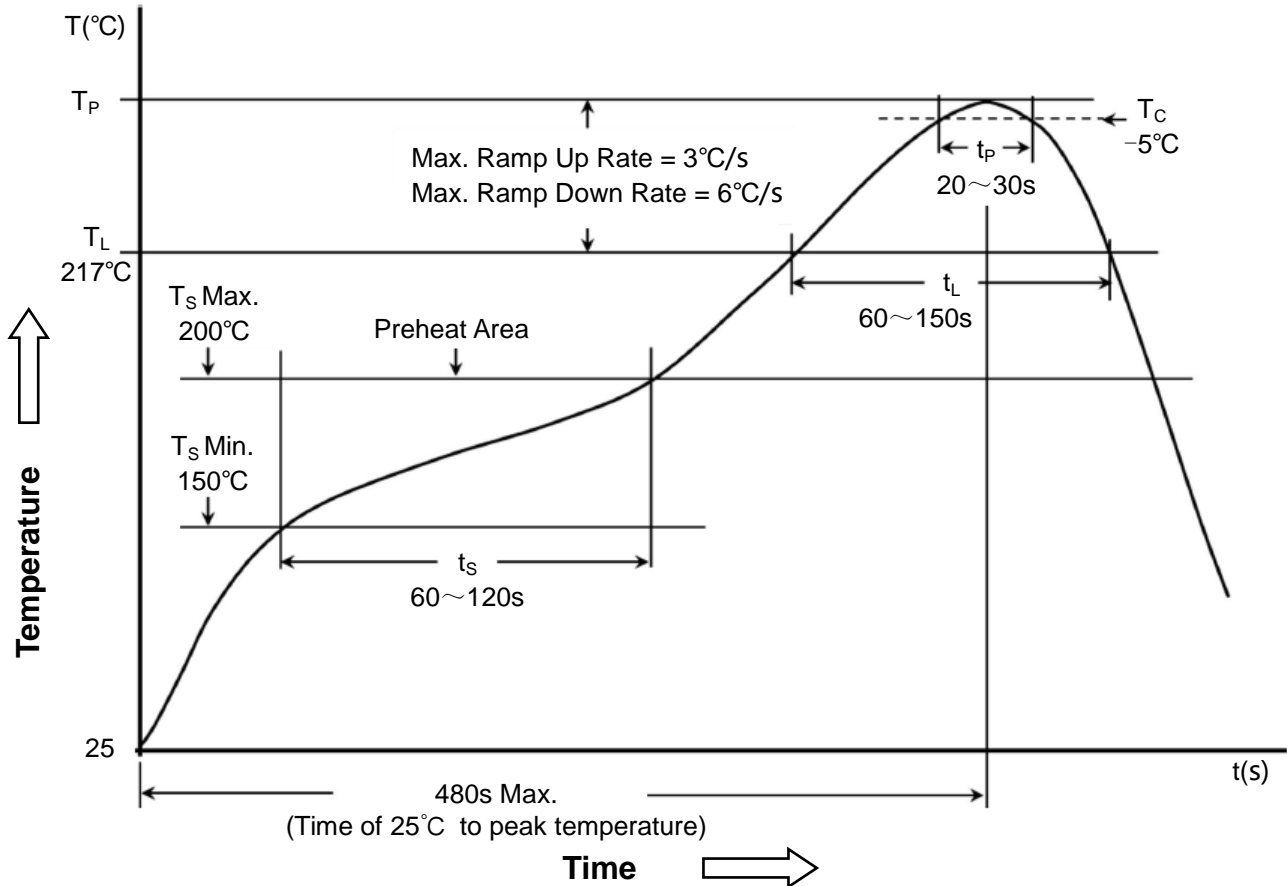
Shipping Label 运输标签
■ Customer Name 客户名称
■ Customer Part No. 客户型号
■ Supplier Part No. 供应商型号
■ Supplier Name 供应商名称
■ Country of origin 产品产地

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 ³	350 ~ 2000 mm ³	>2000 mm ³
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.