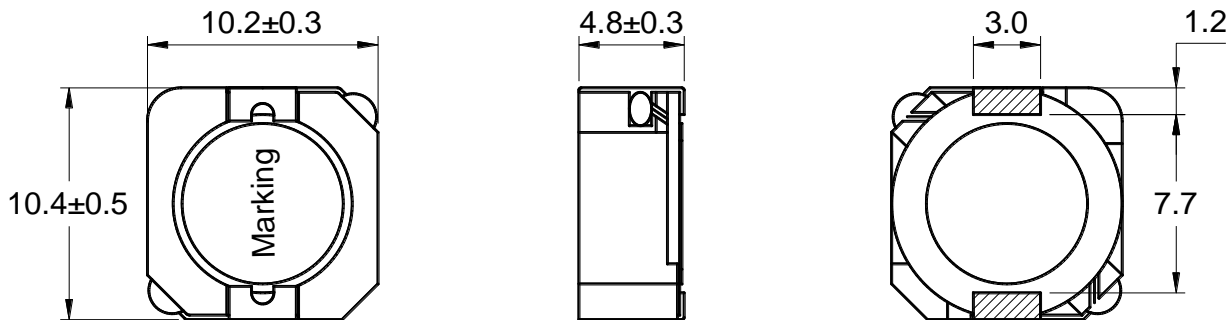


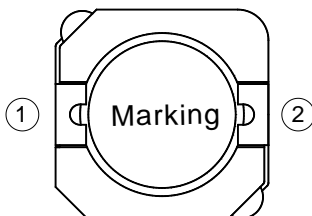
Outline: 产品概要

- 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)

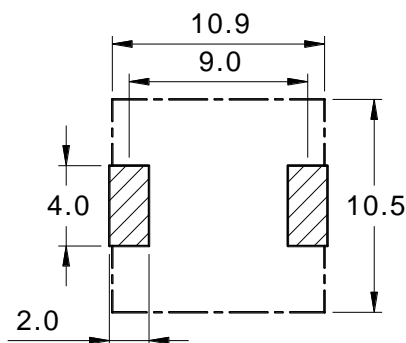
1 Appearance and dimensions (mm) 外形尺寸



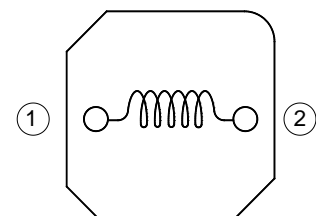
2 Marking 印字标识



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
SPQ105-1R2N	1.20 ±30%	7.40	8.88	13.0	10.4	7.81
SPQ105-2R2N	2.20 ±30%	9.40	11.3	10.0	8.00	6.93
SPQ105-3R3N	3.30 ±30%	12.5	15.0	8.50	6.80	6.01
SPQ105-5R6N	5.60 ±30%	17.0	20.4	6.30	5.04	5.15
SPQ105-6R8N	6.80 ±30%	19.5	20.5	5.50	4.40	4.81
SPQ105-8R2N	8.20 ±30%	21.0	25.2	4.90	3.92	4.64
SPQ105-100M	10.0 ±20%	25.0	30.0	4.50	3.60	4.25
SPQ105-120M	12.0 ±20%	31.0	37.2	4.10	3.28	3.82
SPQ105-150M	15.0 ±20%	39.0	46.8	3.70	2.96	3.40
SPQ105-180M	18.0 ±20%	45.0	54.0	3.50	2.80	3.17
SPQ105-220M	22.0 ±20%	56.0	67.2	3.10	2.48	2.84
SPQ105-270M	27.0 ±20%	60.0	72.0	2.90	2.32	2.74
SPQ105-330M	33.0 ±20%	70.0	84.0	2.40	1.92	2.54
SPQ105-390M	39.0 ±20%	85.0	102	2.20	1.76	2.31
SPQ105-470M	47.0 ±20%	100	120	2.10	1.68	2.13
SPQ105-560M	56.0 ±20%	125	150	1.90	1.52	1.90
SPQ105-680M	68.0 ±20%	135	162	1.70	1.36	1.83
SPQ105-820M	82.0 ±20%	178	214	1.60	1.28	1.59
SPQ105-101M	100 ±20%	192	230	1.50	1.20	1.53
SPQ105-121M	120 ±20%	242	290	1.35	1.08	1.37
SPQ105-151M	150 ±20%	272	326	1.20	0.96	1.29
SPQ105-181M	180 ±20%	338	406	1.10	0.88	1.16
SPQ105-221M	220 ±20%	385	462	1.00	0.80	1.08
SPQ105-271M	270 ±20%	510	612	0.90	0.72	0.94
SPQ105-331M	330 ±20%	560	672	0.80	0.64	0.90
SPQ105-391M	390 ±20%	760	912	0.70	0.56	0.77
SPQ105-471M	470 ±20%	820	984	0.65	0.52	0.74
SPQ105-561M	560 ±20%	1,000	1,200	0.60	0.48	0.67
SPQ105-681M	680 ±20%	1,100	1,320	0.55	0.44	0.64
SPQ105-821M	820 ±20%	1,510	1,812	0.50	0.40	0.55
SPQ105-102M	1,000 ±20%	1,660	1,992	0.45	0.36	0.52

■ 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)。

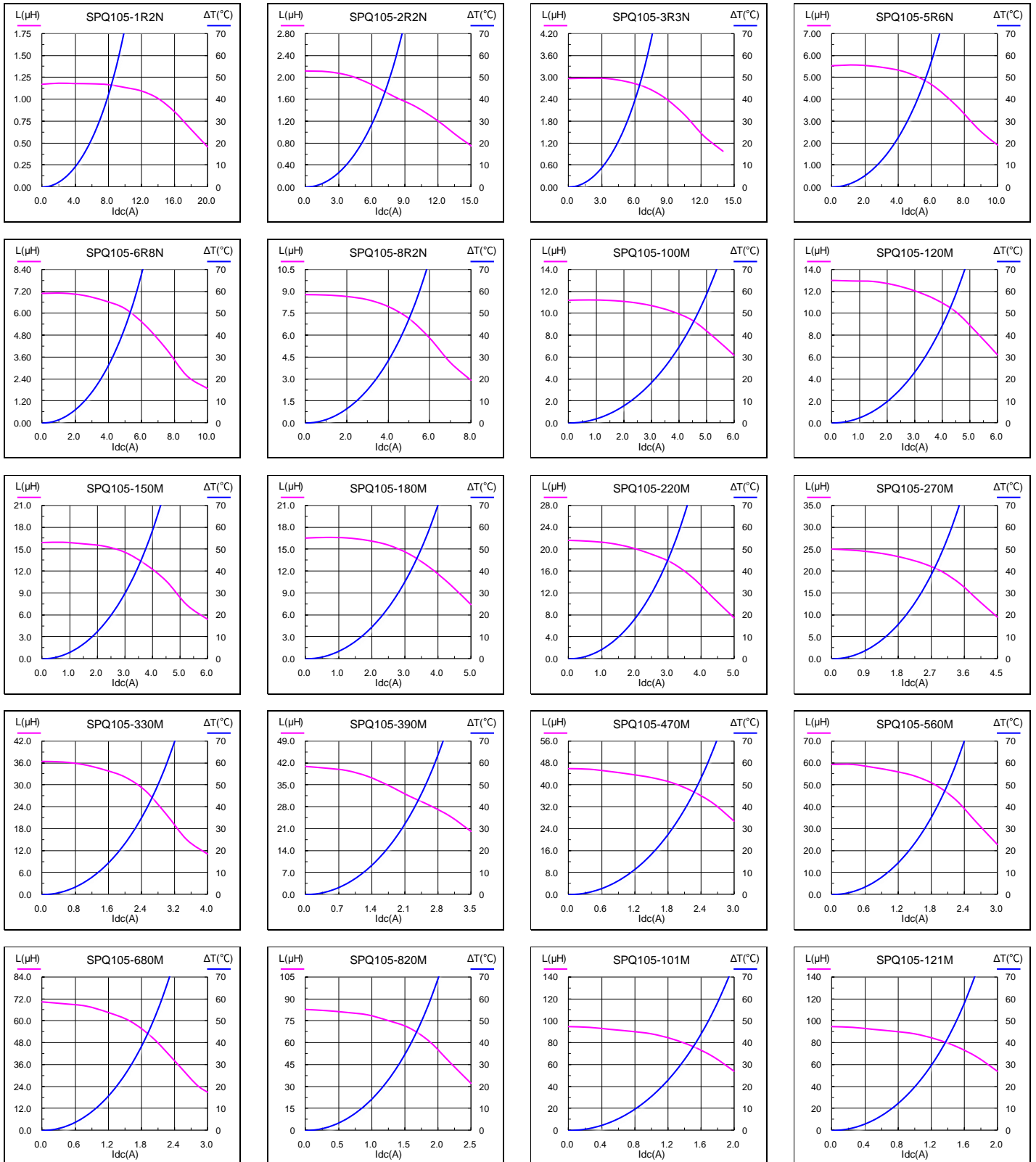
※ Special remind: Circuit design, component placement, PWB size and thickness, cooling system and etc.

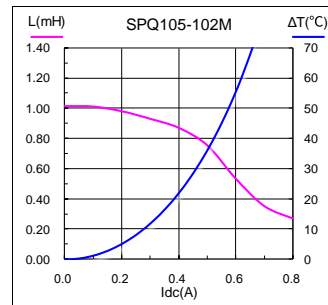
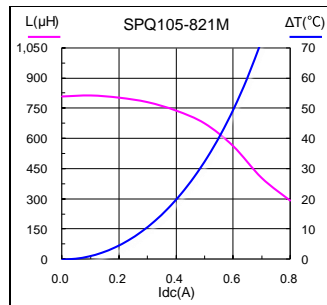
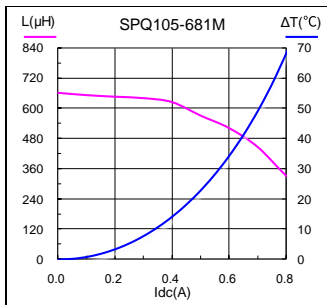
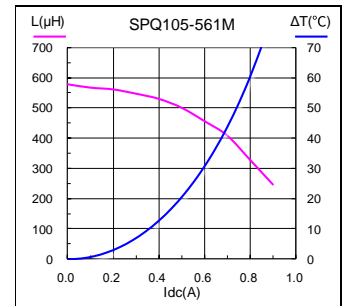
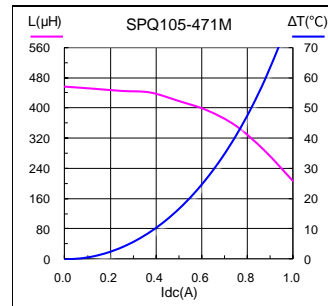
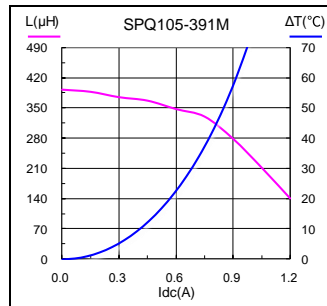
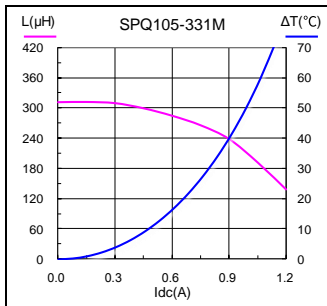
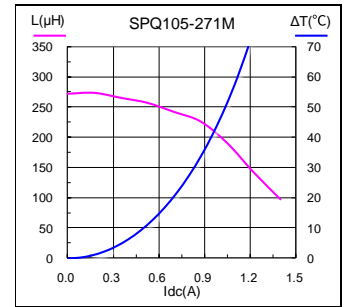
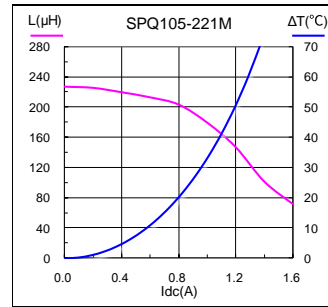
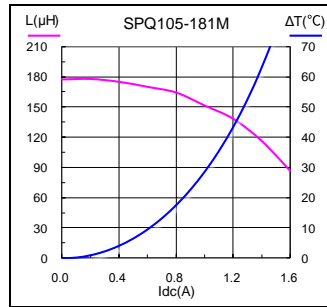
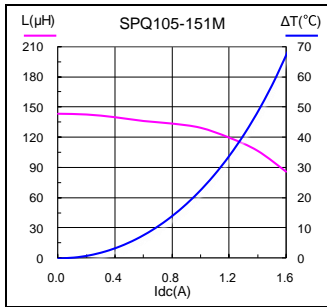
all will affect the product temperature. Please verify the product temperature in the final application.

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



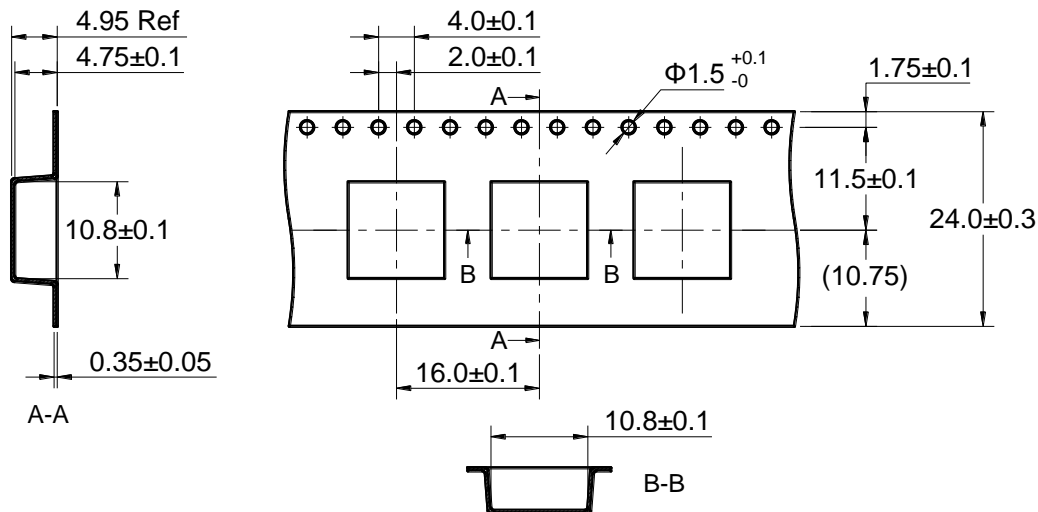


7 Packing specification

包装规格

7.1 Carrier tape dimensions (mm)

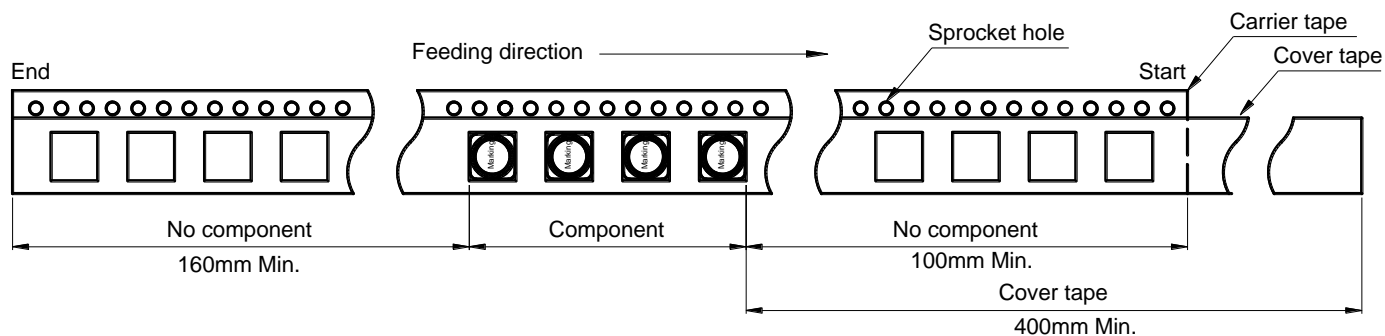
载带尺寸



※ 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

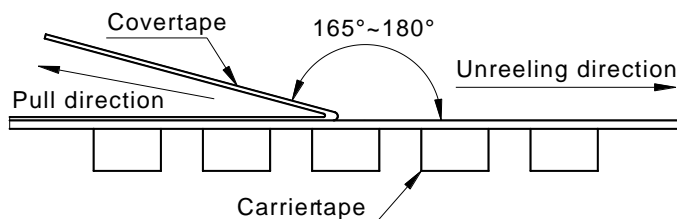
捆包方向



7.3 Cover tape peel off condition

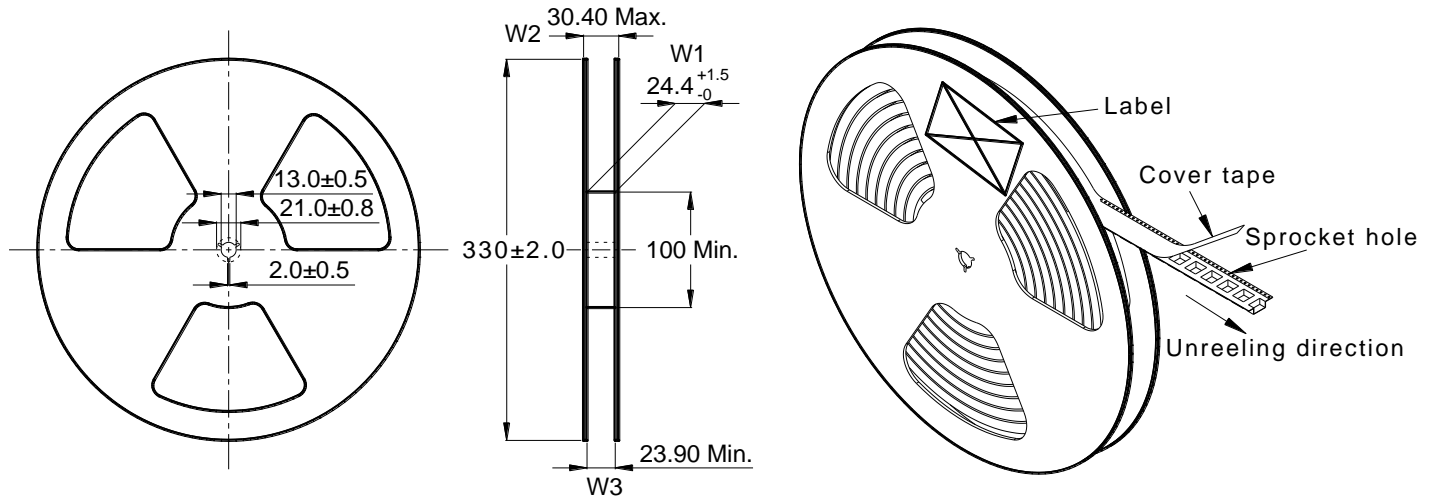
盖带剥离条件

- 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
SPQ105	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

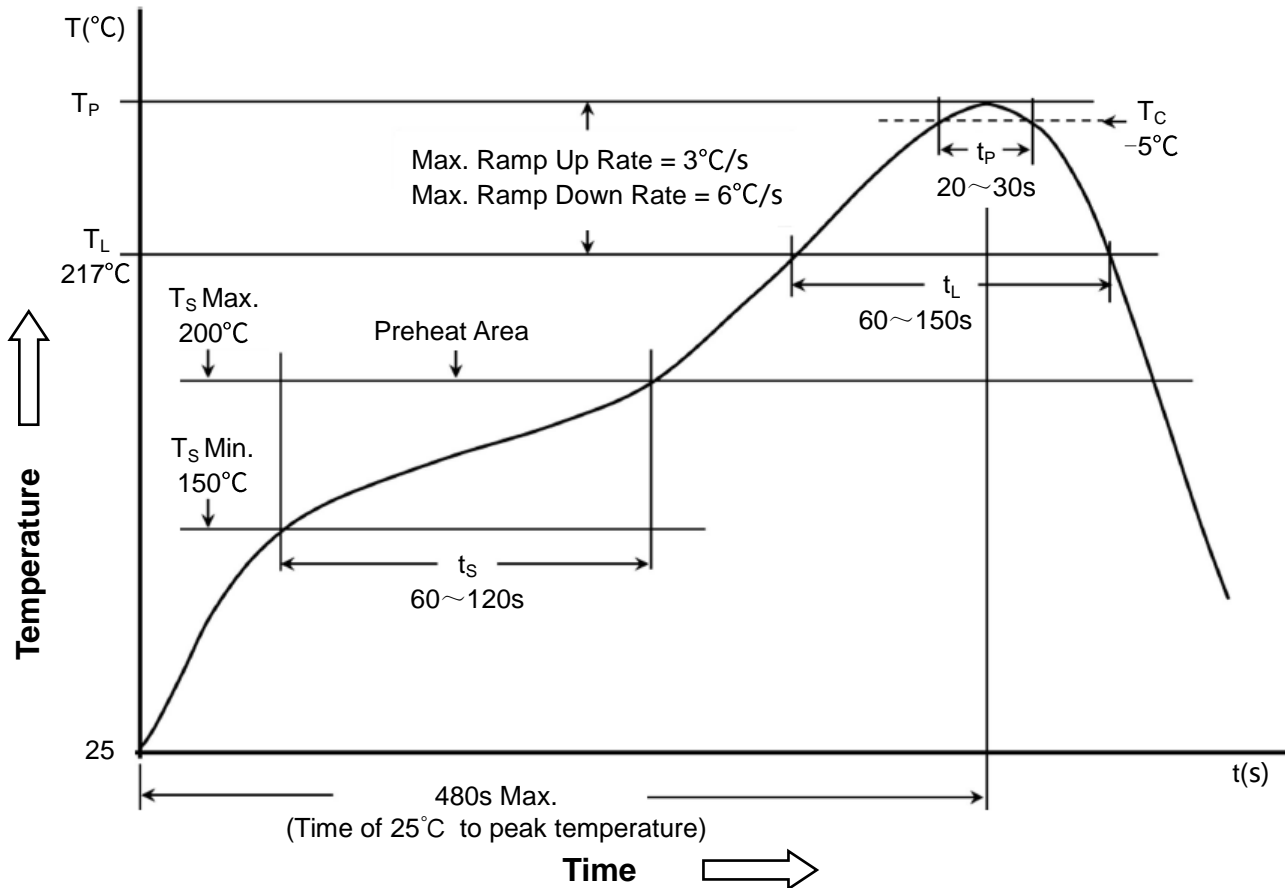
Shipping Label 运输标签
■ Customer Name 客户名称
■ Customer Part No. 客户型号
■ Supplier Part No. 供应商型号
■ Supplier Name 供应商名称
■ Country of origin 产品产地

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 (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.