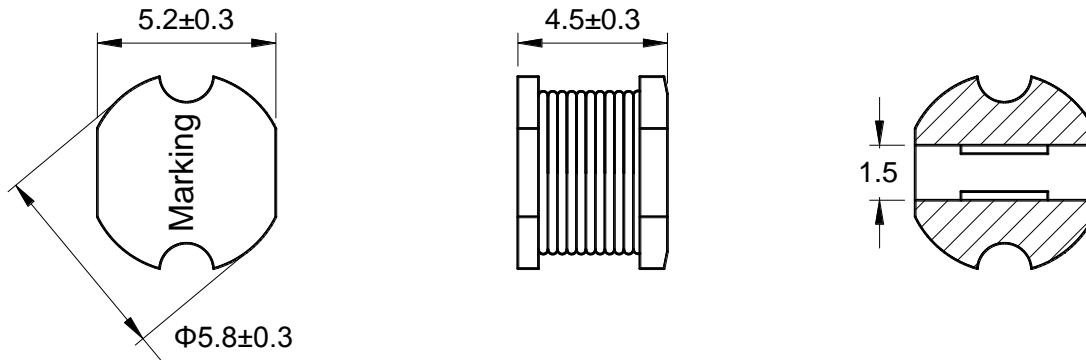




Outline: 产品概要

- Small size, high rated current, low DCR.
小尺寸，耐大电流，低直流电阻。
- 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, laptop, network communication equipment, and etc.
广泛应用于升降压转换器，显示器，笔记本电脑，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)

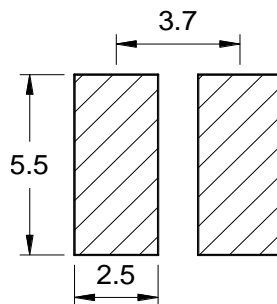
1 Appearance and dimensions (mm) 外形尺寸



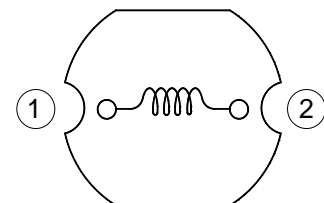
2 Marking 印字标识



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
SP54-1R0M	1.00 ± 20%	8.30	10.0	8.10	6.48	7.08
SP54-2R2M	2.20 ± 20%	13.6	16.3	5.60	4.48	5.45
SP54-3R3M	3.30 ± 20%	19.4	23.3	4.40	3.52	4.67
SP54-4R7M	4.70 ± 20%	23.4	28.1	3.75	3.00	4.25
SP54-6R8M	6.80 ± 20%	31.7	38.0	3.30	2.64	3.65
SP54-100K	10.0 ± 10%	45.4	54.5	2.70	2.16	3.05
SP54-120K	12.0 ± 10%	57.6	69.1	2.40	1.92	2.71
SP54-150K	15.0 ± 10%	78.0	93.6	2.00	1.60	2.33
SP54-180K	18.0 ± 10%	85.8	103	1.90	1.52	2.22
SP54-220K	22.0 ± 10%	100	120	1.80	1.44	2.06
SP54-270K	27.0 ± 10%	127	152	1.58	1.26	1.83
SP54-330K	33.0 ± 10%	143	172	1.50	1.20	1.65
SP54-390K	39.0 ± 10%	184	221	1.22	0.98	1.45
SP54-470K	47.0 ± 10%	202	242	1.20	0.96	1.39
SP54-560K	56.0 ± 10%	252	302	1.10	0.88	1.24
SP54-680K	68.0 ± 10%	300	360	0.98	0.78	1.14
SP54-820K	82.0 ± 10%	366	439	0.94	0.75	1.03
SP54-101K	100 ± 10%	420	504	0.80	0.64	0.91
SP54-121K	120 ± 10%	494	593	0.76	0.61	0.84
SP54-151K	150 ± 10%	659	791	0.68	0.54	0.77
SP54-181K	180 ± 10%	791	949	0.61	0.49	0.70
SP54-221K	220 ± 10%	900	1,080	0.54	0.43	0.66
SP54-271K	270 ± 10%	1,165	1,398	0.49	0.39	0.58
SP54-331K	330 ± 10%	1,290	1,548	0.45	0.36	0.55
SP54-391K	390 ± 10%	1,645	1,974	0.41	0.33	0.49
SP54-471K	470 ± 10%	1,860	2,232	0.39	0.31	0.46
SP54-561K	560 ± 10%	2,500	3,000	0.35	0.28	0.39
SP54-681K	680 ± 10%	2,894	3,473	0.32	0.26	0.37
SP54-821K	820 ± 10%	3,330	3,996	0.29	0.23	0.33
SP54-102K	1,000 ± 10%	4,370	5,244	0.26	0.21	0.29

■ 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 1kHz, 0.25V.

电感测试条件为 1kHz, 0.25V。

※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).

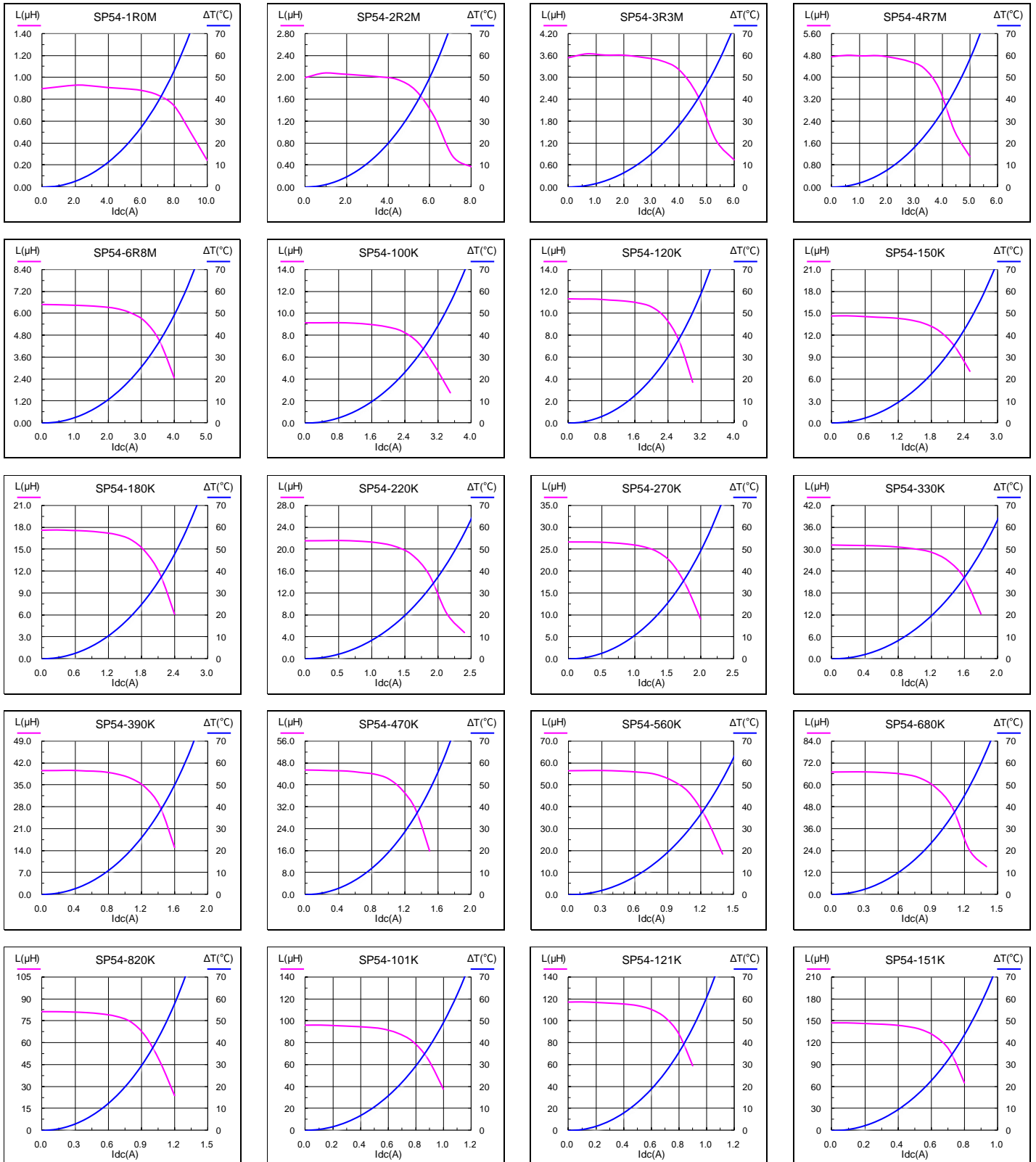
温升电流: 使产品温度上升到 ΔT40°C 时所加载的实际直流电流值 (Ta=25°C)。

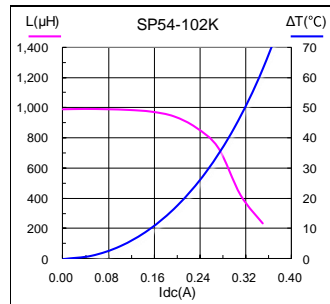
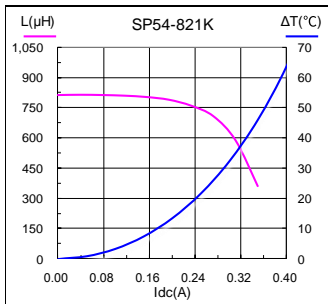
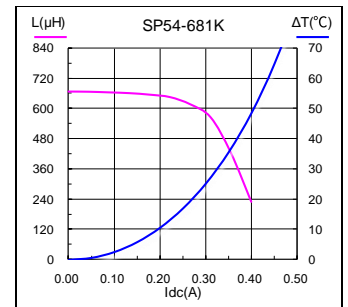
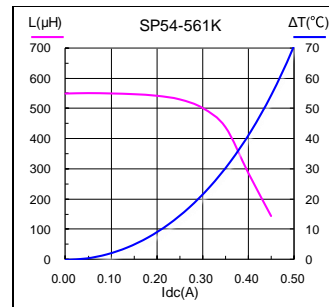
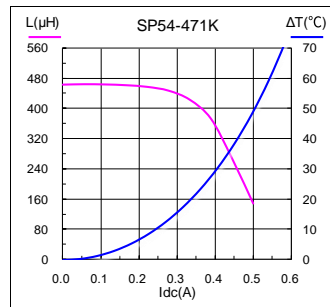
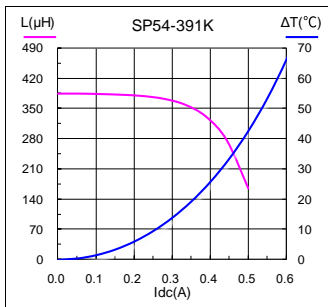
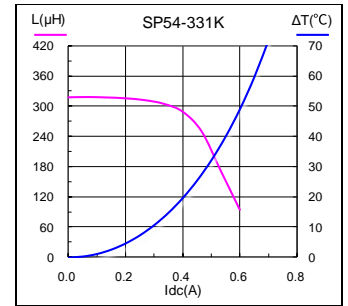
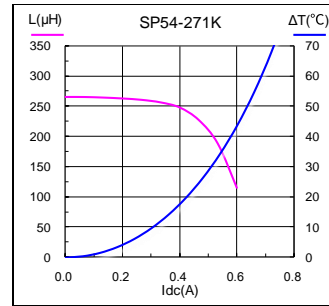
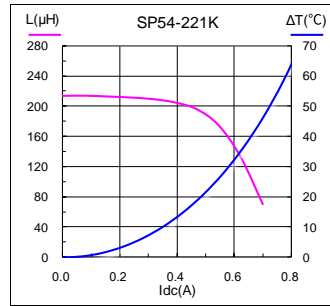
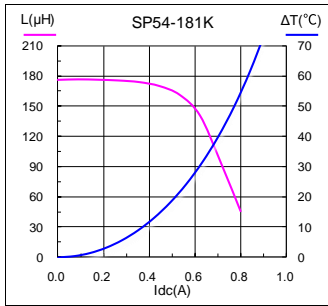
※ Special remind: Circuit design, component placement, PWB size and thickness, cooling system and etc. all will affect the product temperature. Please verify the product temperature in the final application.

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



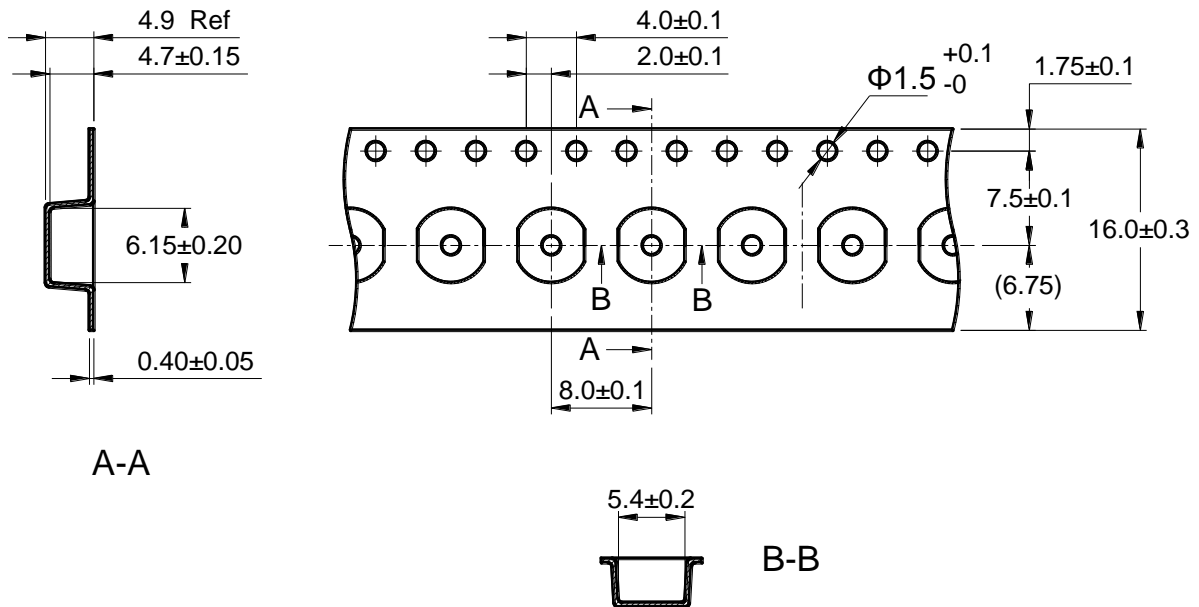


7 Packing specification

包装规格

7.1 Carrier tape dimensions (mm)

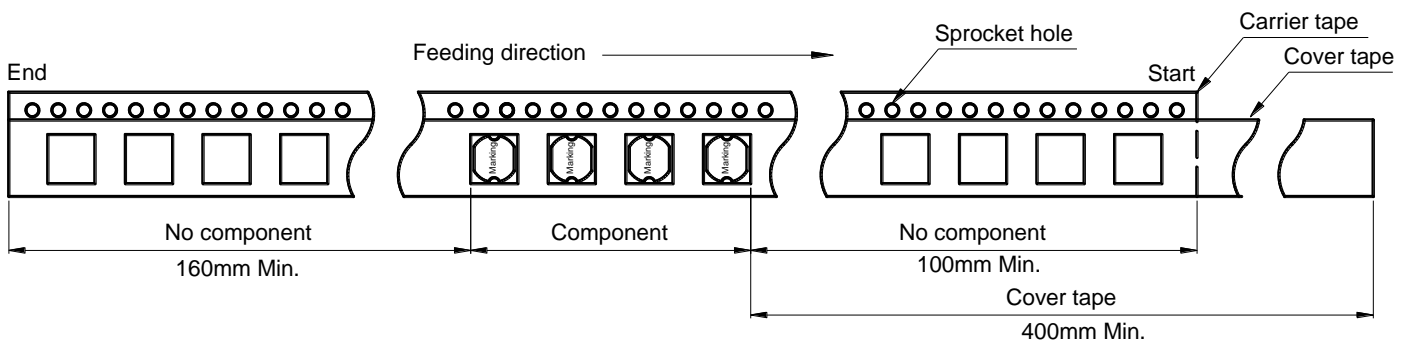
载带尺寸



※ 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

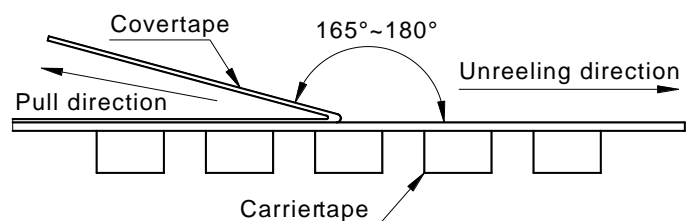
捆包方向



7.3 Cover tape peel off condition

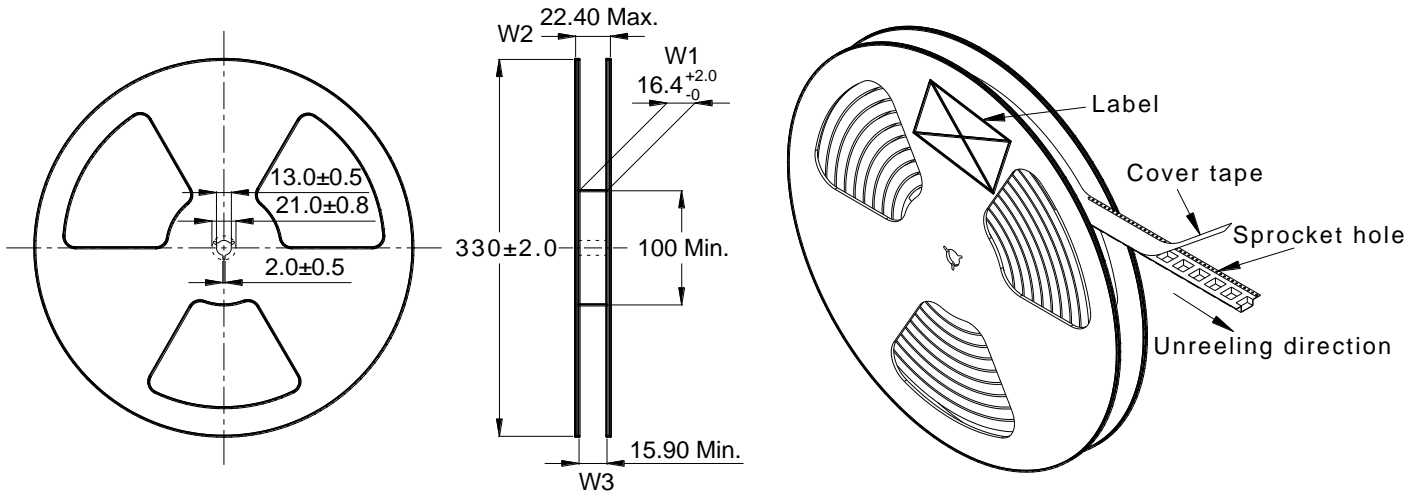
盖带剥离条件

- 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 ± 10 mm/min.
参考剥离速度 300 ± 10 mm/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
SP54	1500pcs	(1500×4) = 6000pcs	(6000×2) = 12000pcs

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

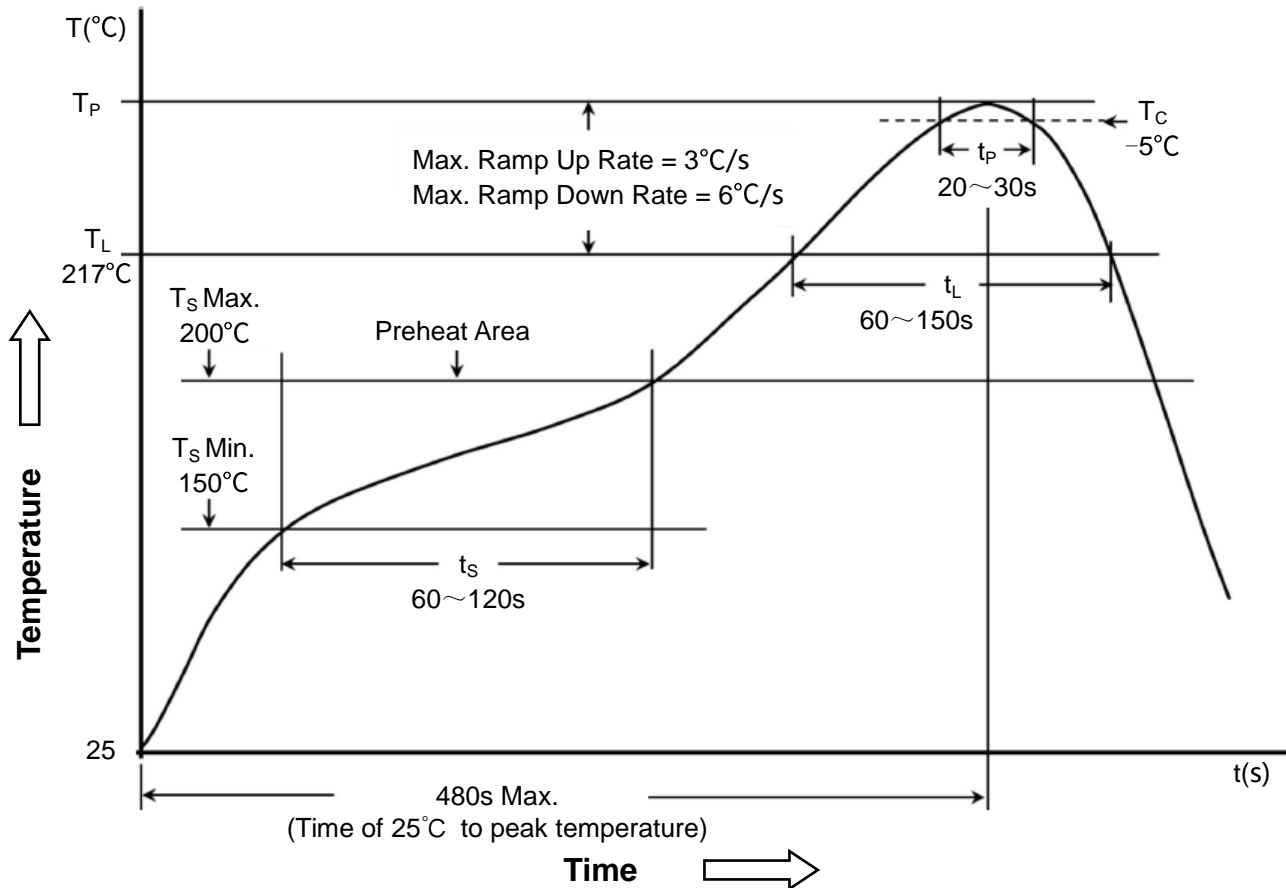
Shipping Label 运输标签
■ Customer Name 客户名称
■ Customer Part No. 客户型号
■ Supplier Part No. 供应商型号
■ Supplier Name 供应商名称
■ Country of origin 产品产地

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.