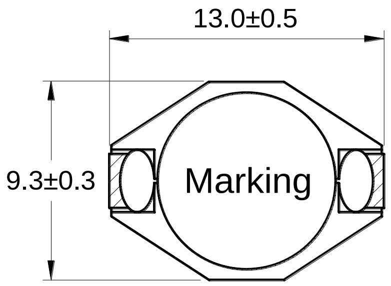
CODACA科达嘉

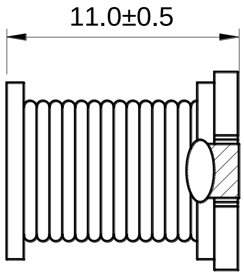
SMD Power Inductor
- SPF3340 Series

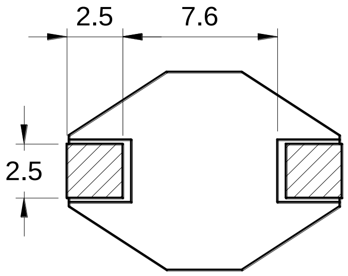
Outline:
产品概要

- 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, automotive electronics, household appliance, and etc.
  广泛应用于升降压转化器，显示器，笔记本电脑，汽车电子，家用电器等。
- Operating temperature : -40℃ ～ +125℃ (Including coil’s temperature rise)
  工作温度：-40℃ ～ +125℃ (包含线圈发热)

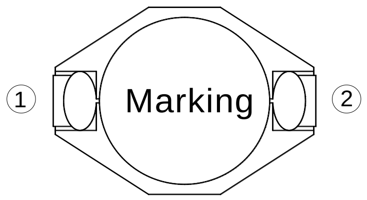
1 Appearance and dimensions (mm)
外形尺寸



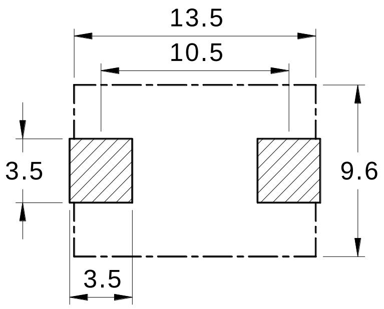




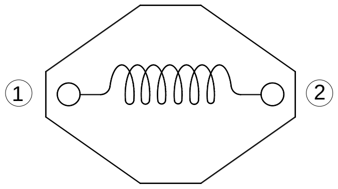
2 Marking
印字标识



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
	±20%	Typical	Max	Typical	Max	Typical
SPF3340-100M	10.0	21.5	25.8	10.5	8.40	4.54
SPF3340-120M	12.0	23.3	28.0	10.0	8.00	4.36
SPF3340-150M	15.0	30.4	36.5	9.50	7.60	3.82
SPF3340-180M	18.0	34.0	40.8	9.00	7.20	3.61
SPF3340-220M	22.0	44.0	52.8	8.40	6.72	3.17
SPF3340-270M	27.0	50.0	60.0	7.50	6.00	2.98
SPF3340-330M	33.0	56.0	67.2	6.90	5.52	2.81
SPF3340-390M	39.0	62.0	74.4	6.30	5.04	2.67
SPF3340-470M	47.0	79.5	95.0	5.90	4.72	2.36
SPF3340-560M	56.0	89.0	107	5.35	4.28	2.23
SPF3340-680M	68.0	120	143	4.85	3.88	1.93
SPF3340-820M	82.0	137	164	4.35	3.48	1.80
SPF3340-101M	100	153	184	4.00	3.20	1.70
SPF3340-121M	120	208	250	3.60	2.88	1.46
SPF3340-151M	150	239	287	3.30	2.64	1.36
SPF3340-181M	180	307	368	3.00	2.40	1.20
SPF3340-221M	220	350	420	2.70	2.16	1.12
SPF3340-271M	270	398	478	2.40	1.92	1.05
SPF3340-331M	330	502	602	2.20	1.76	0.94
SPF3340-391M	390	650	780	2.00	1.60	0.83
SPF3340-471M	470	714	857	1.85	1.48	0.79
SPF3340-561M	560	804	965	1.70	1.36	0.74
SPF3340-681M	680	1,030	1,236	1.50	1.20	0.66
SPF3340-821M	820	1,310	1,572	1.40	1.12	0.58
SPF3340-102M	1,000	1,570	1,884	1.20	0.96	0.53
SPF3340-152M	1,500	2,350	2,820	1.00	0.80	0.43

■ All data is tested based on 25℃ 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。

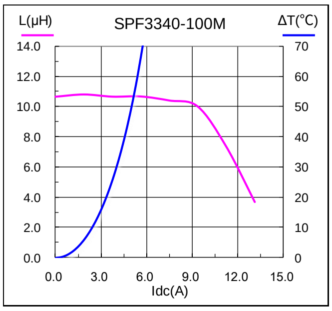
※2 Saturation current：the actual value of DC current when the inductance decrease 20% of its initial value.
饱和电流：电感值下降其初始值的 20%时所加载的实际直流电流值。

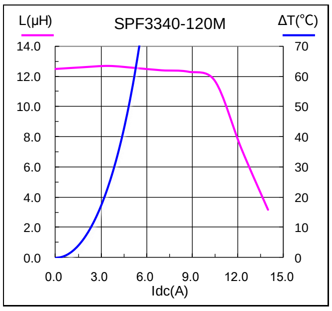
※3 Temperature rise current：the actual value of DC current when the temperature rise is ΔT40℃(Ta=25℃).
温升电流：使产品温度上升到 ΔT40°C时所加载的实际直流电流值(Ta=25°C)。

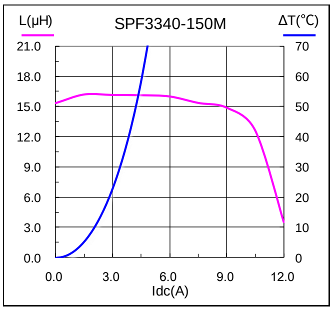
※ Special remind：Circuit design, component placement, PWB size and thickness, cooling system and etc. all will affect the product temperature. Please verify the product temperature in the final application.
特别提醒：线路设计，组件布局，印刷线路板(PWB)尺寸及厚度，散热系统等均会影响产品温度。
请务必在最终应用时，验证产品发热状况。

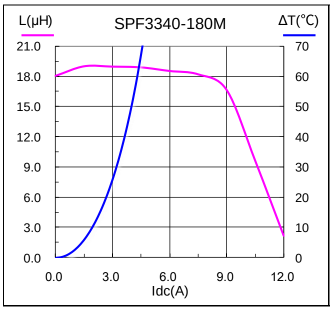
6 Saturation current VS temperature rise current curve

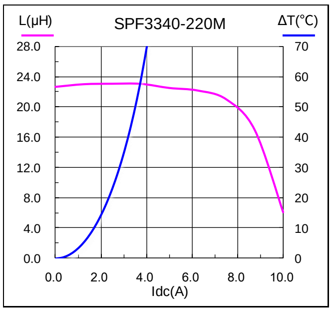
饱和电流 VS 温升电流曲线

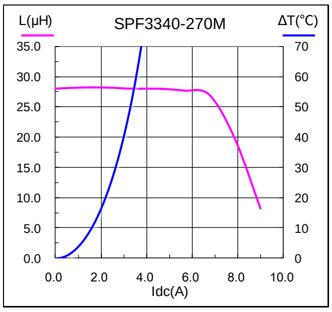


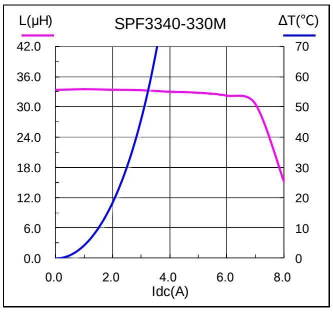


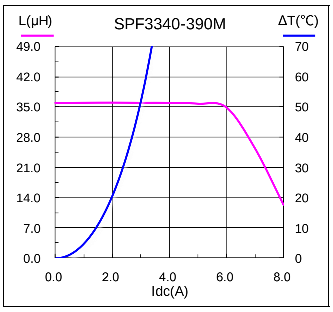


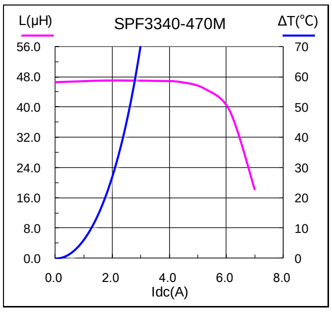


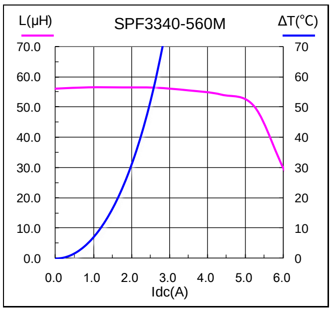


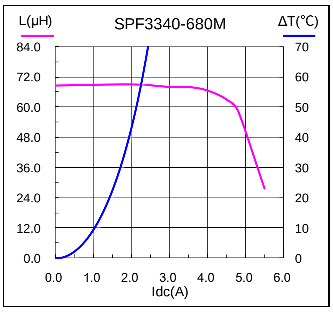


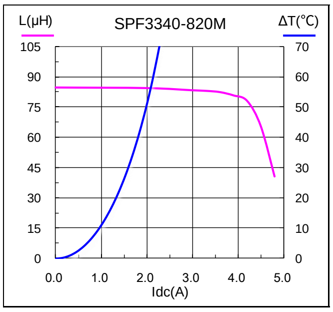


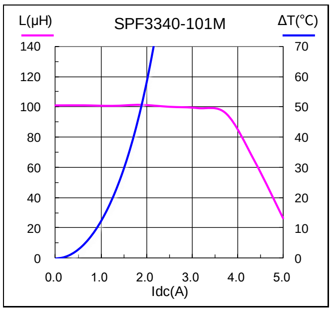


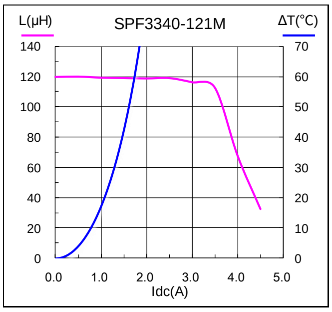


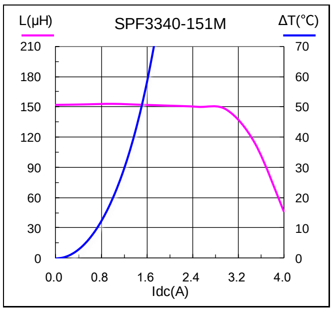


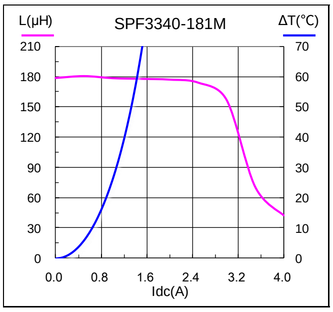


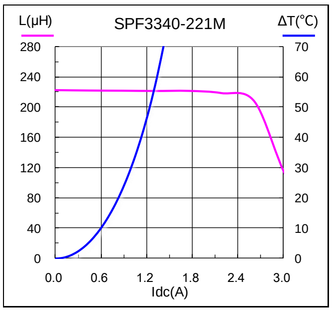


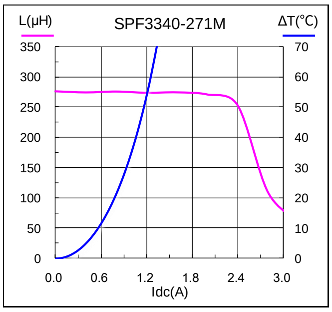


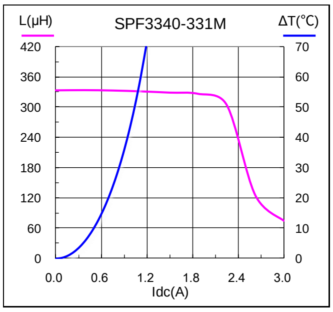


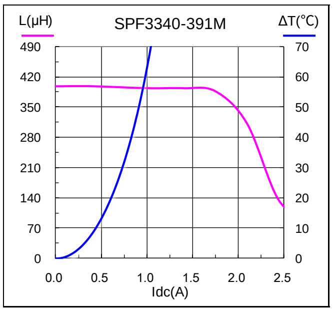


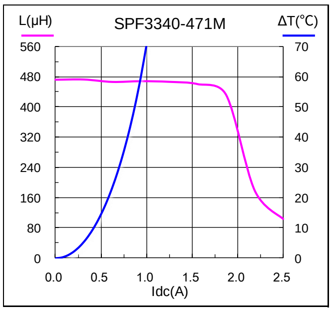


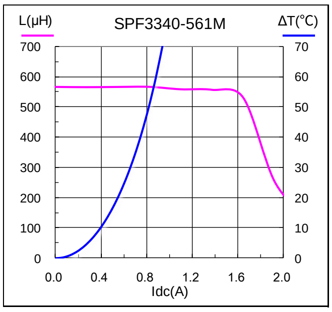


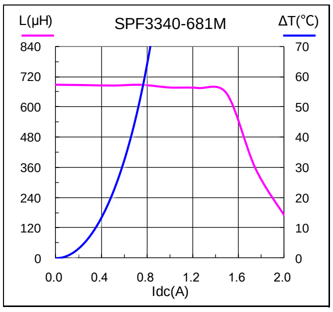


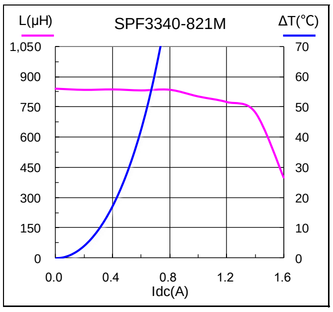


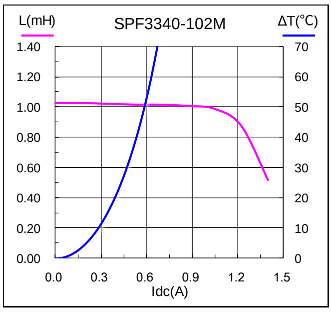


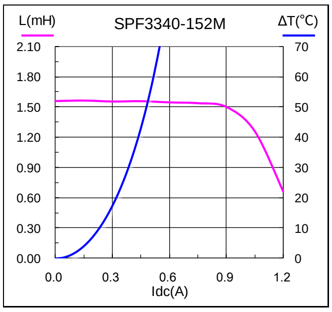

L(μH)
SPF3340-471M
ΔT(℃)
560
480
400
320
240
160
80
0
70
60
50
40
30
20
10
0
0.0
0.5
1.0
1.5
2.0
2.5
Idc(A)


L(μH)
SPF3340-561M
ΔT(℃)
700
600
500
400
300
200
100
0
70
60
50
40
30
20
10
0
0.0
0.4
0.8
1.2
1.6
2.0
Idc(A)


L(μH)
SPF3340-681M
ΔT(℃)
840
720
600
480
360
240
120
0
70
60
50
40
30
20
10
0
0.0
0.4
0.8
1.2
1.6
2.0
Idc(A)

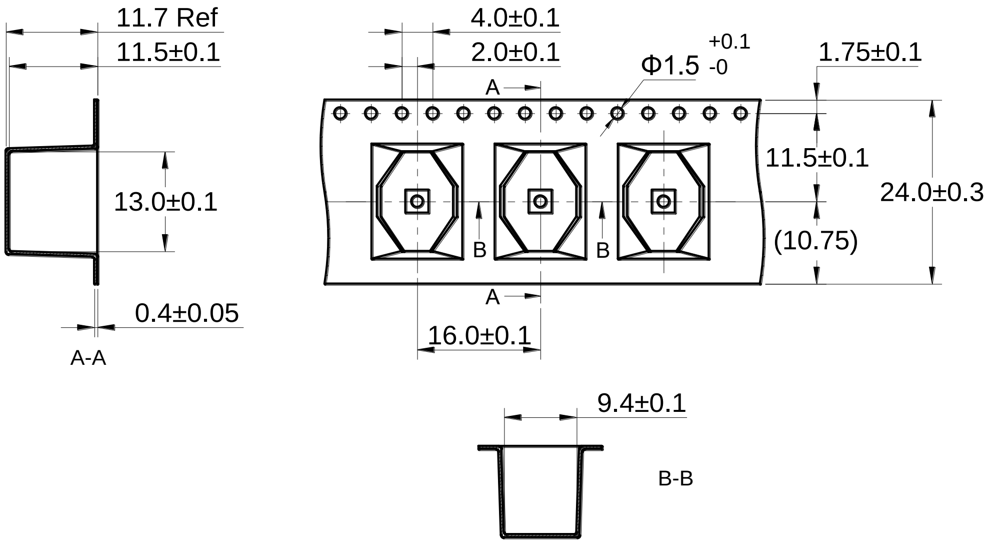

L(μH)
SPF3340-821M
ΔT(℃)
1,050
900
750
600
450
300
150
0
70
60
50
40
30
20
10
0
0.0
0.4
0.8
1.2
1.6
Idc(A)


L(mH)
SPF3340-102M
ΔT(℃)
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
70
60
50
40
30
20
10
0
0.0
0.3
0.6
0.9
1.2
1.5
Idc(A)


L(mH)
SPF3340-152M
ΔT(℃)
2.10
1.80
1.50
1.20
0.90
0.60
0.30
0.00
70
60
50
40
30
20
10
0
0.0
0.3
0.6
0.9
1.2
Idc(A)

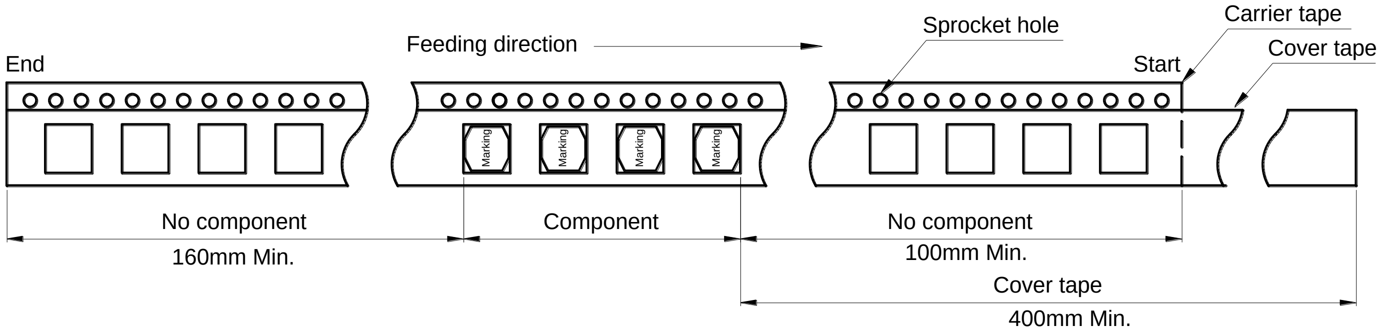
7 Packing specification
包装规格

7.1 Carrier tape dimensions (mm)
载带尺寸



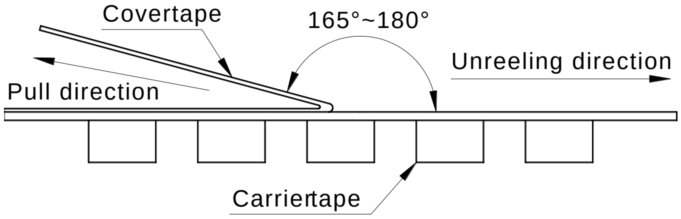
※ Packing is referred to the international standard IEC 60286-3.
包装参照国际标准 IEC 60286-3。

7.2 Tape direction
捆包方向

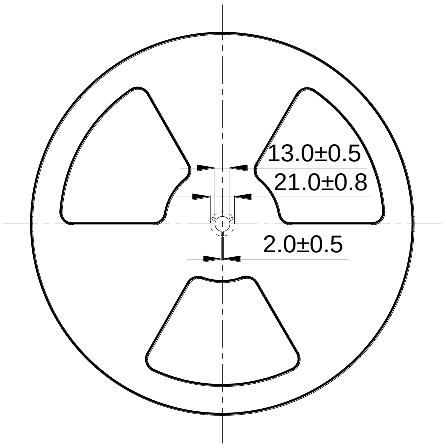


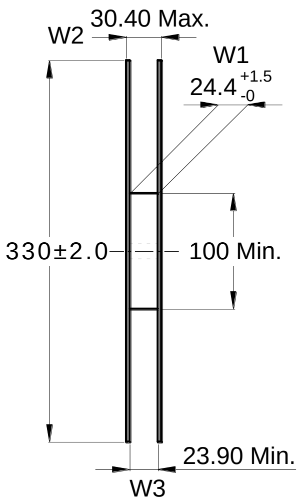
7.3 Cover tape peel off condition
盖带剥离条件

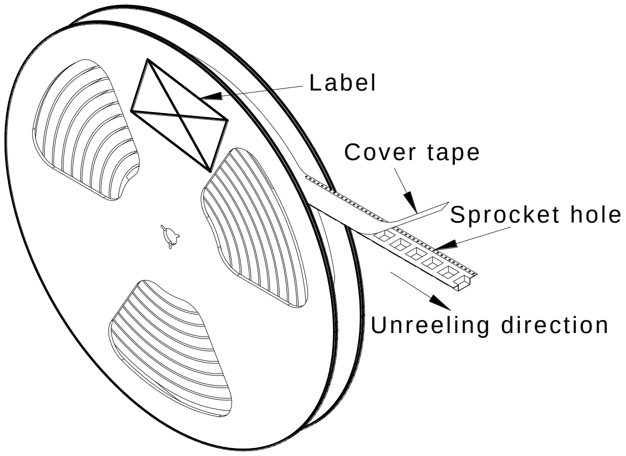
- ■ Cover tape peel force shall be 0.1 to 1.3N.
  盖带剥离力度为 0.1～1.3N。
- ■ Reference peel speed 300±10mm/min.
  参考剥离速度 300±10mm/分钟。



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
SPF3340	350pcs	(350×3) = 1050pcs	(1050×2) = 2100pcs

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

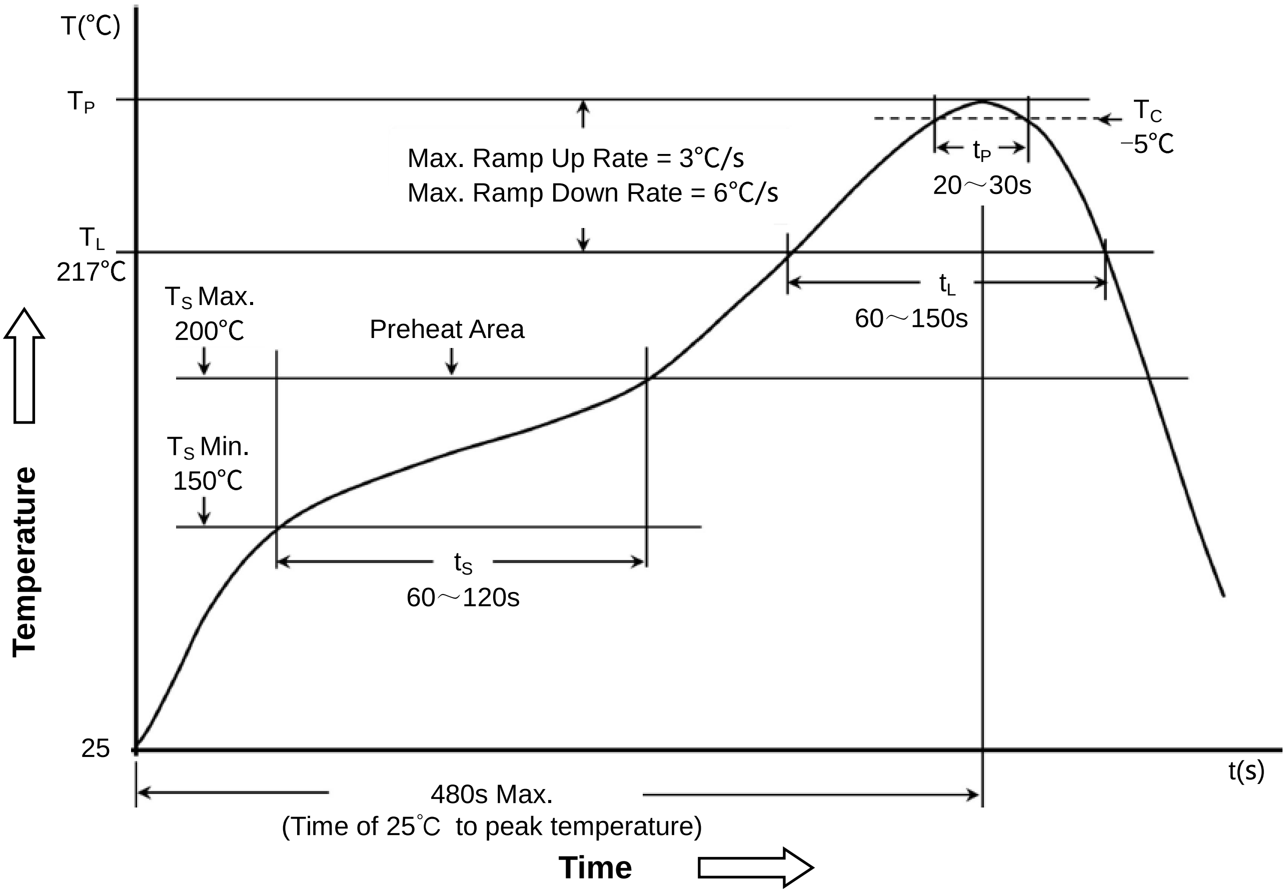
- ■ Part No.
  产品型号
- ■ Electrical Information
  产品电性信息
- ■ Quantity
  数 量
- ■ Packing No.
  包装流水号

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℃	260℃	260℃
	1.6～2.5mm	260℃	250℃	245℃
	≥2.5mm	250℃	245℃	245℃

※ Reflow is referred to standard IPC/JEDEC J-STD-020D.
回流焊参照标准 IPC/JEDEC J-STD-020D。