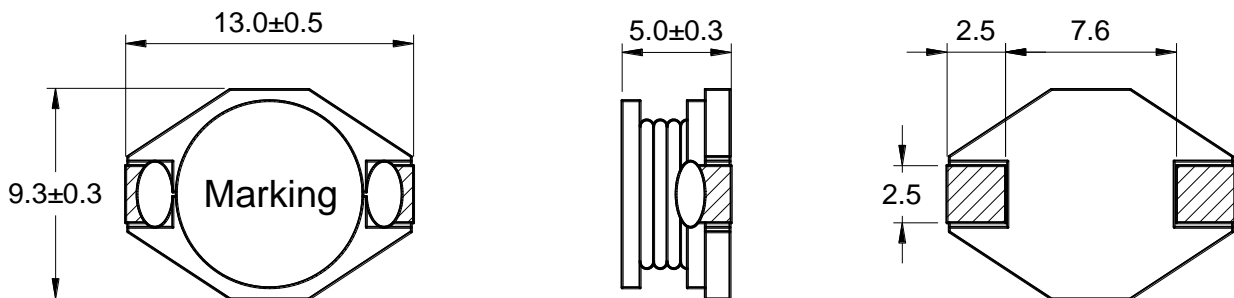




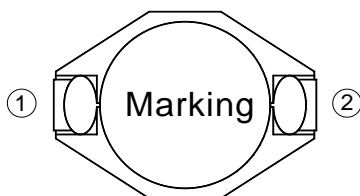
### Outline: 产品概要

- 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换器，显示器，笔记本电脑，汽车电子，家用电器等。
- 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)

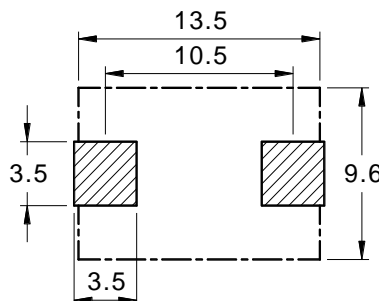
### 1 Appearance and dimensions (mm) 外形尺寸



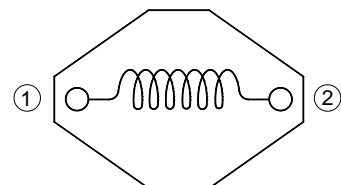
### 2 Marking 印字标识



### 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 ±20%	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
SPF3316-1R0M	1.00	6.50	7.80	15.0	12.0	7.84
SPF3316-2R2M	2.20	9.20	11.0	10.5	8.40	6.59
SPF3316-3R3M	3.30	12.0	14.4	9.00	7.20	5.77
SPF3316-4R7M	4.70	16.0	19.2	7.80	6.24	5.00
SPF3316-6R8M	6.80	22.2	26.6	6.50	5.20	4.24
SPF3316-8R2M	8.20	24.8	29.8	5.80	4.64	4.01
SPF3316-100M	10.0	28.6	34.3	5.20	4.16	3.74
SPF3316-120M	12.0	37.2	44.6	4.90	3.92	3.28
SPF3316-150M	15.0	42.0	50.4	4.30	3.44	3.08
SPF3316-180M	18.0	48.0	57.6	3.90	3.12	2.89
SPF3316-220M	22.0	66.0	79.2	3.50	2.80	2.46
SPF3316-270M	27.0	73.0	87.6	3.20	2.56	2.34
SPF3316-330M	33.0	90.0	108	2.85	2.28	2.11
SPF3316-390M	39.0	103	124	2.65	2.12	1.97
SPF3316-470M	47.0	117	140	2.40	1.92	1.85
SPF3316-560M	56.0	152	182	2.20	1.76	1.62
SPF3316-680M	68.0	172	206	2.00	1.60	1.52
SPF3316-820M	82.0	217	260	1.85	1.48	1.36
SPF3316-101M	100	248	298	1.65	1.32	1.27
SPF3316-121M	120	320	384	1.50	1.20	1.12
SPF3316-151M	150	395	474	1.36	1.09	1.01
SPF3316-181M	180	460	552	1.24	0.99	0.93
SPF3316-221M	220	555	666	1.10	0.88	0.85
SPF3316-271M	270	717	860	1.02	0.82	0.75
SPF3316-331M	330	814	977	0.93	0.74	0.70
SPF3316-391M	390	1,030	1,236	0.85	0.68	0.62
SPF3316-471M	470	1,200	1,440	0.77	0.62	0.58
SPF3316-561M	560	1,480	1,776	0.70	0.56	0.52
SPF3316-681M	680	1,730	2,076	0.64	0.51	0.48
SPF3316-821M	820	2,000	2,400	0.57	0.46	0.45
SPF3316-102M	1,000	2,500	3,000	0.52	0.42	0.40

■ 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)。

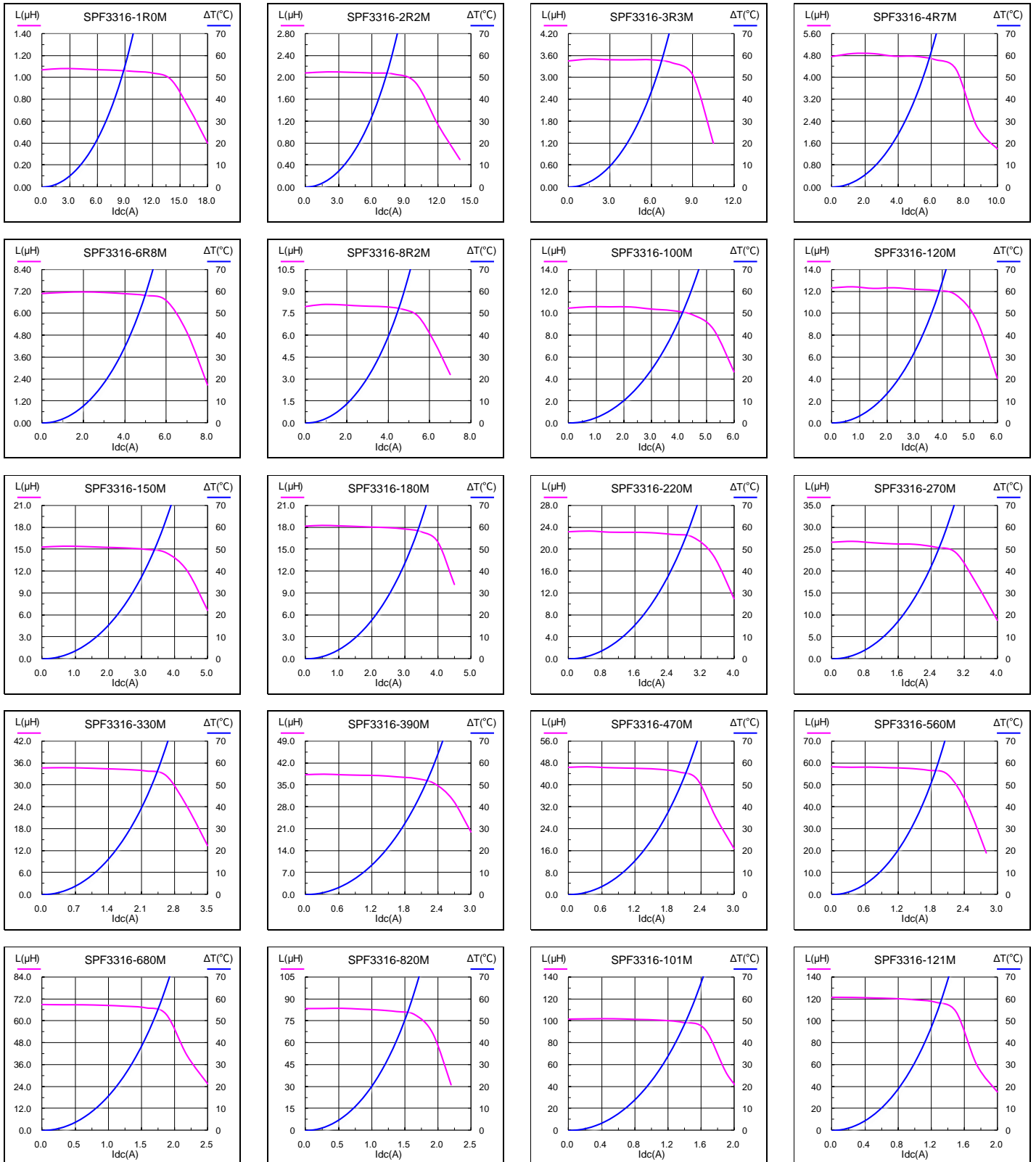
※ Special remind: Circuit design, component placement, PWB size and thickness, cooling system and etc.

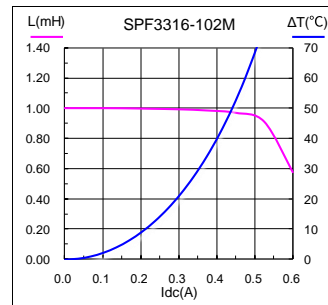
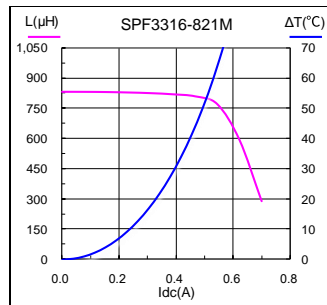
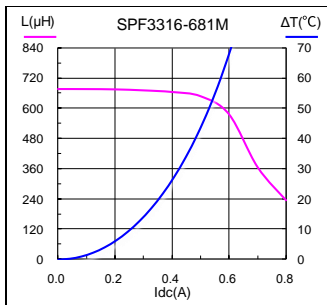
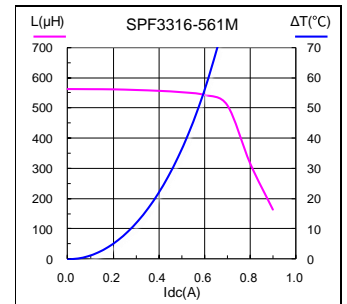
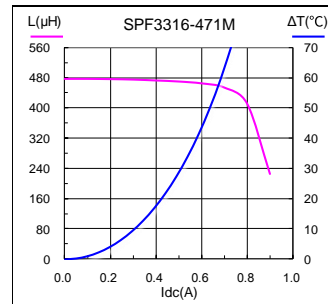
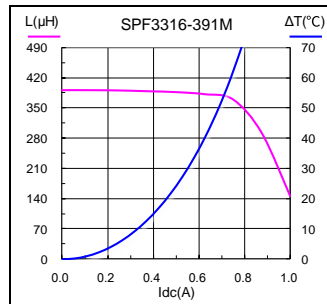
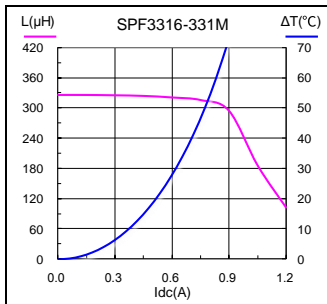
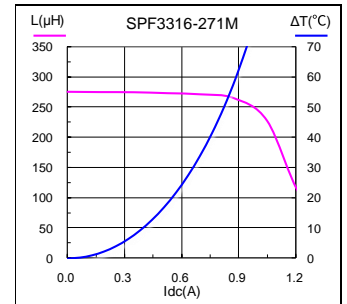
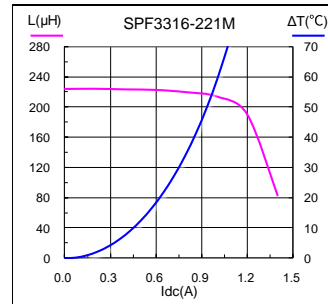
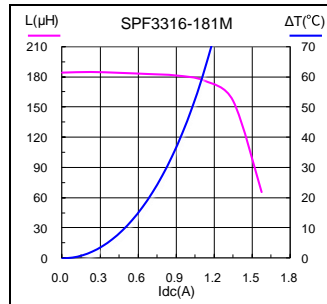
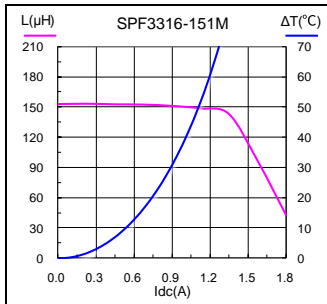
all will affect the product temperature. Please verify the product temperature in the final application.

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

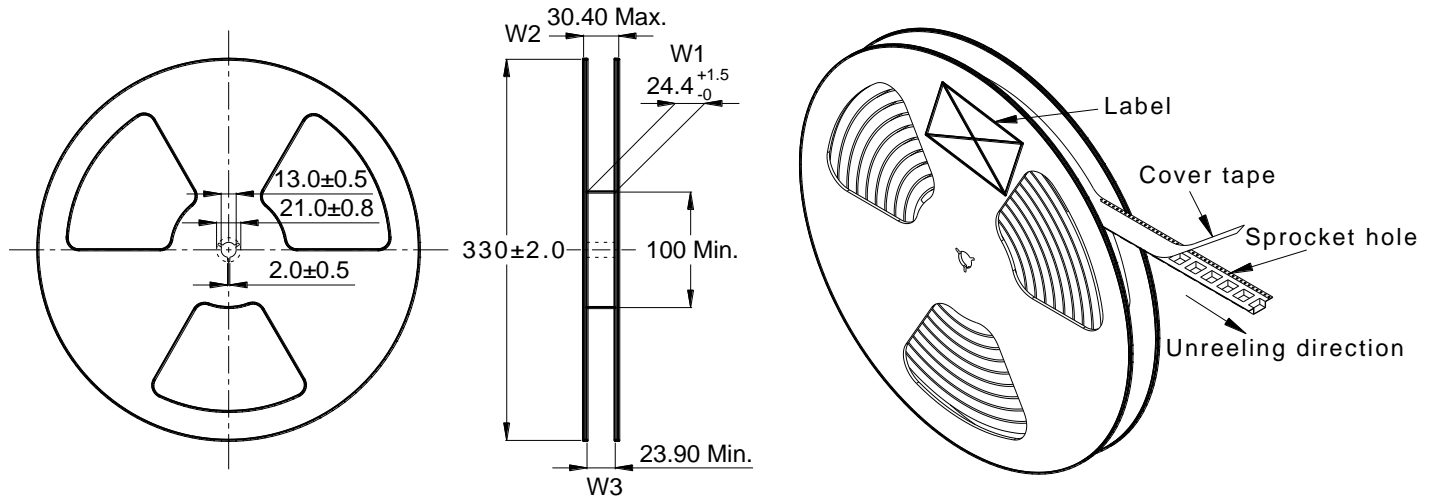






## 7.4 Reel dimensions (mm)

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
SPF3316	1000pcs	(1000×3) = 3000pcs	(3000×2) = 6000pcs

## 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

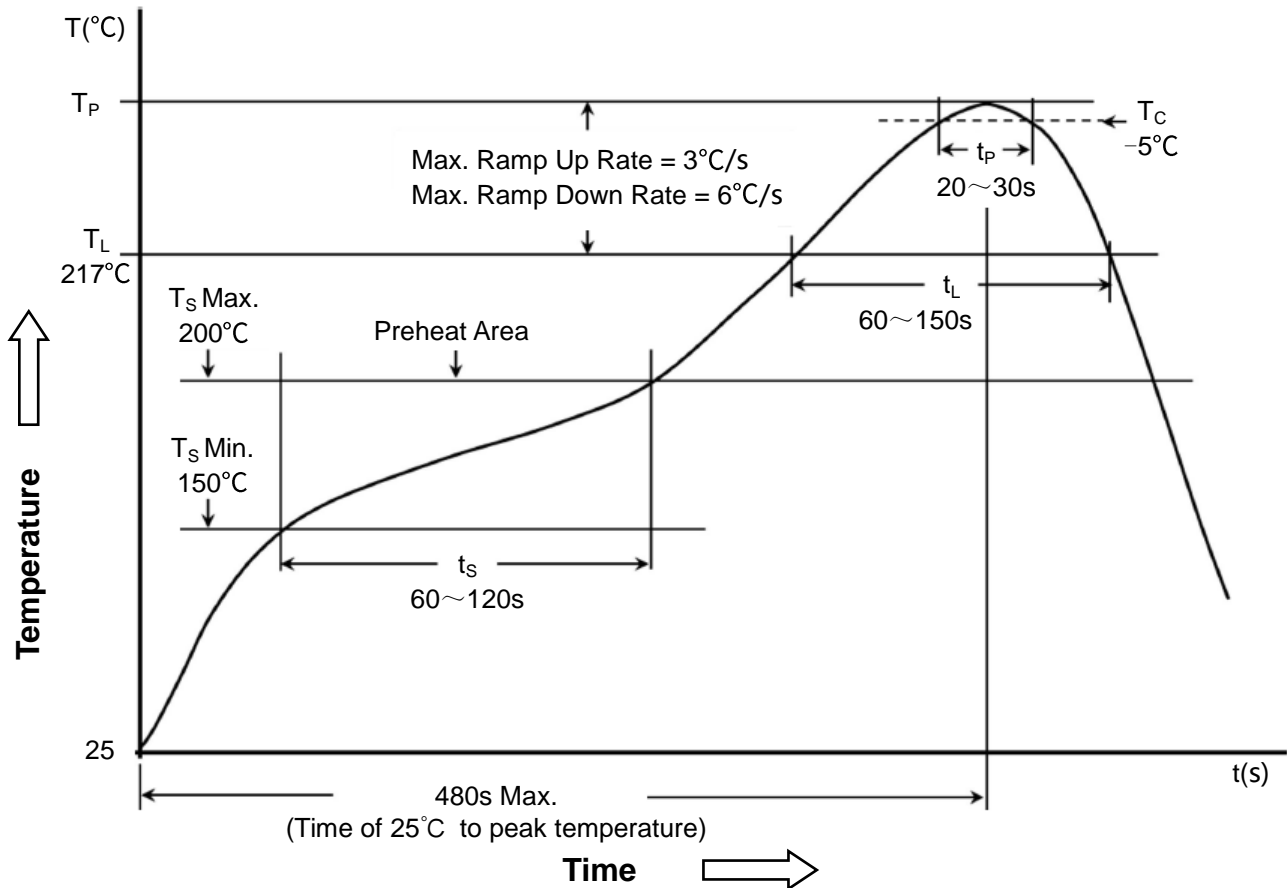
Shipping Label 运输标签
■ Customer Name 客户名称
■ Customer Part No. 客户型号
■ Supplier Part No. 供应商型号
■ Supplier Name 供应商名称
■ Country of origin 产品产地

## 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<sub>P</sub>)

封装体峰值温度(T<sub>P</sub>)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.