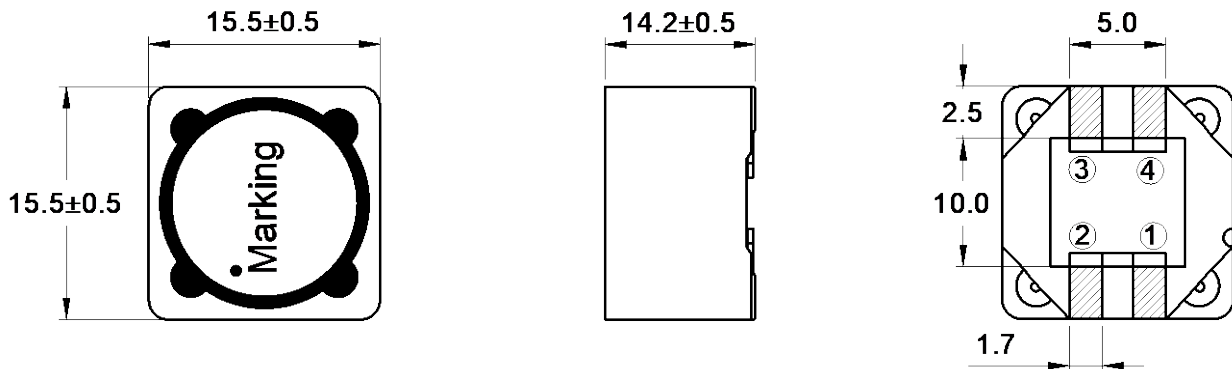




### Outline: 产品概要

- 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)

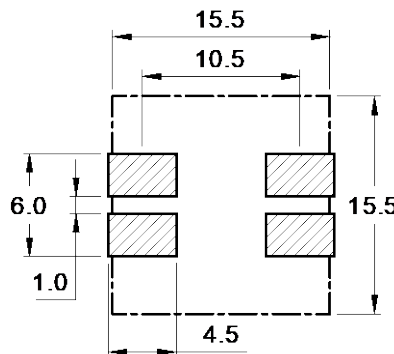
### 1 Appearance and Dimensions (mm) 外形尺寸 (mm)



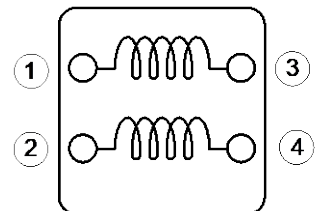
### 2 Marking 印字标识



### 3 Reference Land Pattern (mm) 参考基板尺寸 (mm)



### 4 Schematic 原理图



### 5 Electrical Characteristics

#### 电气特性

Part No. 型号	Inductance ( $\mu\text{H}$ ) 电感值 ※1	D.C.R. ( $\text{m}\Omega$ ) 直流电阻		Leakage Inductance ( $\mu\text{H}$ ) 漏感 ※2	Saturation current (A) 饱和电流 ※3			Temperature rise current (A) 温升电流 ※4	
		Typical	Max		10% drop	20% drop	30% drop	Both Windings	One Winding
SPRHS1514A-220M:220M	22.0 $\pm$ 20%	29.1	36.0	0.45	9.10	9.60	10.2	3.80	5.40
SPRHS1514A-270M:270M	27.0 $\pm$ 20%	32.5	39.0	0.45	9.00	9.60	10.2	3.30	4.70
SPRHS1514A-330M:330M	33.0 $\pm$ 20%	34.5	42.0	0.45	7.40	8.20	9.00	3.20	4.50
SPRHS1514A-470M:470M	47.0 $\pm$ 20%	43.9	54.0	0.55	5.80	6.60	6.75	3.05	4.31
SPRHS1514A-680M:680M	68.0 $\pm$ 20%	53.5	65.0	0.55	5.30	5.70	5.90	2.72	3.84
SPRHS1514A-101K:101K	100 $\pm$ 10%	77.1	93.0	0.55	4.35	4.75	4.95	2.08	2.94
SPRHS1514A-221K:221K	220 $\pm$ 10%	142.3	172.0	0.70	2.95	3.20	3.30	1.61	2.27
SPRHS1514A-331K:331K	330 $\pm$ 10%	214.7	258.0	0.80	2.55	2.65	2.78	1.32	1.86
SPRHS1514A-471K:471K	470 $\pm$ 10%	318.0	382.0	1.20	2.00	2.20	2.30	1.03	1.46
SPRHS1514A-102K:102K	1,000 $\pm$ 10%	655.3	786.0	2.00	1.45	1.55	1.60	0.78	1.10

■ 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。

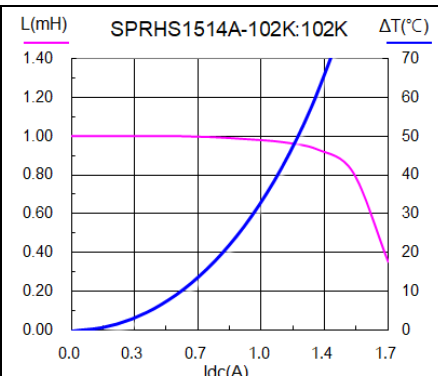
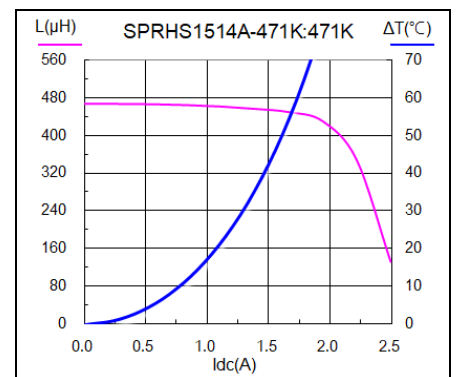
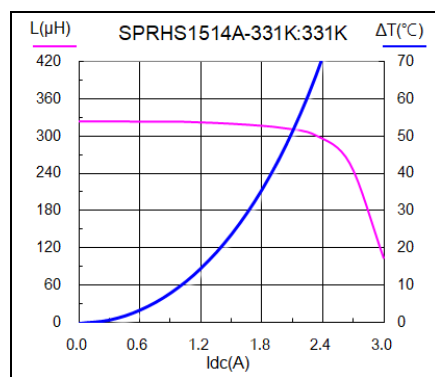
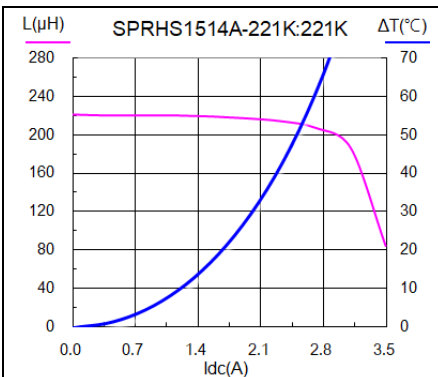
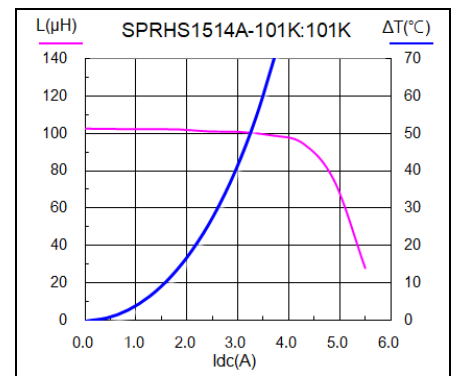
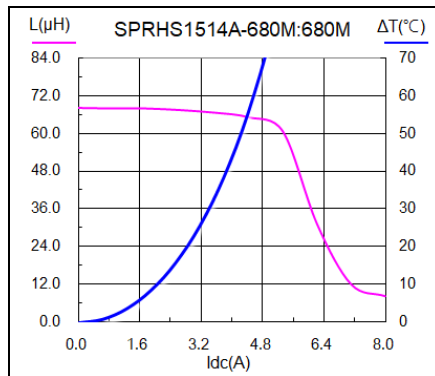
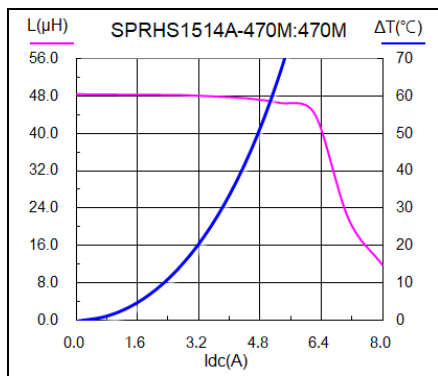
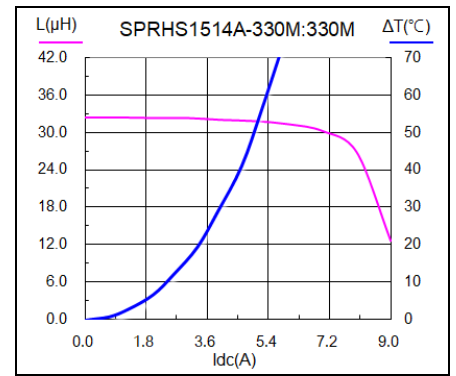
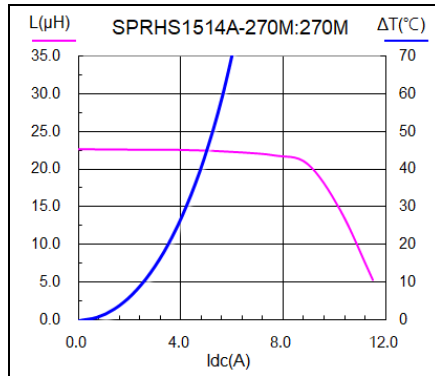
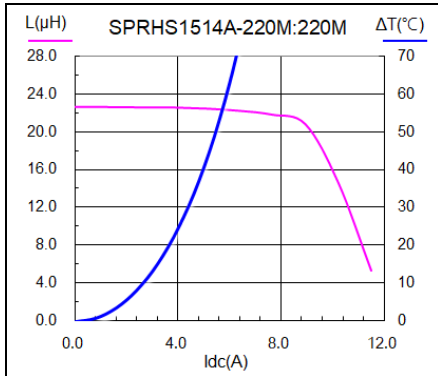
※2 Leakage inductance is for L1 and is measured with L2 shorted.  
漏感：在短路 L2 绕组的前提下测试 L1 绕组所得的电感。

※3 Saturation current: the actual value of DC current when the inductance decrease corresponding percentage of its initial value.  
饱和电流：电感值下降其初始值相应百分比时所加载的实际直流电流值。

※4 Temperature rise current: the actual value of DC current when the temperature rise is  $\Delta T40^\circ\text{C}$  ( $T_a=25^\circ\text{C}$ ).  
温升电流：使产品温度上升到  $\Delta T40^\circ\text{C}$  时所加载的实际直流电流值 ( $T_a=25^\circ\text{C}$ )。

※ Special remind: Circuit design, component placement, PCB 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(PCB)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 升温电流曲线**

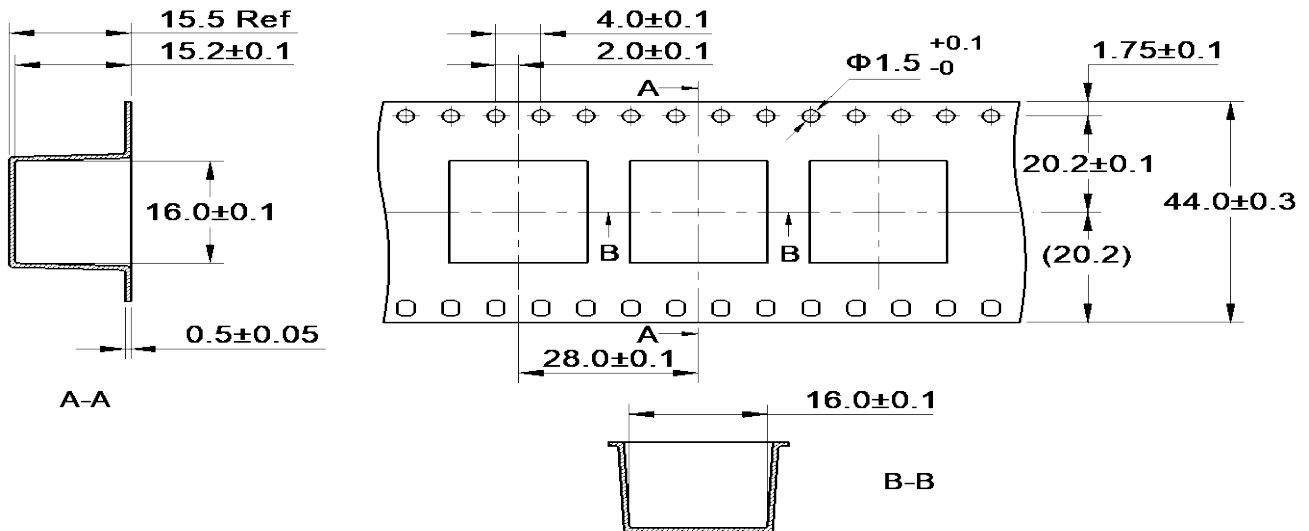


**7 Packing Specification**

**包装规格**

**7.1 Carrier Tape Dimensions (mm)**

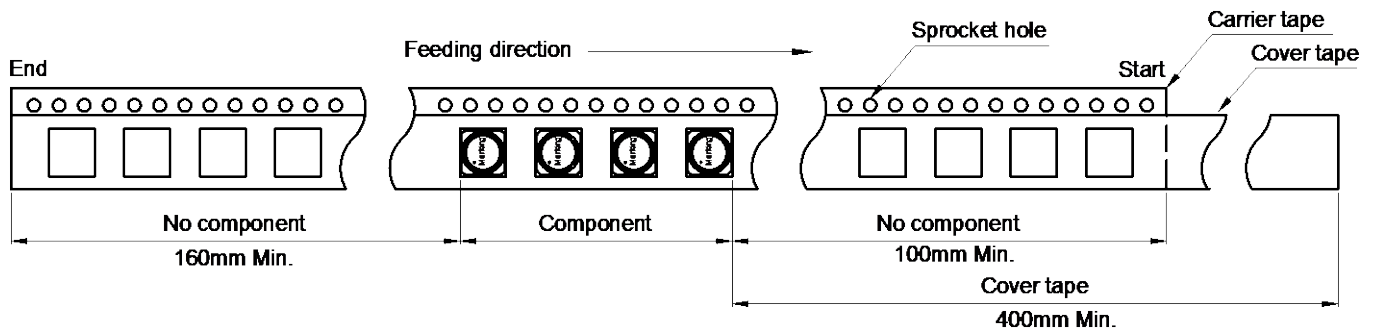
**载带尺寸**



※ 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**

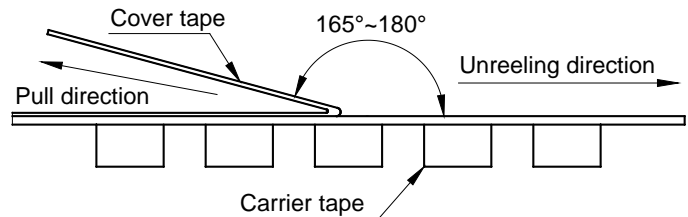
**捆包方向**



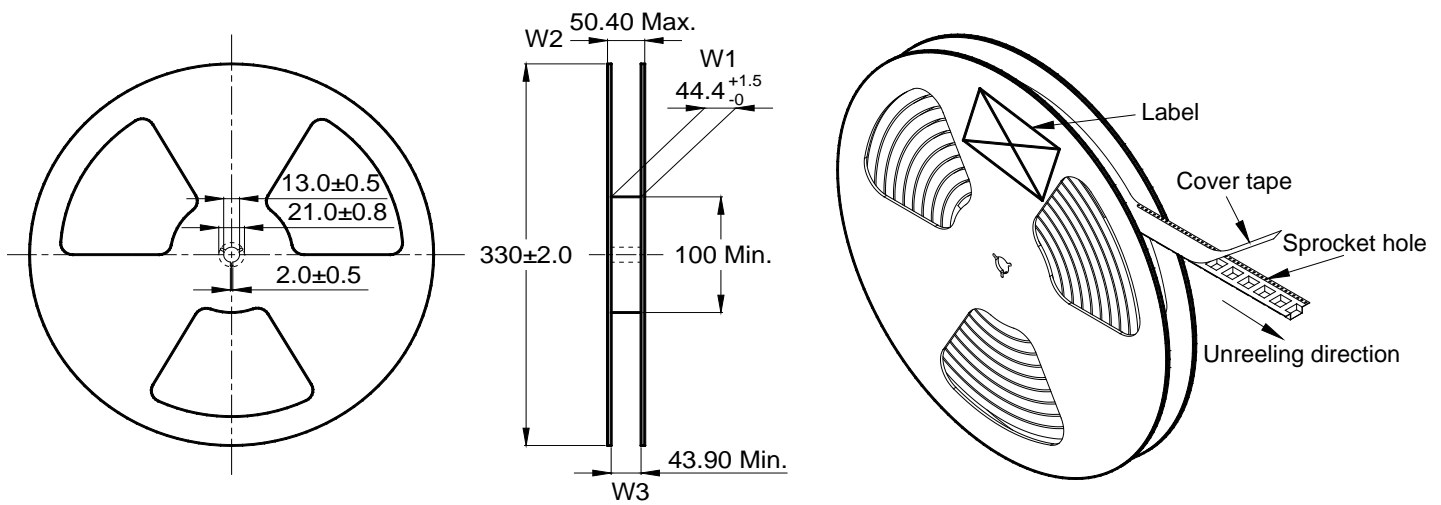
**7.3 Cover Tape Peel Off Condition**

**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(mm)



### 7.5 Carton Dimensions and Packing Quantity 包装箱尺寸和包装数量

■ Inner Carton: 365×345×105mm  
内包装箱

■ 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
SPRHS1514A	150pcs	(150×2) = 300pcs	(300×2) = 600pcs

### 7.6 Label Making 标签标识

The following items will be marked on the tray of product label and shipping label.  
以下项目将明确标识于产品吸塑盘标签以及运输标签上。

Production Label 产品标签
■ Packing No. 包装流水号
■ Quantity 数量
■ Shipment Date 出货日期
■ Part No. 产品型号
■ Customer Part No. 客户型号
■ Customer Po No. 客户订单号

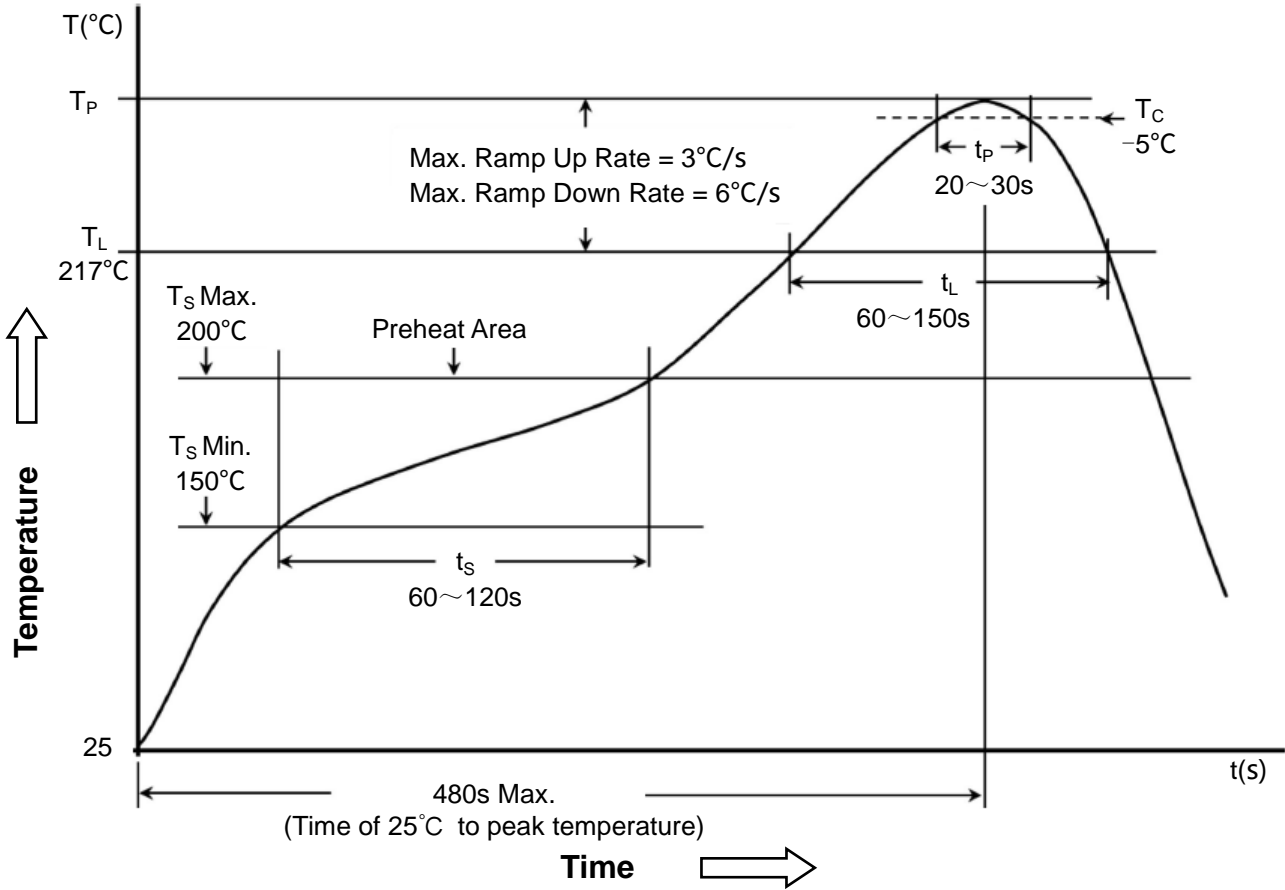
Shipping Label 运输标签
■ Packing No. 包装流水号
■ Quantity 数量
■ Shipment Date 出货日期
■ Part No. 产品型号
■ Customer Part No. 客户型号
■ Customer Po No. 客户订单号

**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 (Tp)**

封装体峰值温度(Tp)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.