

SMD Power Inductor

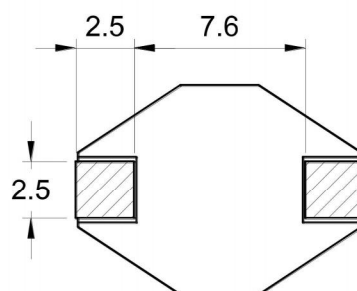
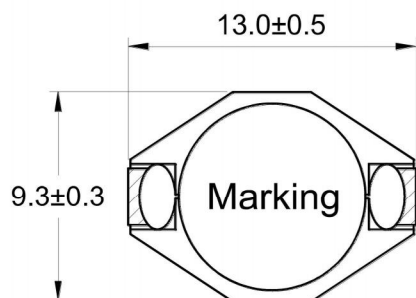
YEBF3316 Series



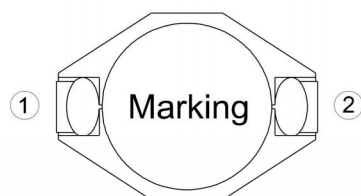
Outline: 产品概要

- 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)

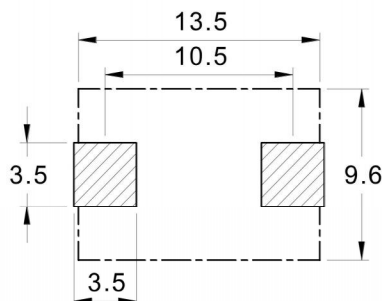
1 Appearance and dimensions (mm) 外形尺寸



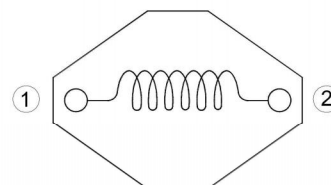
2 Marking 印字标识



3 Reference land pattern (mm) 参考基板尺寸



4 Schematic 原理图



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5 Electrical characteristics

电气特性

Part No. 型 号	Inductance (μH) 电感值 ※1 ± 20%	. . . (mΩ) 直流电阻		Saturation current (A) 饱和电流 ※2 Typical	Temperature rise current (A) 温升电流 ※3 Typical
		Typical	Max		
YEBF 3316-1R0M	.00	.50	.80	15.	.84
YEBF 3316-2R2M	.20	.20	11.	10.	.59
YEBF 3316-3R3M	.30	12.	14.	.00	.77
YEBF 3316-4R7M	.70	16.	19.	.80	.00
YEBF 3316-6R8M	.80	22.	26.	.50	.24
YEBF 3316-8R2M	.20	24.	29.	.80	.01
YEBF 3316-100M	10.	28.	34.	.20	.74
YEBF 3316-120M	12.	37.2	44.	.90	.28
YEBF 3316-150M	15.	42.0	50.	.30	.08
YEBF 3316-180M	18.	48.0	57.	.90	.89
YEBF 3316-220M	22.	66.0	79.	.50	.46
YEBF 3316-270M	27.	73.0	87.	.20	.34
YEBF 3316-330M	33.	90.0	108	.85	.11
YEBF 3316-390M	39.	103	124	.65	.97
YEBF 3316-470M	47.	117	140	.40	.85
YEBF 3316-560M	56.	152	182	.20	.62
YEBF 3316-680M	68.	172	206	.00	.52
YEBF 3316-820M	82.	217	260	.85	.36
YEBF 3316-101M	100	248	298	.65	.27
YEBF 3316-121M	120	320	384	.50	.12
YEBF 3316-151M	150	395	474	.36	.01
YEBF 3316-181M	180	460	552	.24	.93
YEBF 3316-221M	220	555	666	.10	.85
YEBF 3316-271M	270	717	860	.02	.75
YEBF 3316-331M	330	814	977	.93	.70
YEBF 3316-391M	390	1,030	1,236	.85	.62
YEBF 3316-471M	470	1,200	1,440	.77	.58
YEBF 3316-561M	560	1,480	1,776	.70	.52
YEBF 3316-681M	680	1,730	2,076	.64	.48
YEBF 3316-821M	820	2,000	2,400	.57	.45
YEBF 3316-102M	1,000	2,500	3,000	.52	.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。

※ 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 $\Delta T40^{\circ}\text{C}$ ($T_a=25^{\circ}\text{C}$).

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.

It 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。

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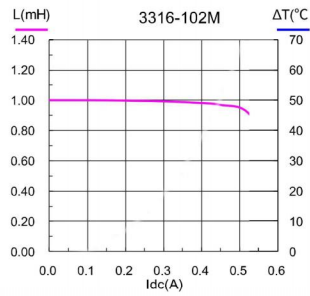
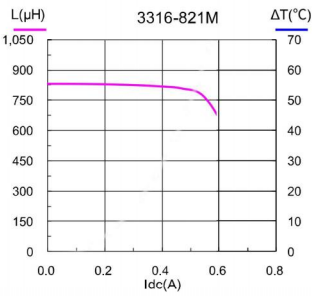
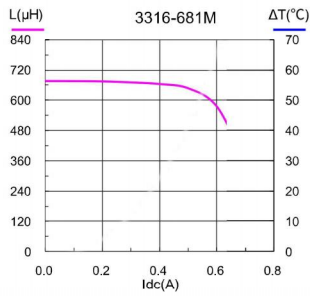
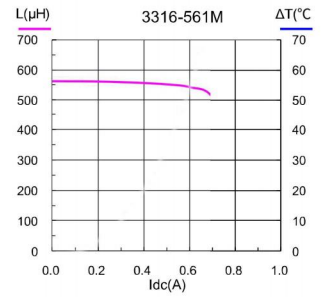
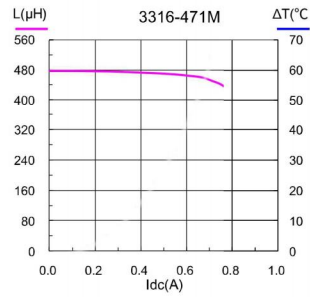
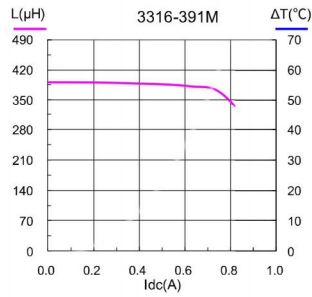
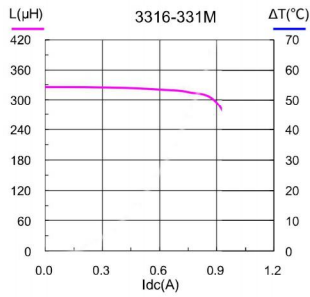
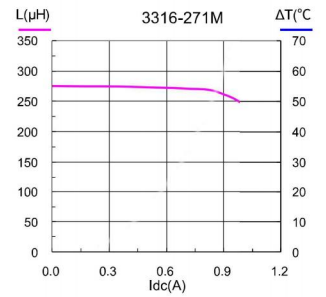
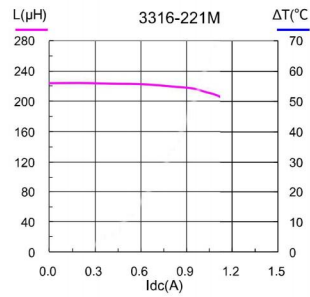
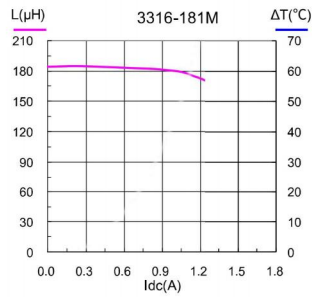
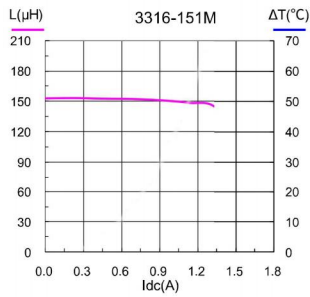
6 Saturation current VS temperature rise current curve

饱和电流 VS 温升电流曲线



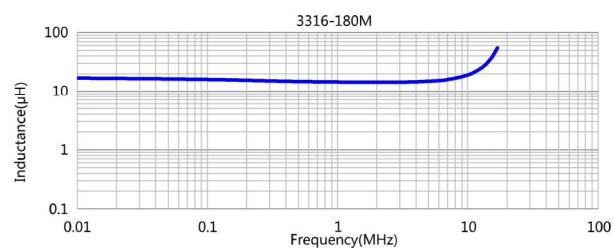
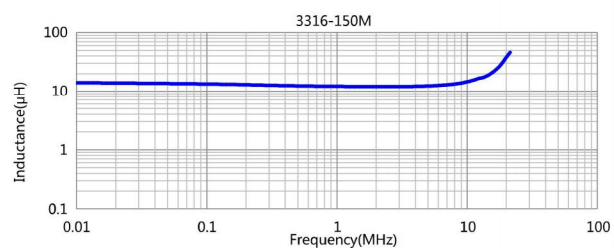
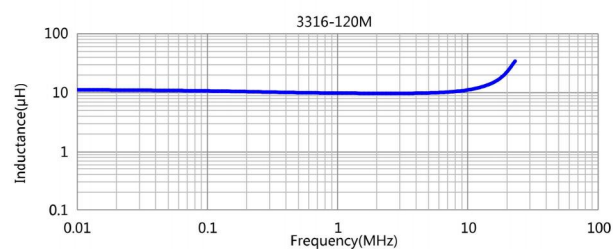
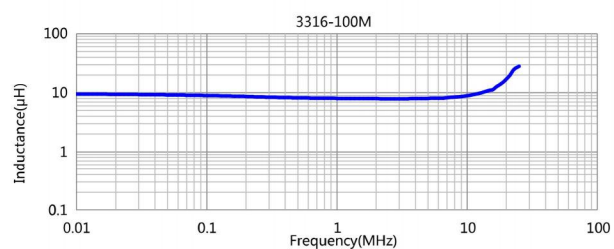
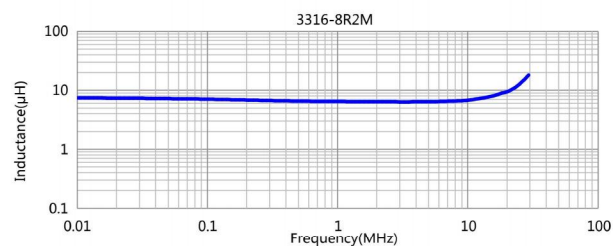
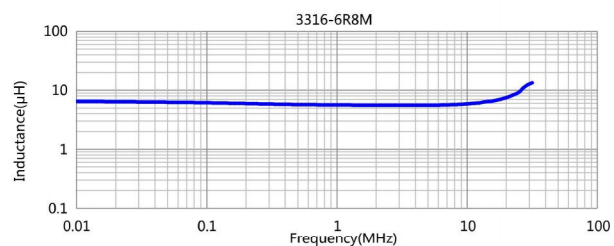
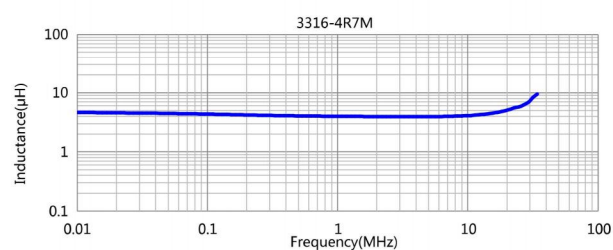
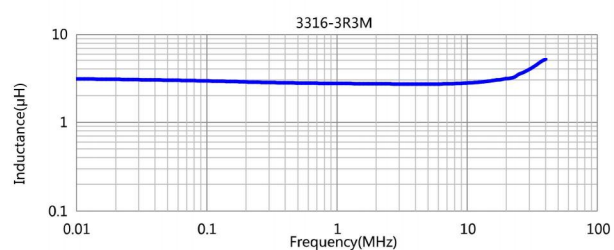
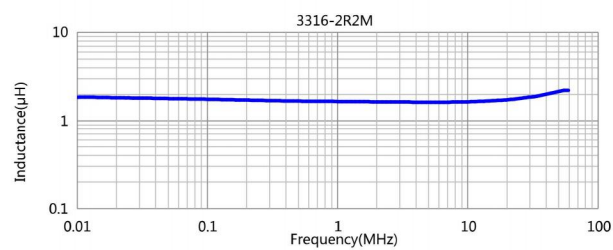
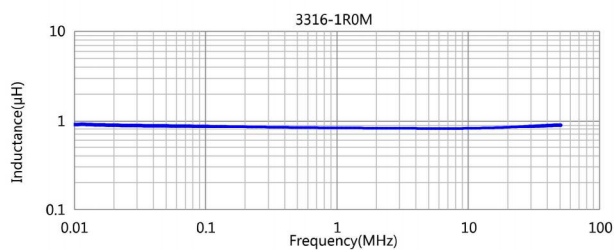
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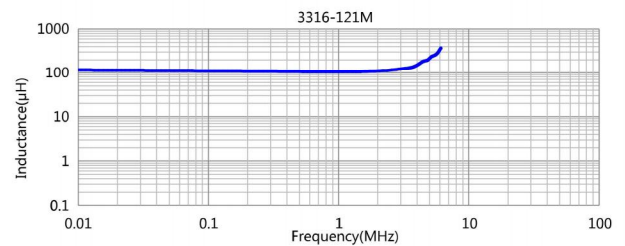
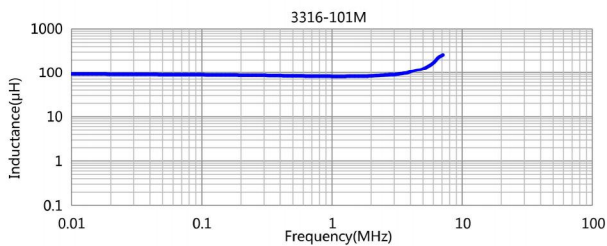
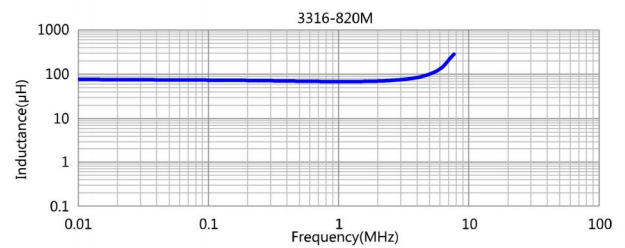
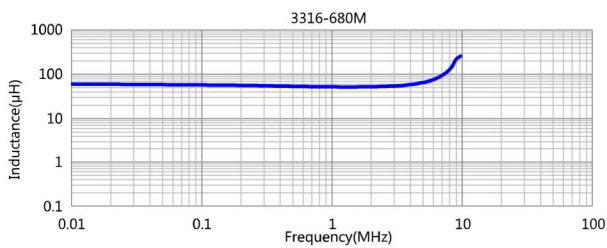
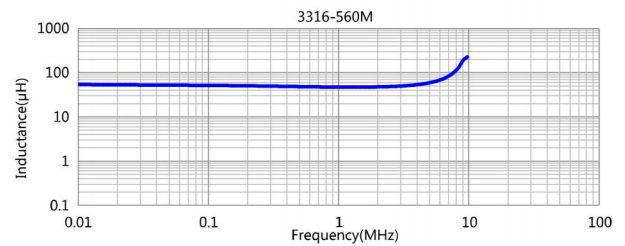
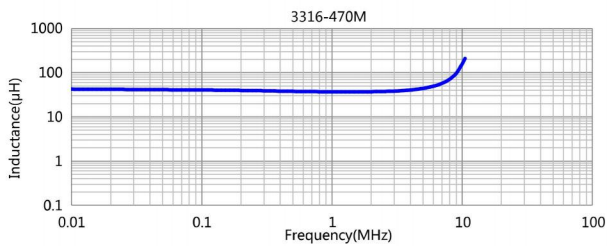
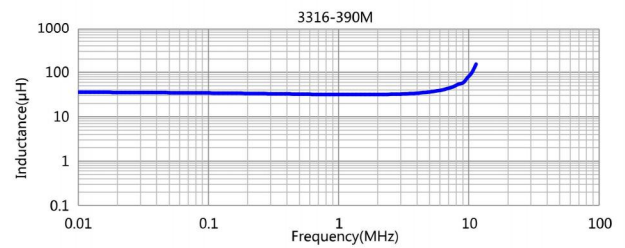
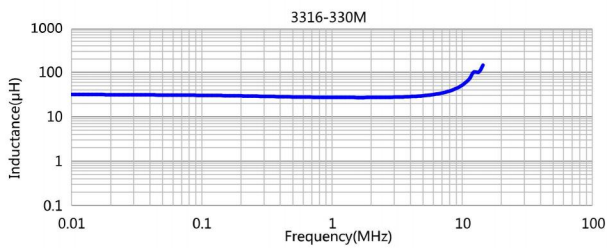
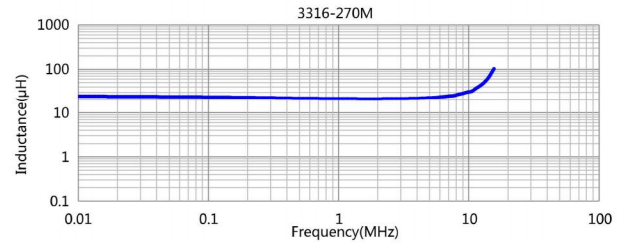
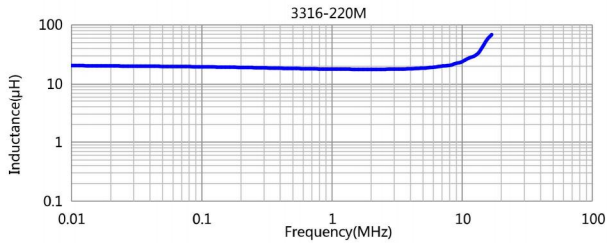


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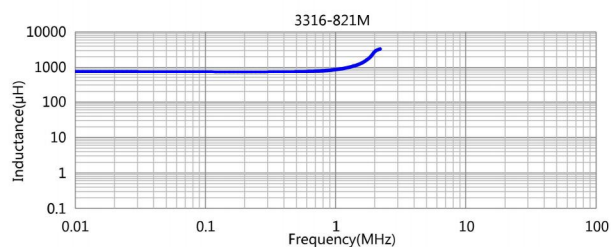
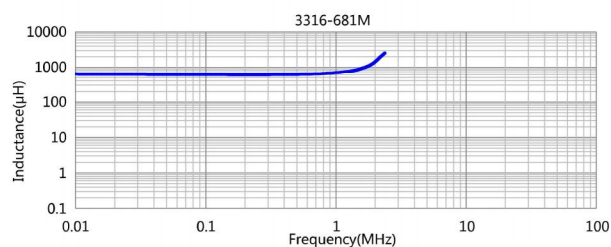
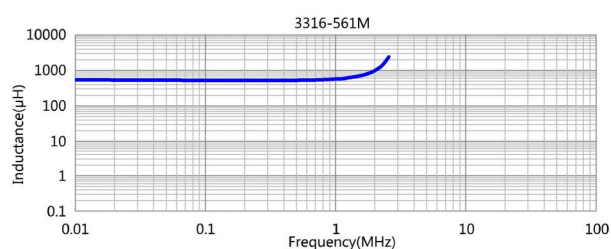
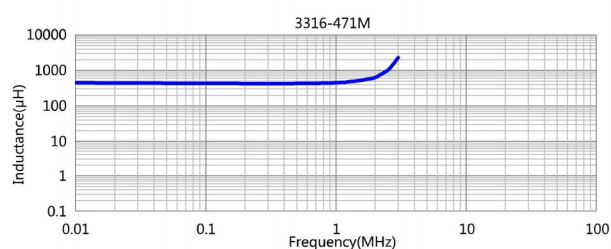
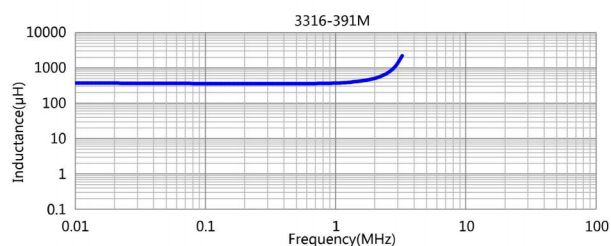
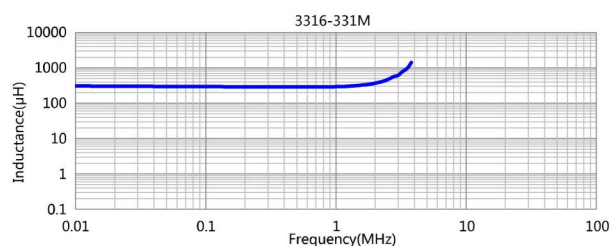
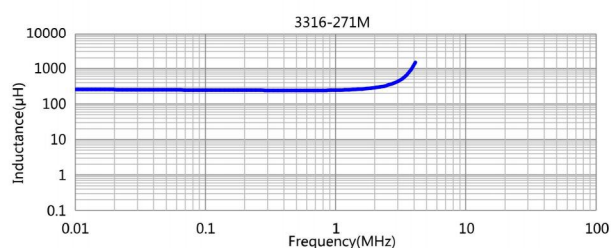
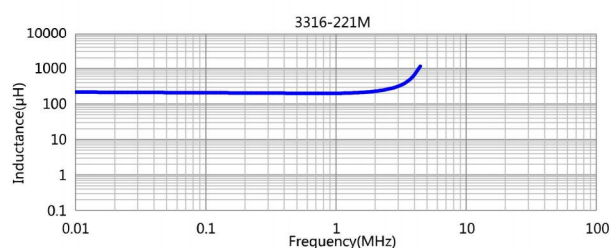
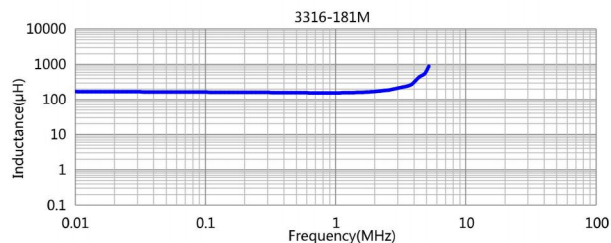
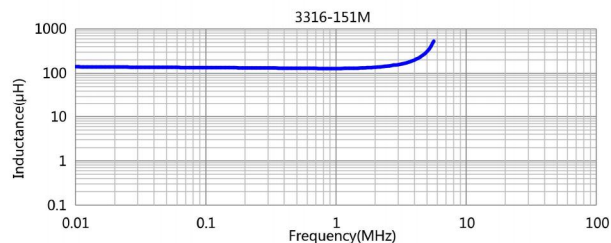
7 L vs Frequency 感值 vs 频率



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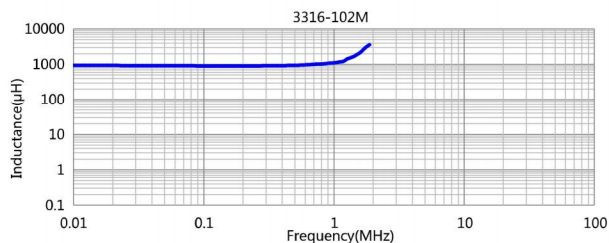


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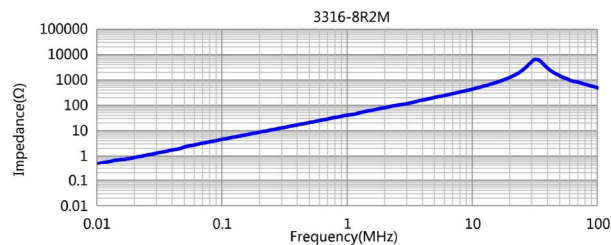
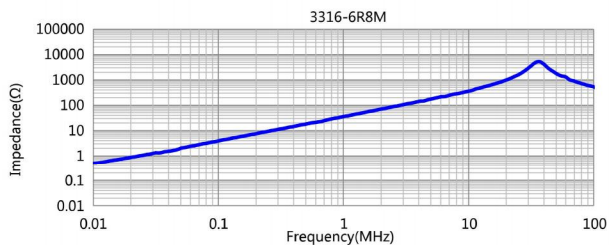
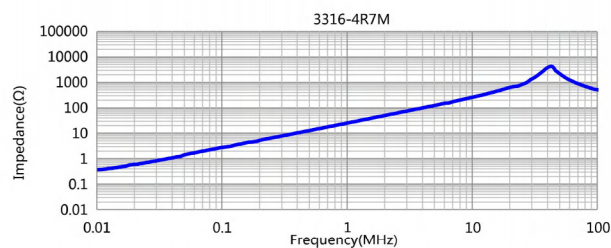
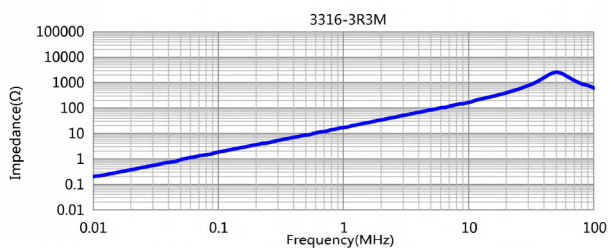
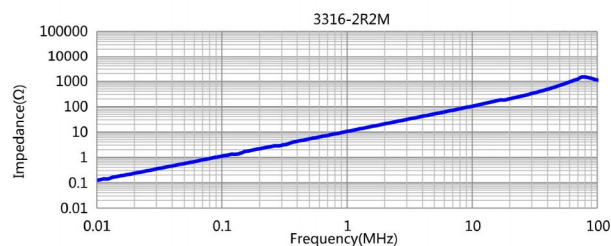
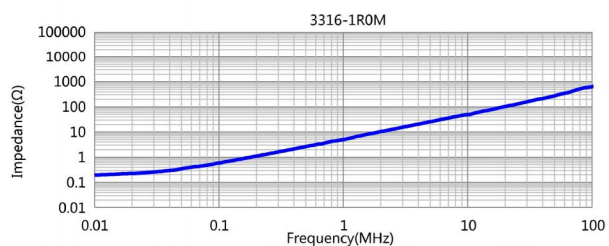
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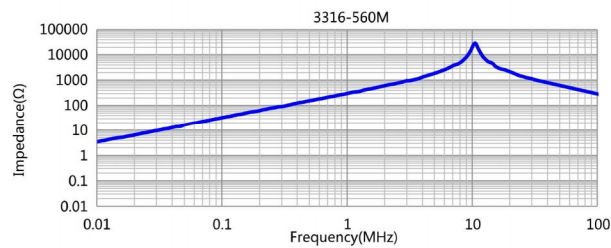
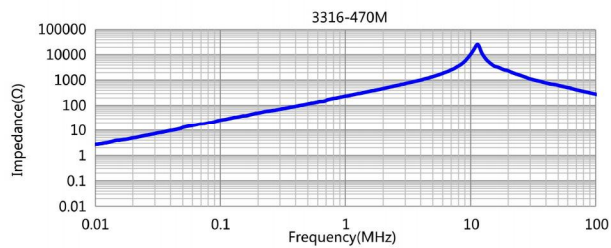
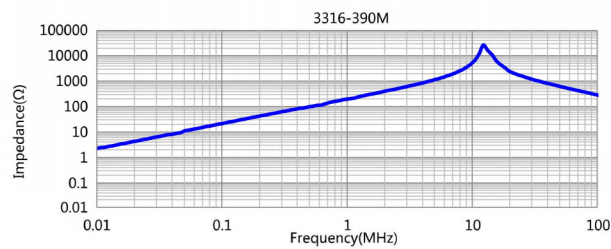
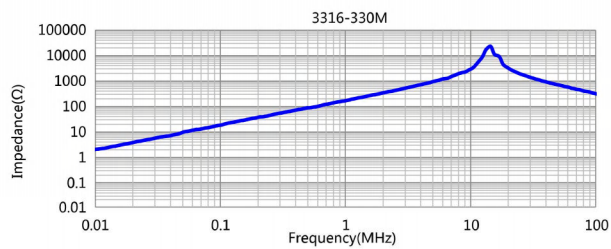
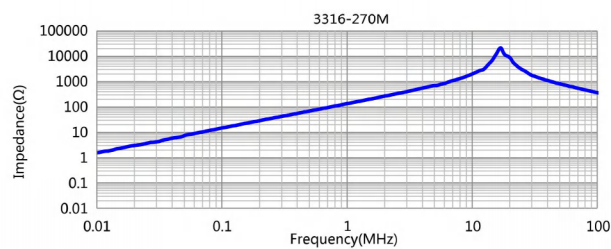
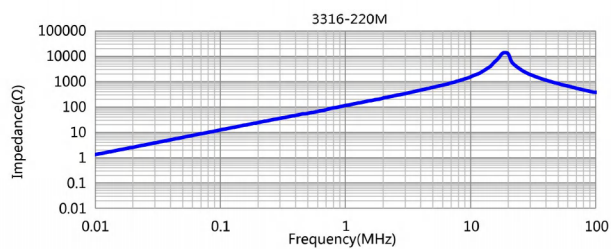
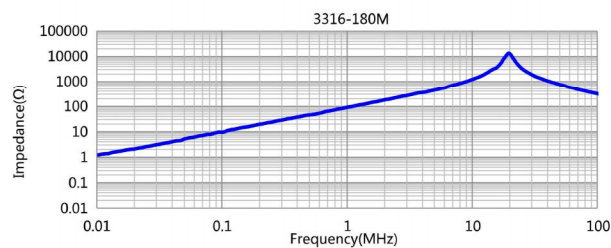
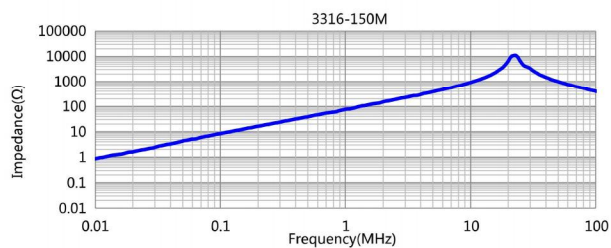
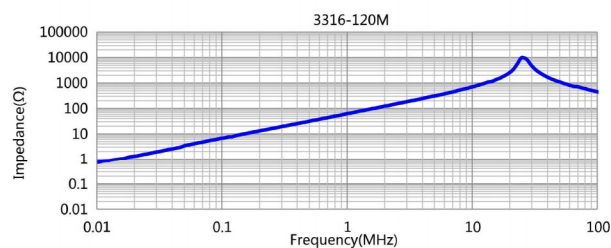
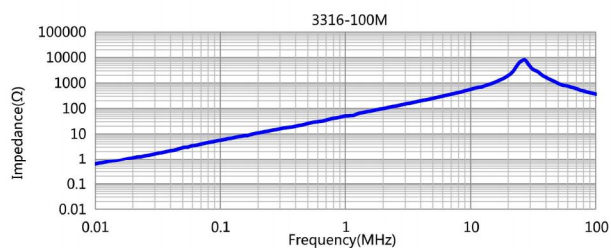


8 Impedance vs Frequency

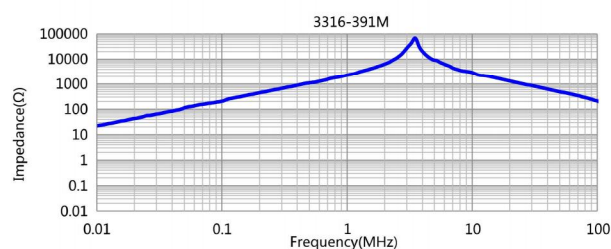
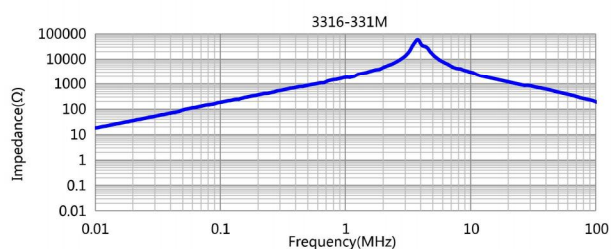
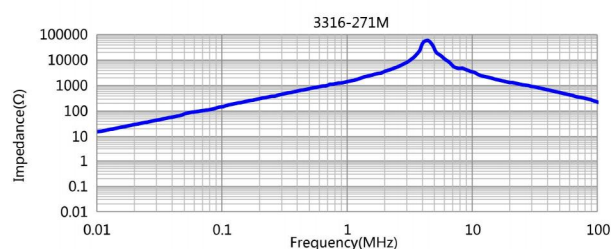
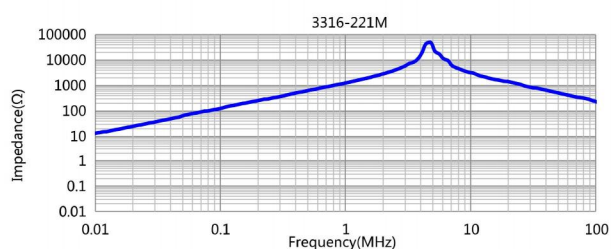
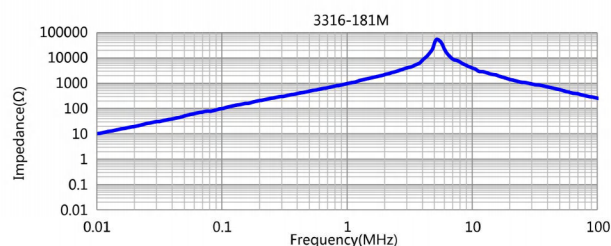
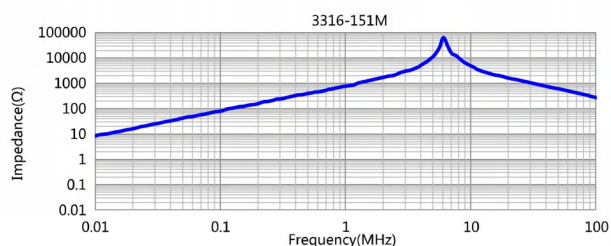
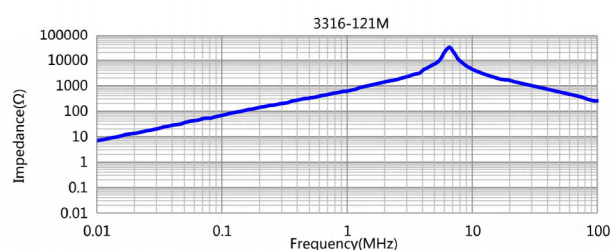
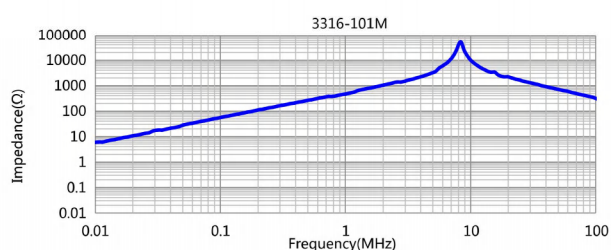
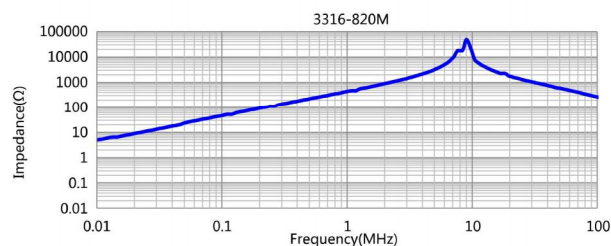
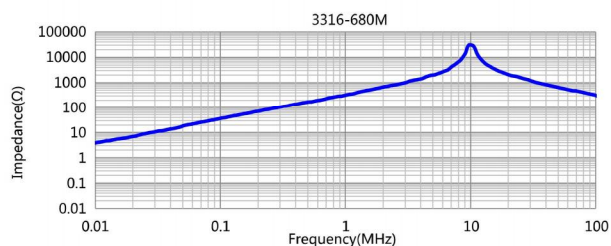
阻抗 vs 频率



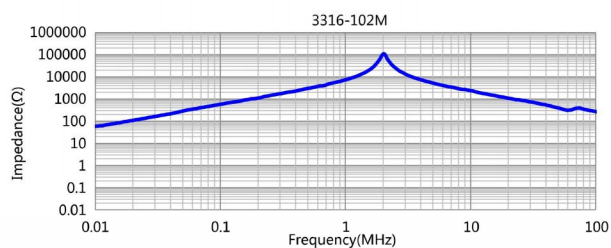
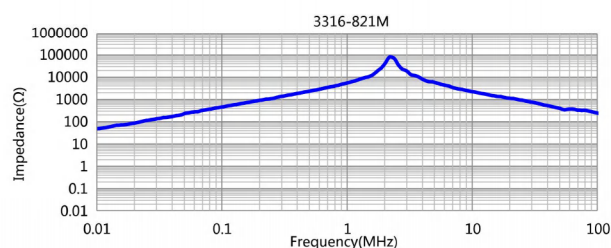
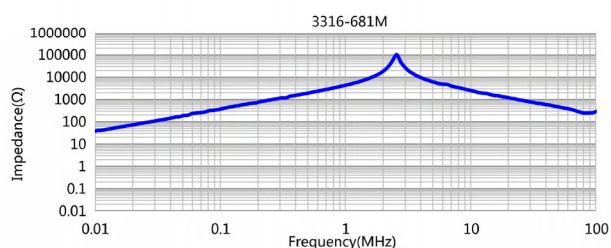
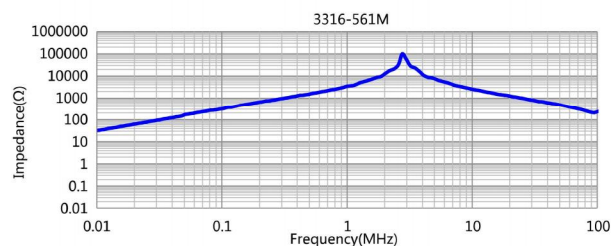
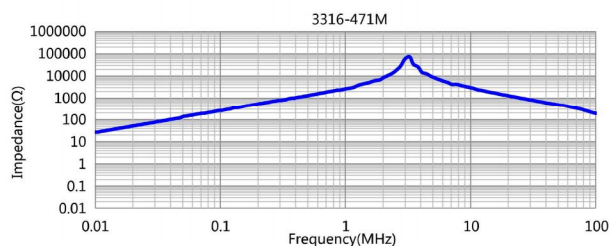
SMD Power Inductor YEBF3316 Series



SMD Power Inductor YEBF3316 Series



SMD Power Inductor YEBF3316 Series



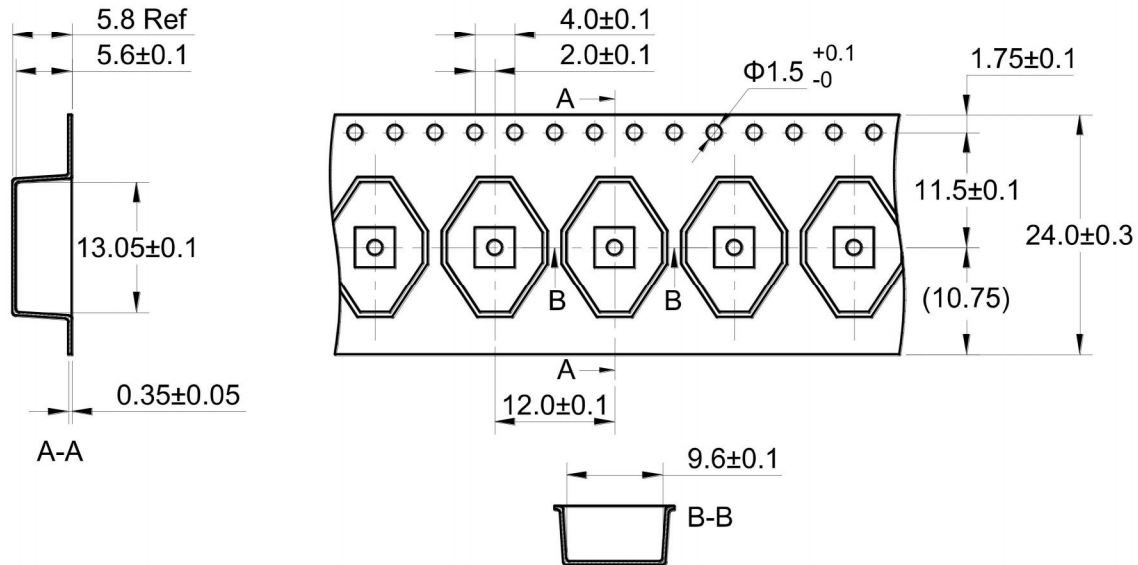
SMD Power Inductor YEBF3316 Series

9 Packing specification

包装规格

9.1 Carrier tape dimensions (mm)

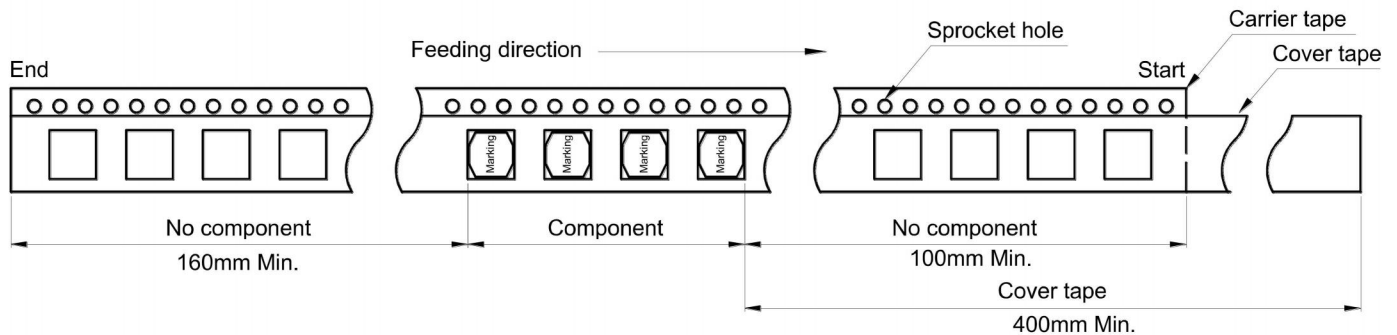
载带尺寸



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

9.2 Tape direction

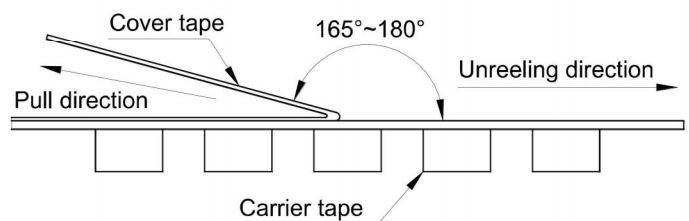
捆包方向



9.3 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。

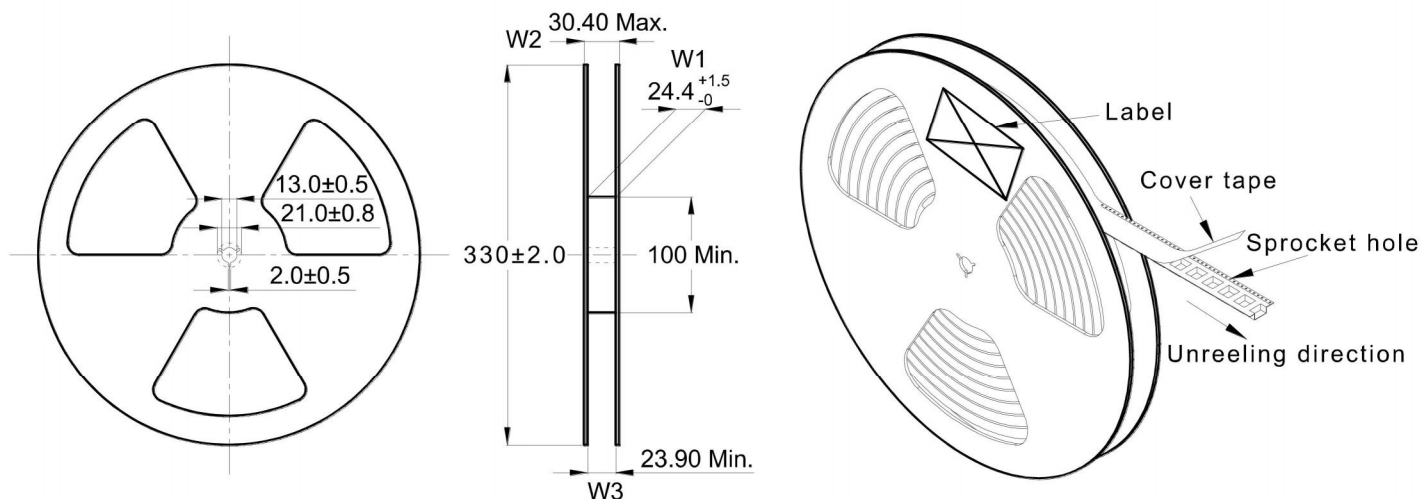


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9.4 Reel dimensions (mm)

卷盘尺寸



9.5 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
3316	1000pcs	(1000×3) = 3000pcs	(3000×2) = 6000pcs

9.6 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

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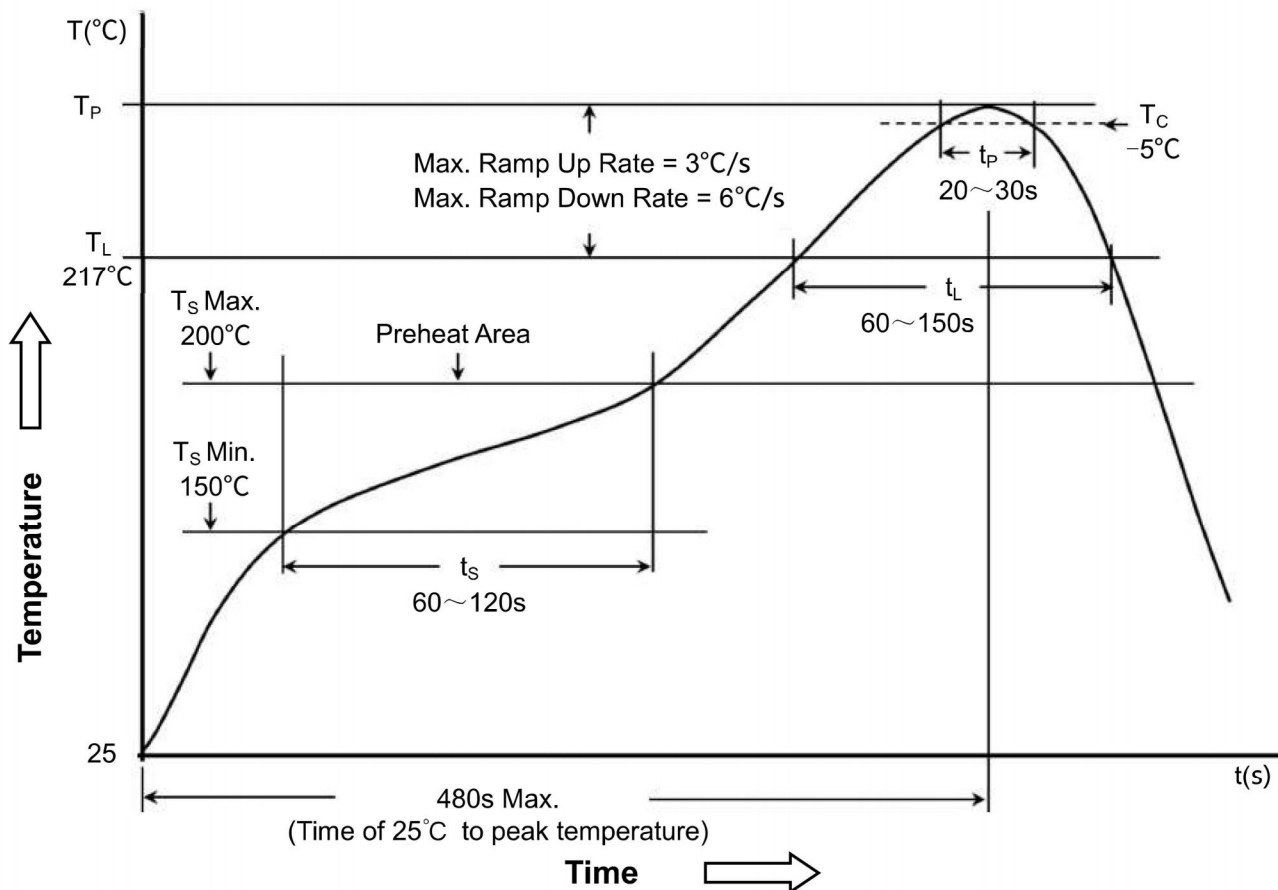
YEBF3316 Series

10 Soldering specification

焊接规格

10.1 Reflow profile for SMT components

SMT 回流焊温度曲线



10.2 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		
		$<350 \text{ mm}^3$	$350 \sim 2000 \text{ mm}^3$	$>2000 \text{ mm}^3$
PB-Free Assembly 无铅装配	$<1.6\text{mm}$	260°C	260°C	260°C
	$1.6 \sim 2.5\text{mm}$	260°C	250°C	245°C
	$\geq 2.5\text{mm}$	250°C	245°C	245°C