

### 磁屏蔽工字电感

Shielded Power Inductor (DR Type THT)



#### 特性

Characteristics

材料成分的优化带来了高性能

Optimization of material composition causes high performance

饱和电流高达19.7A

Up to 19.7 A Saturation Current

低漏磁场

Low stray field

RDC值从3.8 mΩ开始

RDC values starting at 3.80mΩ

#### 应用

Application

DC/DC转换器

DC/DC converters

电源和电池充电器

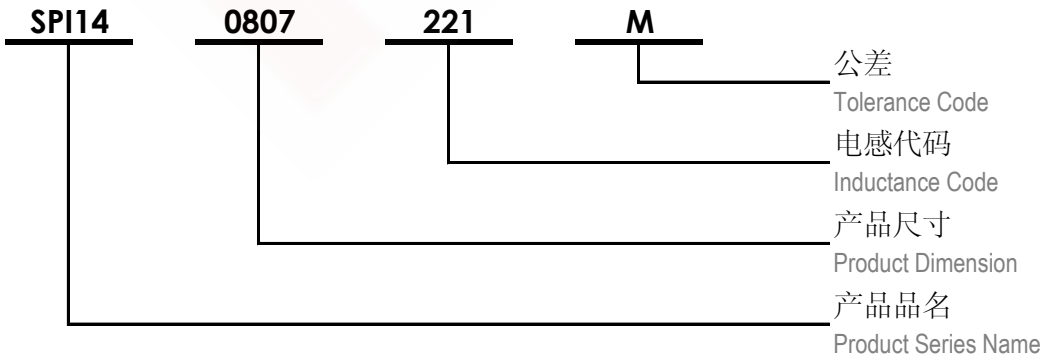
Power supplies and battery chargers

家庭娱乐系统

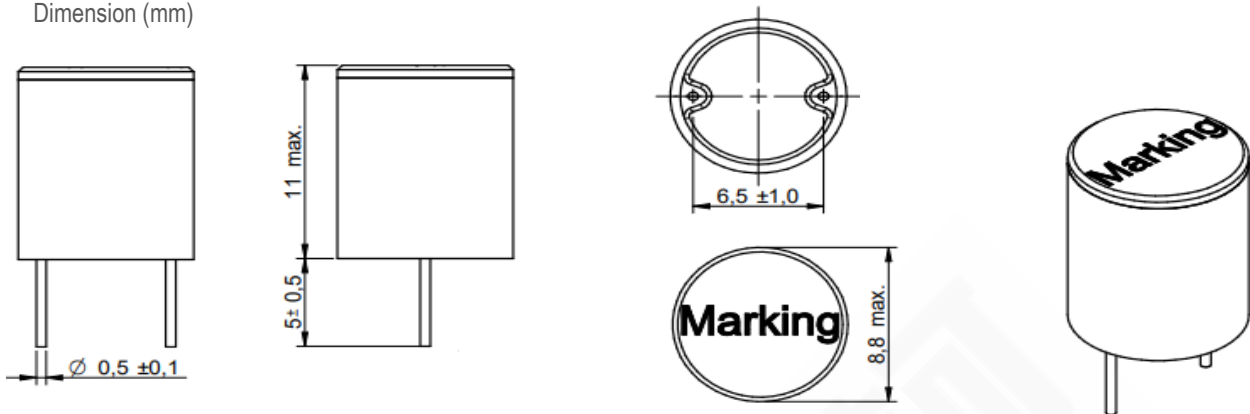
Home Entertainment Systems

#### 产品品名介绍

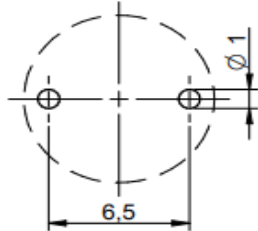
Product Number Structure



### 尺寸 Dimension (mm)



### 焊盘推荐 Land Pattern Recommended (mm)



### 示意图 Schematics



### 电性特性 Electrical Properties

型号 Part No.	电感 Inductance μH	温升电流 Rated Current I <sub>R</sub> max 40°C (A)	直流电阻 DC Resistance DCR <sub>max</sub> (mΩ)	饱和电流 Saturation Current I <sub>sat</sub> typ (A)
SPI14-0911-3R0M	3.00 ±20%	7.60	8.50	11.70
SPI14-0911-4R7M	4.70 ±20%	6.50	12.50	9.60
SPI14-0911-6R8M	6.80 ±20%	5.70	16.00	8.10
SPI14-0911-100M	10.00 ±20%	4.60	23.00	6.80
SPI14-0911-150M	15.00 ±20%	3.70	35.00	5.70

### 测试状态

#### Test Condition

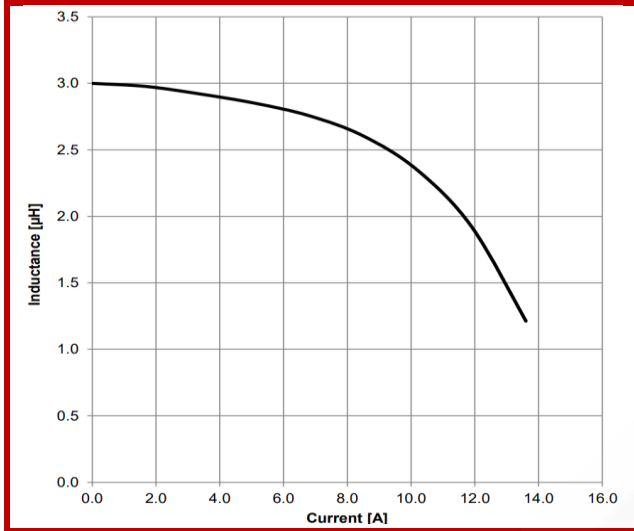
- ☆ 电感测试条件为 100 kHz/ 1.0 V  
Inductance measure condition at 100 kHz/ 1.0V
- ☆ 工作温度: -40°C ~ +125°C  
Operating Temperature: -40°C ~ +125°C
- ☆ 饱和电流: 电感值下降其初始值的30%时所加载的实际直流电流值  
Saturation Current: The actual value of DC current when the inductance drop 30% of initial value



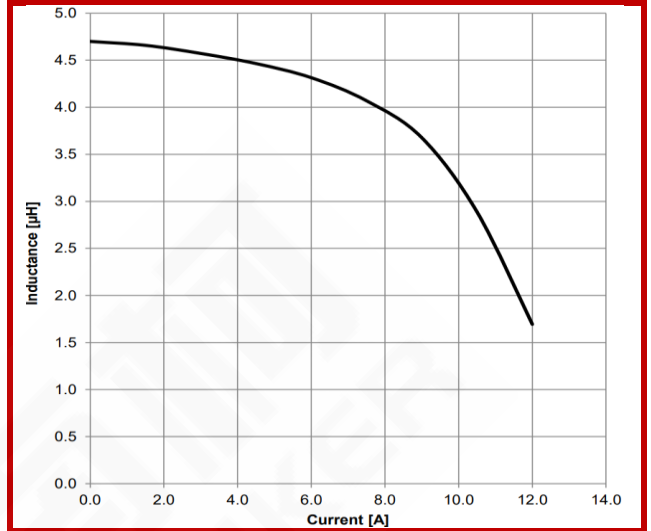
### 典型电感与电流特性

Typical Inductance vs. Current Characteristics

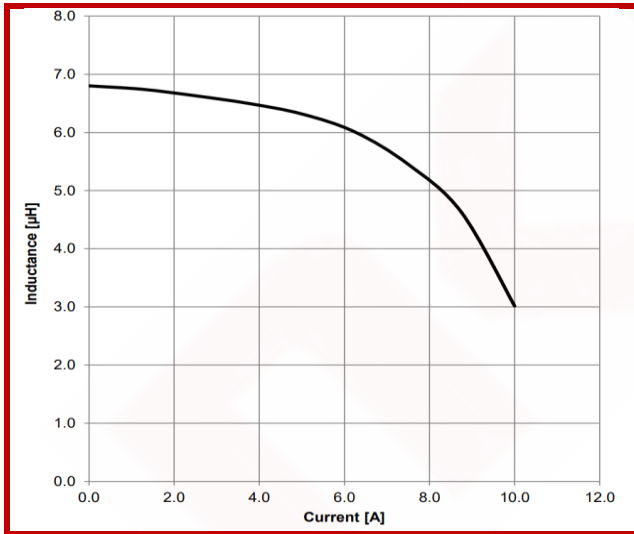
#### SPI14-0911-3R0M



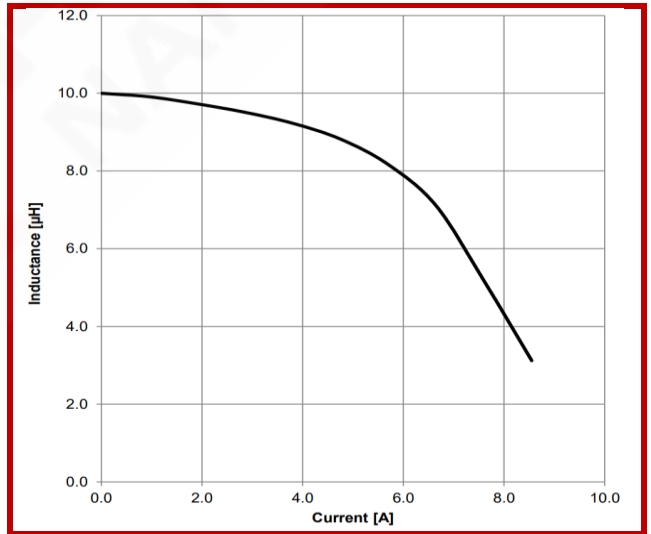
#### SPI14-0911-4R7M



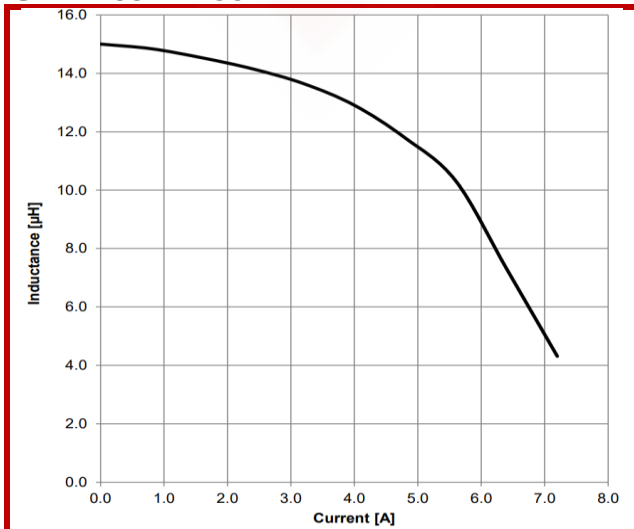
#### SPI14-0911-6R8M



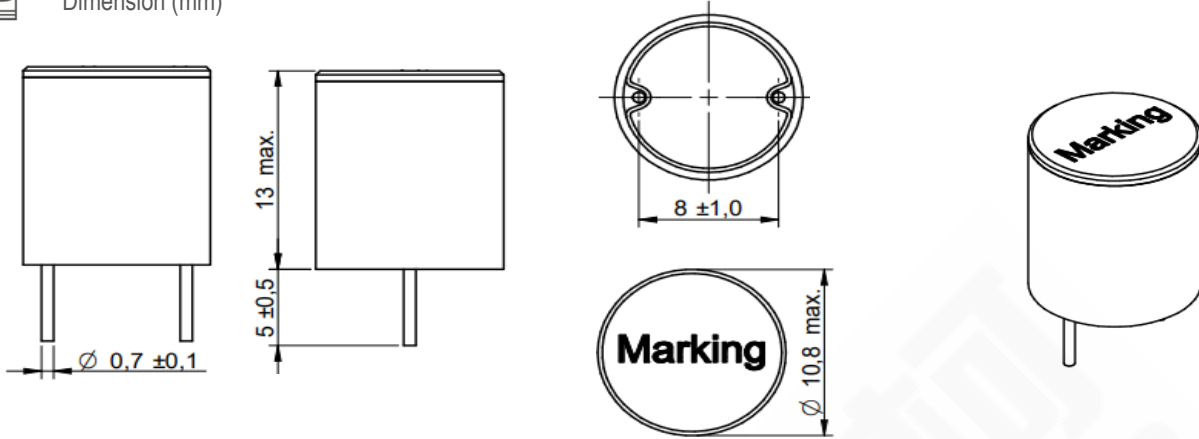
#### SPI14-0911-100M



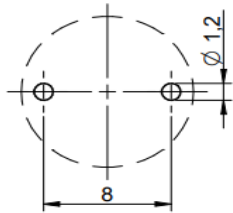
#### SPI14-0911-150M



### 尺寸 Dimension (mm)



### 焊盘推荐 Land Pattern Recommended (mm)



### 示意图 Schematics



### 电性特性 Electrical Properties

型号 Part No.	电感 Inductance μH	温升电流 Rated Current I <sub>R</sub> max 40°C (A)	直流电阻 DC Resistance DCR <sub>max</sub> (mΩ)	饱和电流 Saturation Current I <sub>sat</sub> typ (A)
SPI14-1113-4R7M	4.70 ±20%	9.00	8.50	14.40
SPI14-1113-150M	15.00 ±20%	5.60	20.00	8.50

### 测试状态

#### Test Condition

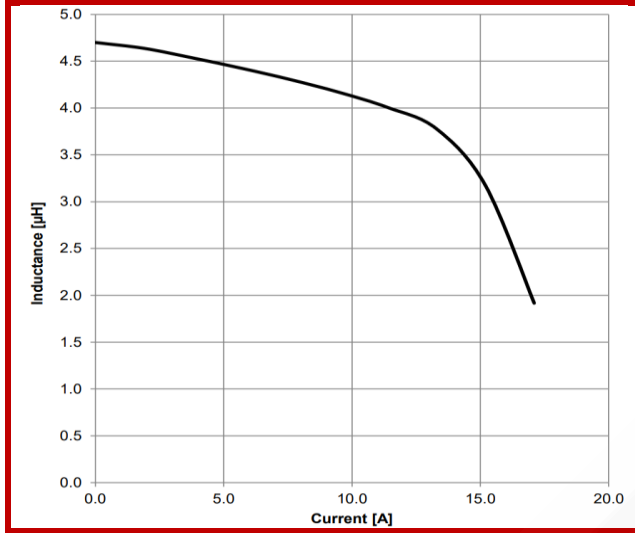
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Inductance measure condition at 100 kHz/ 1.0V
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Operating Temperature: -40°C ~ +125°C
- ☆ 饱和电流: 电感值下降其初始值的30%时所加载的实际直流电流值  
Saturation Current: The actual value of DC current when the inductance drop 30% of initial value



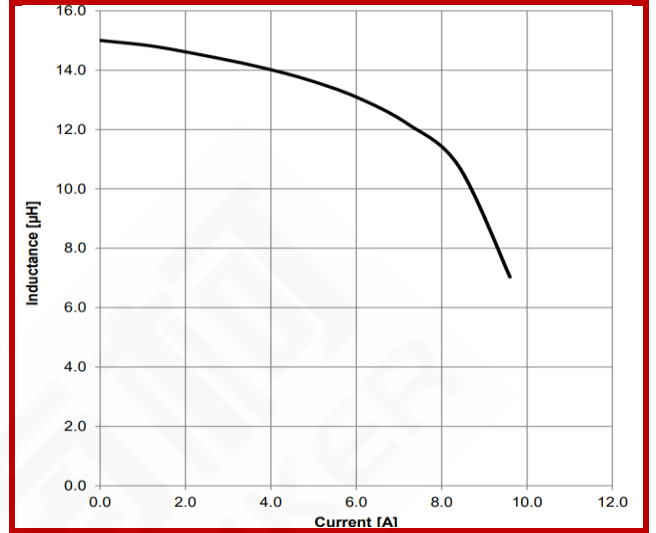
### 典型电感与电流特性

Typical Inductance vs. Current Characteristics

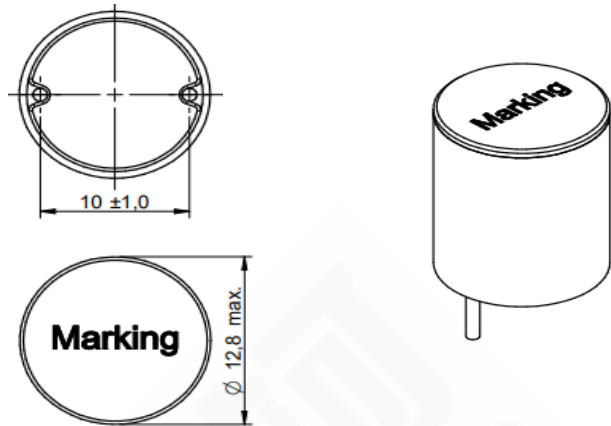
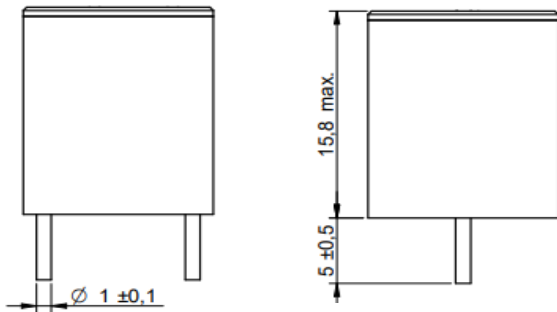
#### SPI14-1113-4R7M



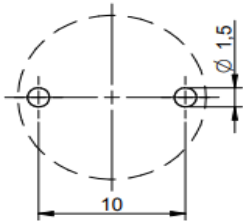
#### SPI14-1113-150M



### 尺寸 Dimension (mm)



### 焊盘推荐 Land Pattern Recommended (mm)



### 示意图 Schematics



### 电性特性 Electrical Properties

型号 Part No.	电感 Inductance $\mu\text{H}$	温升电流 Rated Current $I_R$ typ 40°C (A)	直流电阻 DC Resistance DCRmax (m $\Omega$ )	饱和电流 Saturation Current $I_{sat}$ typ (A)
SPI14-1315-100M	10.00 $\pm 20\%$	9.20	8.60	11.30
SPI14-1315-150M	15.00 $\pm 20\%$	9.00	12.00	9.50
SPI14-1315-220M	22.00 $\pm 20\%$	6.90	16.00	7.50

### 测试状态

#### Test Condition

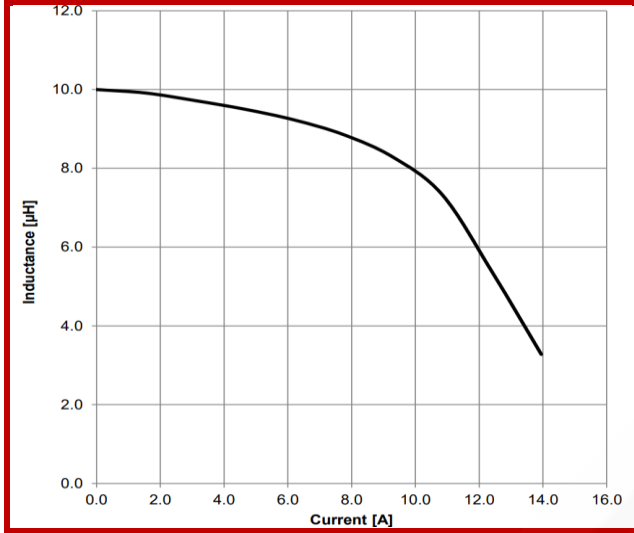
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Inductance measure condition at 100 kHz/ 1.0V
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Operating Temperature: -40°C ~ +125°C
- ☆ 饱和电流: 电感值下降其初始值的30%时所加载的实际直流电流值  
Saturation Current: The actual value of DC current when the inductance drop 30% of initial value



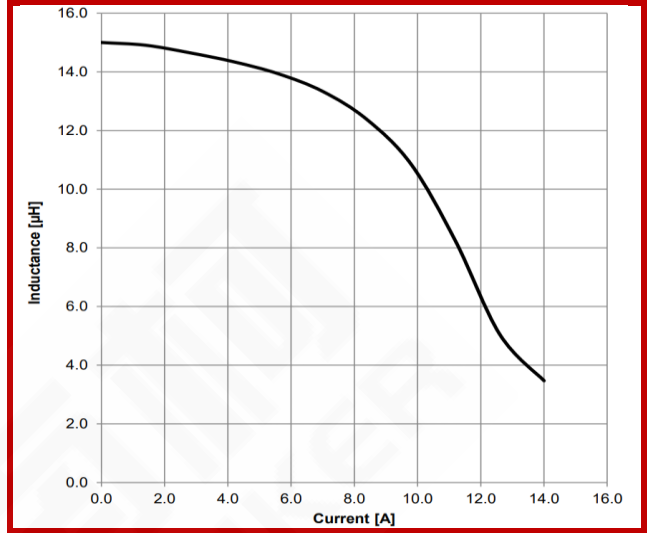
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Typical Inductance vs. Current Characteristics

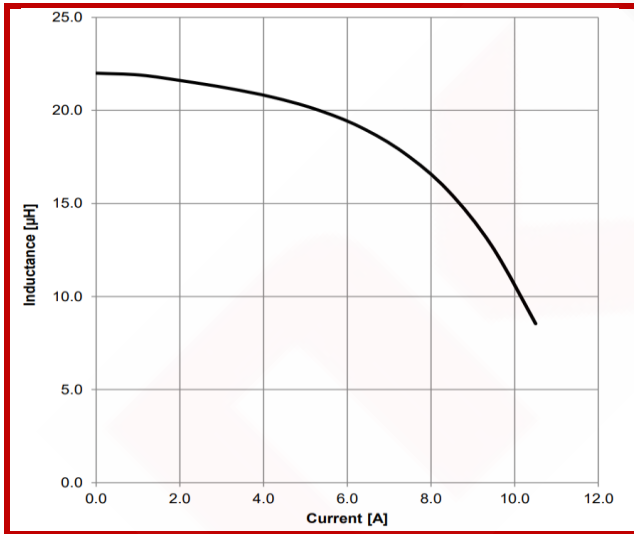
#### SPI14-1315-100M



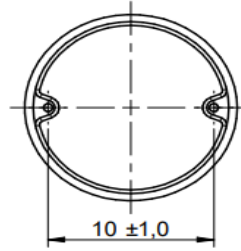
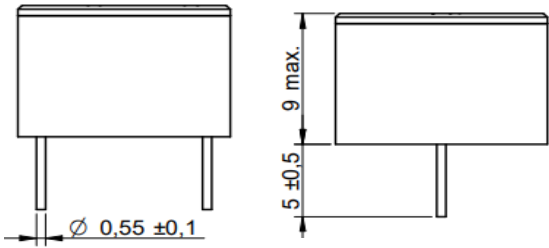
#### SPI14-1315-150M



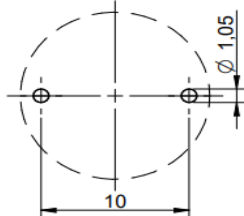
#### SPI14-1315-220M



### 尺寸 Dimension (mm)



### 焊盘推荐 Land Pattern Recommended (mm)



### 示意图 Schematics



### 电性特性 Electrical Properties

型号 Part No.	电感 Inductance $\mu\text{H}$	温升电流 Rated Current $I_R \text{ typ } 40^\circ\text{C (A)}$	直流电阻 DC Resistance DCRmax (m $\Omega$ )	饱和电流 Saturation Current $I_{\text{sat typ (A)}}$
SPI14-1309-4R7M	4.70 $\pm 20\%$	8.70	8.50	13.50
SPI14-1309-6R8M	6.80 $\pm 20\%$	7.20	12.00	11.40
SPI14-1309-100M	10.00 $\pm 20\%$	6.20	15.50	9.60
SPI14-1309-150M	15.00 $\pm 20\%$	5.10	25.00	7.90
SPI14-1309-220M	22.00 $\pm 20\%$	4.10	36.00	6.70

### 测试状态

#### Test Condition

☆ 电感测试条件为 100 kHz/ 1.0 V

Inductance measure condition at 100 kHz/ 1.0V

☆ 工作温度: -40°C ~ +125°C

Operating Temperature: -40°C ~ +125°C

☆ 饱和电流: 电感值下降其初始值的30%时所加载的实际直流电流值

Saturation Current: The actual value of DC current when the inductance drop 30% of initial value

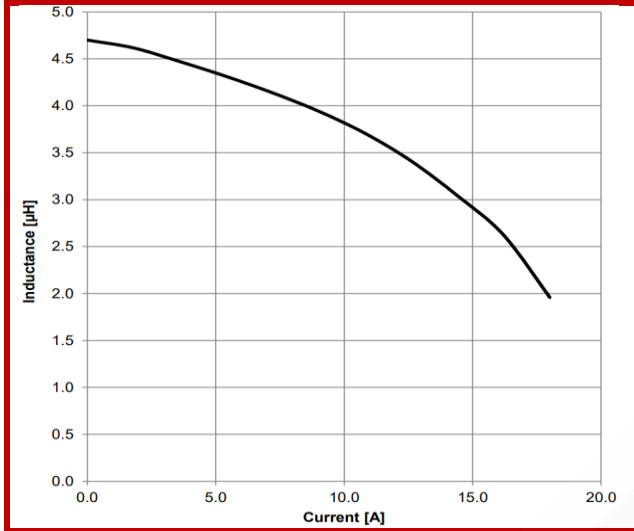




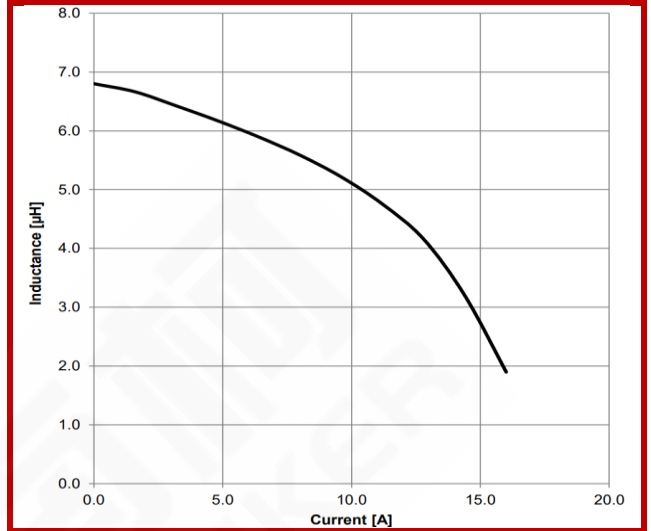
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Typical Inductance vs. Current Characteristics

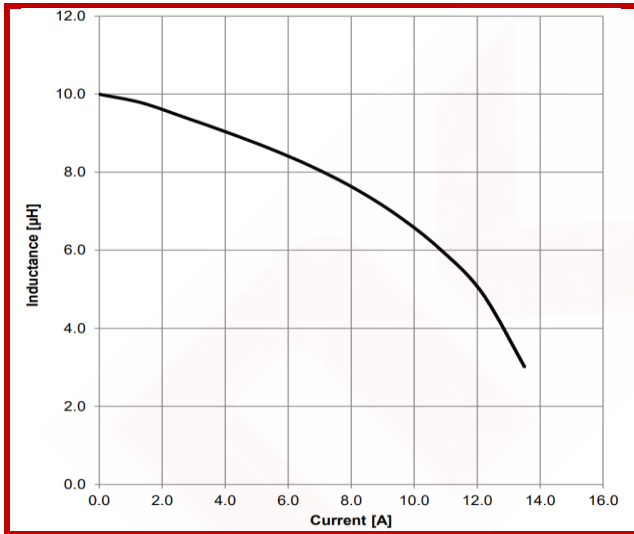
#### SPI14-1309-4R7M



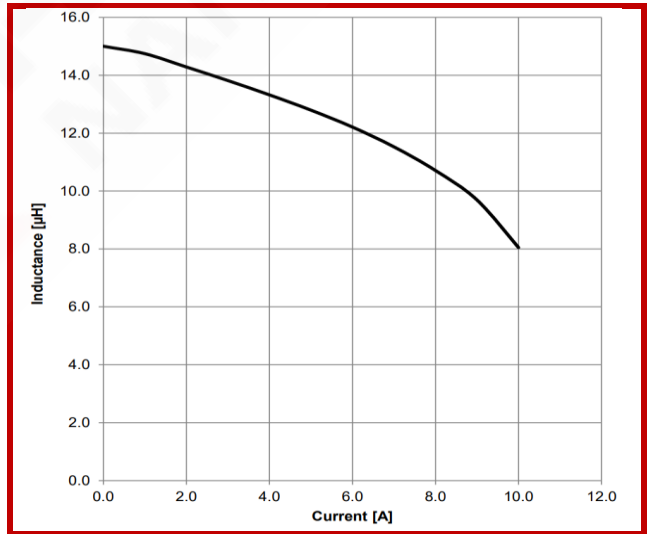
#### SPI14-1309-6R8M



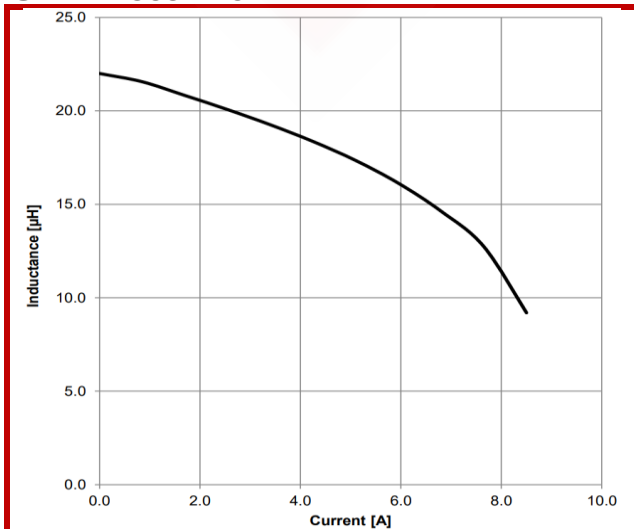
#### SPI14-1309-100M



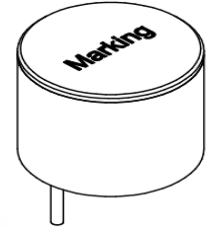
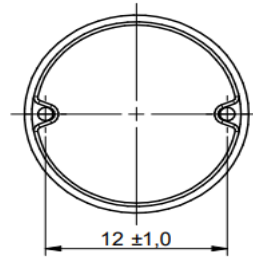
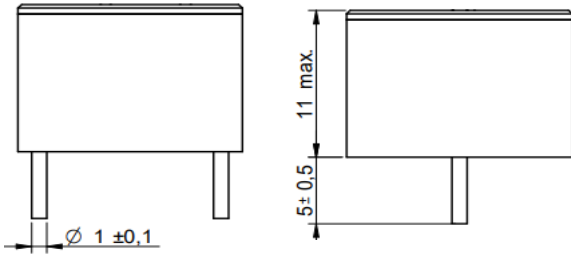
#### SPI14-1309-150M



#### SPI14-1309-220M



 尺寸  
Dimension (mm)



 焊盘推荐  
Land Pattern Recommended (mm)

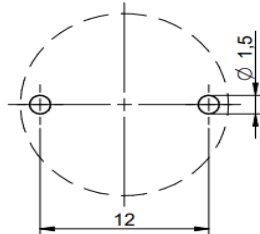


 示意图  
Schematics



 电性特性  
Electrical Properties

型号 Part No.	电感 Inductance μH	温升电流 Rated Current I <sub>r</sub> typ 40°C (A)	直流电阻 DCResistance DCR <sub>max</sub> (mΩ)	饱和电流 Saturation Current I <sub>sat</sub> typ (A)
SPI14-1511-4R7M	4.70 ±20%	11.80	4.10	18.00
SPI14-1511-6R8M	6.80 ±20%	10.70	5.30	15.00
SPI14-1511-100M	10.00 ±20%	8.90	8.00	12.40

### 测试状态

#### Test Condition

☆ 电感测试条件为 100 kHz/ 1.0 V

Inductance measure condition at 100 kHz/ 1.0V

☆ 工作温度: -40°C ~ +125°C

Operating Temperature: -40°C ~ +125°C

☆ 饱和电流: 电感值下降其初始值的30%时所加载的实际直流电流值

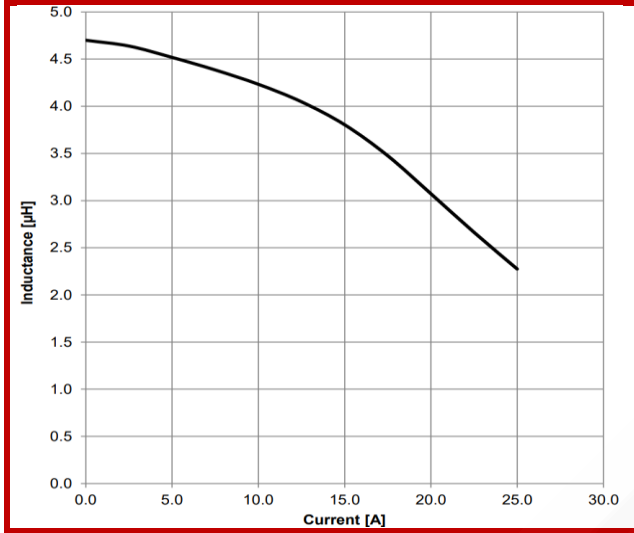
Saturation Current: The actual value of DC current when the inductance drop 30% of initial value



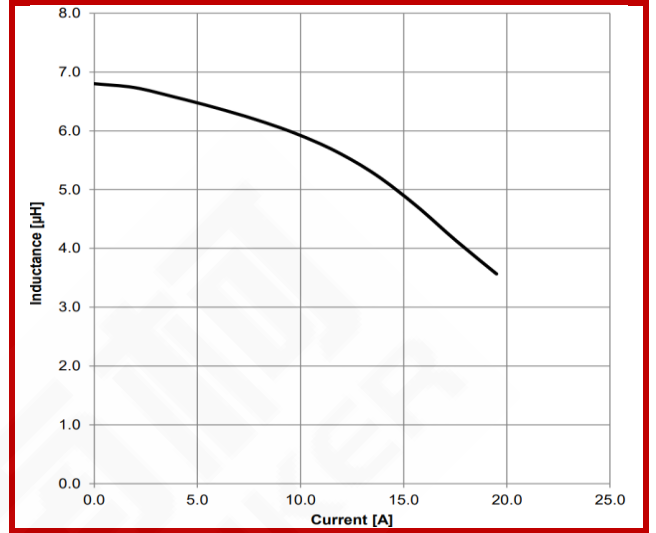
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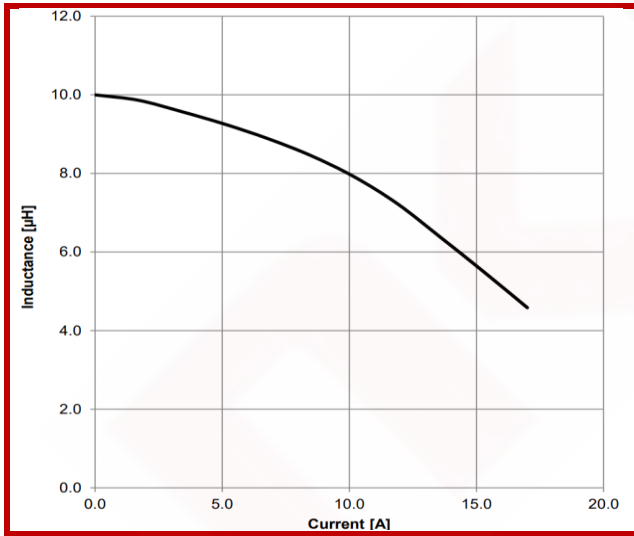
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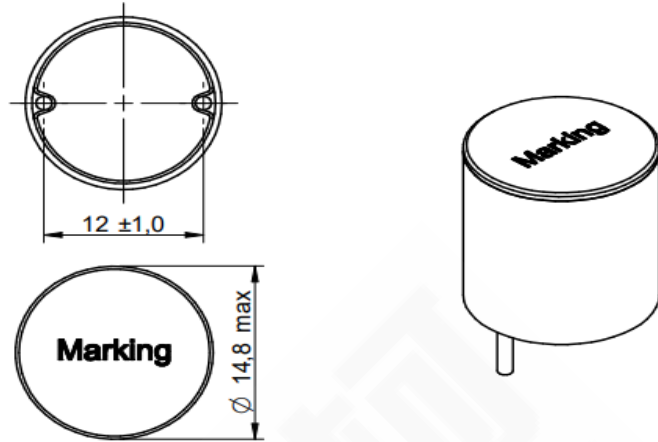
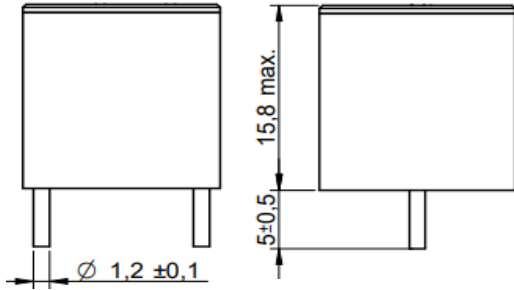
#### SPI14-1511-6R8M



#### SPI14-1511-100M



 尺寸  
Dimension (mm)



 焊盘推荐  
Land Pattern Recommended (mm)

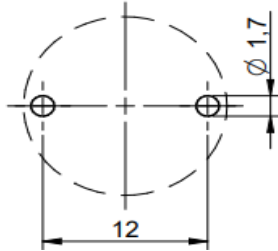


 示意图  
Schematics



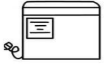
 电性特性  
Electrical Properties

型号 Part No.	电感 Inductance μH	温升电流 Rated Current I <sub>r</sub> typ 40°C (A)	直流电阻 DC Resistance DCR <sub>max</sub> (mΩ)	饱和电流 Saturation Current I <sub>sat</sub> typ (A)
SPI14-1516-4R7M	4.70 ±20%	14.50	3.10	19.70
SPI14-1516-100M	10.00 ±20%	11.40	5.40	13.40
SPI14-1516-120M	12.00 ±20%	7.70	12.60	8.90

### 测试状态

#### Test Condition

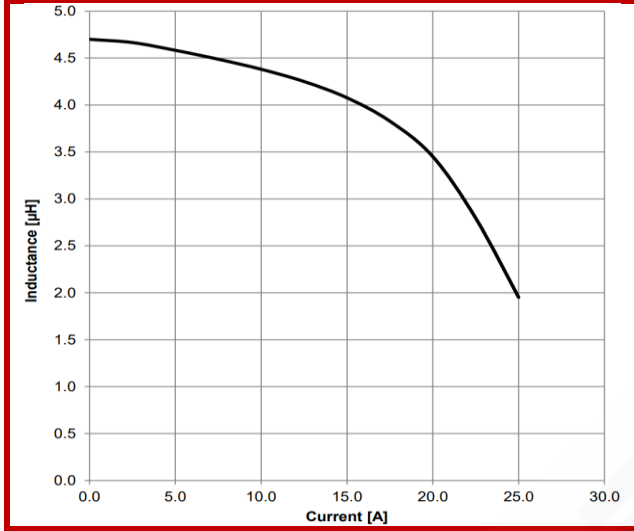
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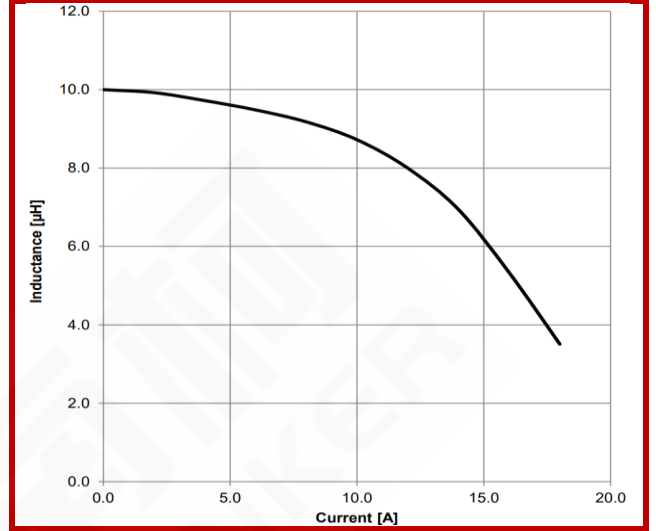
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Typical Inductance vs. Current Characteristics

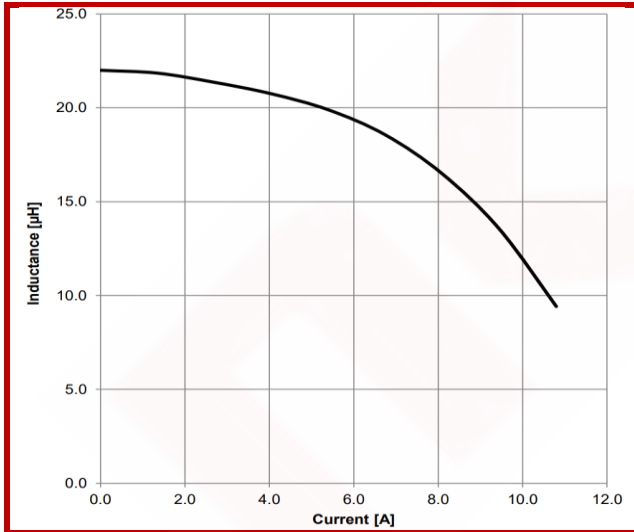
#### SPI14-1516-4R7M



#### SPI14-1516-100M



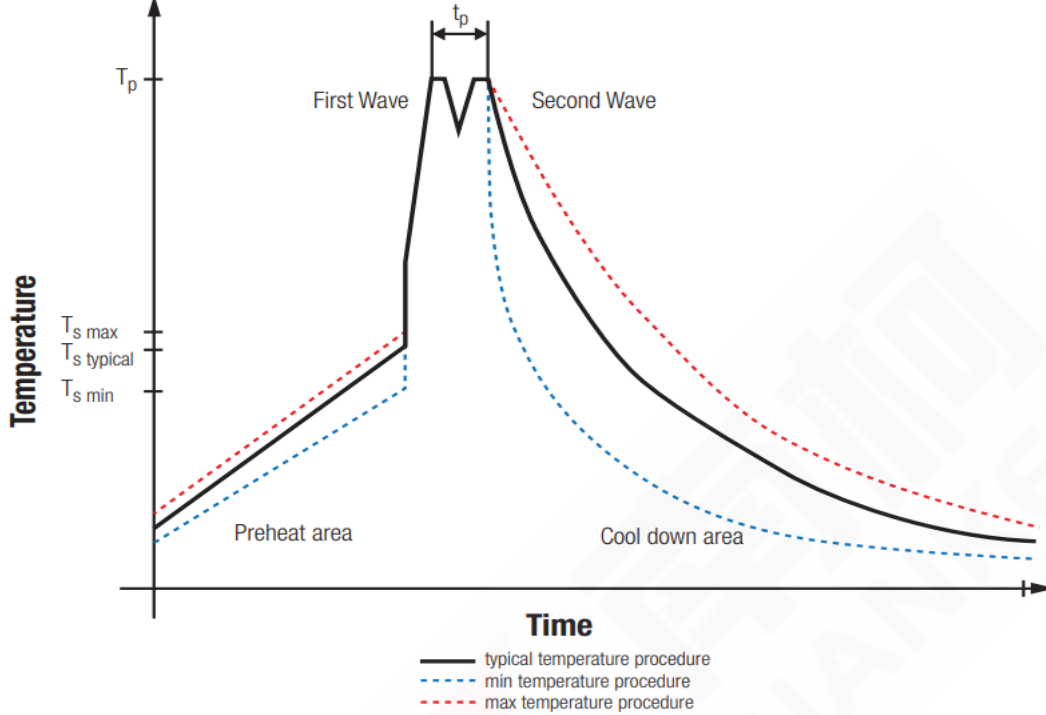
#### SPI14-1516-120M





### 波峰焊线图

Classification Wave Soldering Profile



### 封装体峰值温度( $T_p$ )分类

Classification Reflow Soldering Profile:

Profile Feature		Pb-Free Assembly	Sn-Pb Assembly
Preheat Temperature Min	$T_{s \text{ min}}$	100°C	100°C
Preheat Temperature Typical	$T_{s \text{ typical}}$	120°C	120°C
Preheat Temperature Max	$T_{s \text{ max}}$	130°C	130°C
Preheat Time $t_s$ from $T_{s \text{ min}}$ to $T_{s \text{ max}}$	$t_s$	70 seconds	70 seconds
Ramp-up Rate	$\Delta T$	150°C max	150°C max
Peak Temperature	$T_p$	250°C ~ 260°C	235°C ~ 260°C
Time of actual peak temperature	$t_p$	max. 10 seconds max. 5 seconds each wave	max. 10 seconds max. 5 seconds each wave
Ramp-down Rate, Min		~ 2K/seconds	~ 2K/seconds
Ramp-down Rate, Typical		~3.5K/seconds	~3.5K/seconds
Ramp-down Rate, Max		5K/seconds	5K/seconds
Time 25°C to 25°C		4 minutes	4 minutes

\* 波峰焊参照标准EN61760-1:2006。

Wave Soldering is refer to standard EN61760-1:2006