



# 一体成型功率电感

## *Data Sheet*



Shenzhen Deyan Electronics Co., Ltd

## 变更履历

### Resumé

产品名称 Part Name	一体成型贴片电感 SMD Molding Power Inductor	产品型号 Product Code	D0630HP-1R8MT
版本 REV No.	A/0	等级 Grade	普通 General

序号 No.	修改明细 Modify Details	日期 Date	版本 Version	拟制 Draft by
1	首次发行 Initial issue	2024.3.22	A/0	叶枫
2				
3				
4				
5				
6				
7				
8				

### 声明 Statement:

a、在使用产品前，用户须确认本产品是否符合您的设计要求，仅保证本产品符合此份承认书的规格。

Before using the product, the customer must confirm whether the product meets your design requirements, Dehong only guarantees that the product meets the specifications of this approval sheet.

b、承认书内的数据修改必须经过双方协商并认可，否则视作无效。

The data modification in the approval sheet must be negotiated and approved by both parties, otherwise it will be deemed invalid.

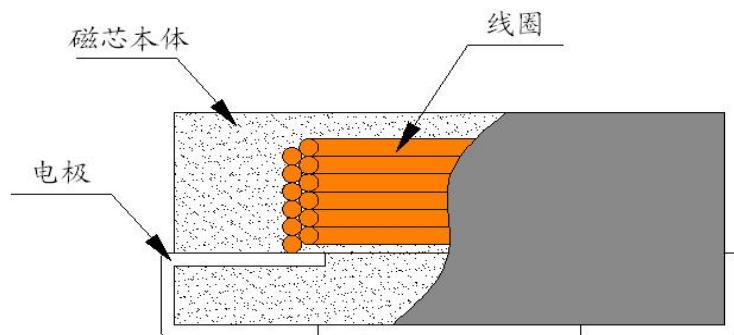
c、客户下单前需回签本承认书，如若未回签下单，视作以本份承认书为准。

The customer needs to sign this sheet before placing the order, otherwise it will be deemed that this approval sheet shall prevail.

d、本产品只适用于消费类电子产品，如使用在其他非消费电子场合，请提前告知我司。

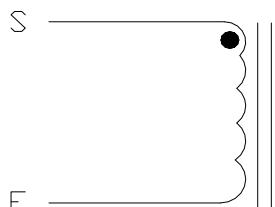
This product is only applicable to consumer electronic products, if used for other non-consumer electronic products, please inform us in advance.

## 1 产品结构 Product Structure



内部结构  
Internal Structure

“●” START FOR STAND

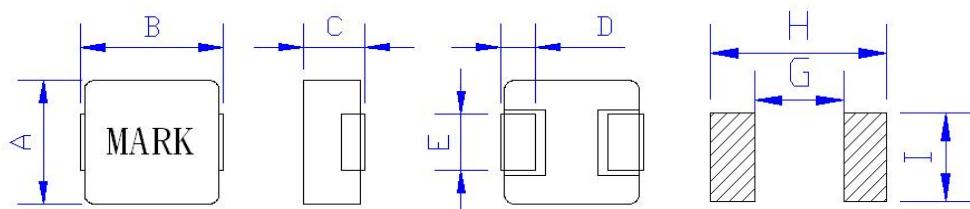


原理图  
Schematic Diagram

## 物料清单 Material List

序号 No.	项目 Item	材料 Material	材料供应商 Supplier of the Material
1	磁芯 Core	合金粉: 铁硅铬体系 Fe-Si-Cr	MD OR EQ
2	铜线 Copper	聚酯亚胺漆包线 Polyester Imide Enamelled Wire	ELEKTRISOLA OR EQ
3	端电极 Terminal Electrode	铜 Cu	BD OR EQ
		Ni/Sn 镀层 Ni/Sn Plating	
4	墨水 Ink	黑色油墨 Black Ink	TXQ OR EQ

## 2 产品尺寸 Product Size



Unit: mm

型号 Size	A	B	C	D	E	G	H	I
0630 系列	$6.60 \pm 0.30$	$7.10 \pm 0.50$	3.00 Max	$1.60 \pm 0.50$	$3.00 \pm 0.30$	2.90 Ref	7.80 Ref	3.50 Ref

### 3 特性参数 Characteristic Data:

型号规格 Part NO.	标称感量 Inductance ( $\mu$ H)	精度级别 Accuracy Grade	测试频率 Test Frequency (KHz)	测试电压 Test Voltage (mV)	直流电阻 Rdc (m $\Omega$ )		额定电流 Idc (A)		饱和电流 Isat (A)	
					Typ	Max	Max	Typ	Max	Typ
D0630HP-1R8MT	1.8	$\pm 20\%$	100	1000	11.5	14.5	8.0	9.0	12.0	13.0

#### 电气特性 Electrical Characteristic:

a、测试条件: 所有测试均在室温  $25 \pm 2^\circ\text{C}$  环境中进行。

Test conditions: All tests were conducted at room temperature  $25 \pm 2^\circ\text{C}$

b、额定电流: 在室温  $25^\circ\text{C}$  环境下, 加载该电流后, 产品表面温度上升约  $40^\circ\text{C}$  (不超过  $40^\circ\text{C}$ )。

Rated current: At room temperature  $25^\circ\text{C}$ , after loading the current, the surface temperature of the product rises by about  $40^\circ\text{C}$  (no more than  $40^\circ\text{C}$ ).

c、饱和电流: 在室温  $25^\circ\text{C}$  环境下, 加载该电流后, 电感值下降至初始电感值 70% (不低于 70%)。

Saturation current: At room temperature  $25^\circ\text{C}$ , after loading the current, the inductance value drops to 70% of the initial inductance value (no less than 70%).

d、工作温度范围:  $-45^\circ\text{C} \sim +125^\circ\text{C}$  (包含产品表面温升)。

Operating temperature range:  $-45^\circ\text{C} \sim +125^\circ\text{C}$  (including product surface temperature rise).

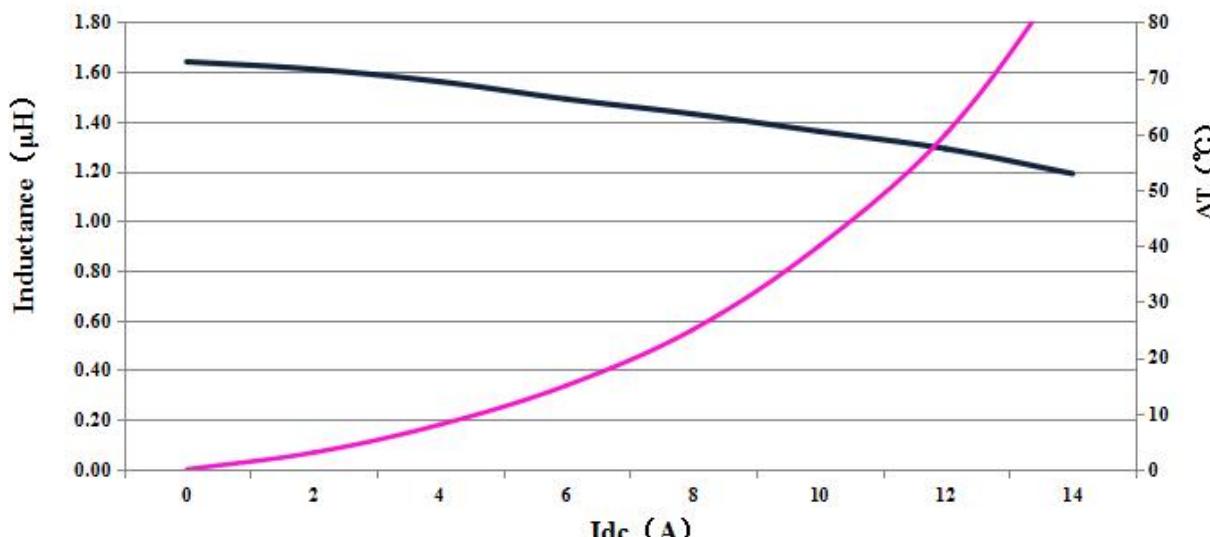
e、在极端使用环境, 产品能承受的最高温度 (包含产品表面温升) 不超过  $125^\circ\text{C}$ , 电路设计、元件放置、PCB 尺寸和厚度、散热装置及工作频率均会影响产品温度, 请用户在应用中验证产品实际温度。

In the extreme use environment, the highest temperature that the product can withstand (including product surface temperature rise) does not exceed  $125^\circ\text{C}$ . Circuit design, component placement, PCB size and thickness, heat dissipation device and operating frequency will affect the product temperature, please verify the actual temperature of the product in the application.

f、以上参数为我司常规产品特性, 如果不能满足您的需求, 请与我们联系。

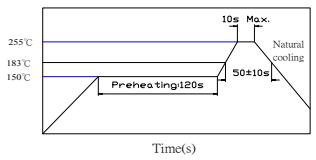
The above parameters are our regular product characteristics, if it can not meet your needs, please contact us.

#### 性 能 曲 线 Performance Graphs



## 4 可靠性试验项目 Reliability Testing Items

测试项目 TEST ITEMS	规格要求 SPECIFICATIONS	测试条件/测试方法 TEST CONDITIONS / TEST METHODS
<b>(1) 电气特性测试 ELECTRICAL PERFORMANCE TEST</b>		
电感量 (L)	参照特性参数表。 Refer to standard electrical characteristic list.	Microtest 6377
直流电阻 (Rdc)	参照特性参数表。 Refer to standard electrical characteristic list.	TH 2511
额定电流 (Idc)	参照特性参数表。 Refer to standard electrical characteristic list.	加载电流后, 电感量下降不超过 30%, 或温升不超过 40°C。 Applied the current to coils the inductance change should not be less than 30% to initial value and temperature rise should not be 40°C typical.
温升测试 Temperature rise test	温升不超过 40°C。 The temperature rise does not exceed 40°C.	加载额定电流, 保持 4 小时。 Applied the rated current for 4 hours.
过载测试 Overload test	没有明显的电气损坏。 No evidence of electrical damage.	加载 1.5 倍额定电流, 保持 5 分钟。 Applied 1.5 times of rated current for a period of 5 minutes.
<b>(2) 机械特性测试 Mechanical performance test</b>		
可焊性测试 Solder ability test	至少 95% 端电极表面被焊锡覆盖。 At least 95% of terminal electrode should be covered with solder.	预热温度: 150°C 预热时间: 120s 焊锡温度: 255°C ± 5°C 浸锡时间: 10s Max Preheating temperature: 150°C Preheating time: 120s Solder temperature: 255 ± 5°C Duration: 10s Max
耐焊性 Resistance to soldering	至少 95% 的焊锡覆盖在电极表面。 无可见机械损伤。 电感量变化不超过 10%。 At least 95% of terminal electrode should be covered with solder. No mechanical damage. Inductance should not change more than ±10%.	参照回流焊曲线过 3 次。 Repeat the reflow curve twice.

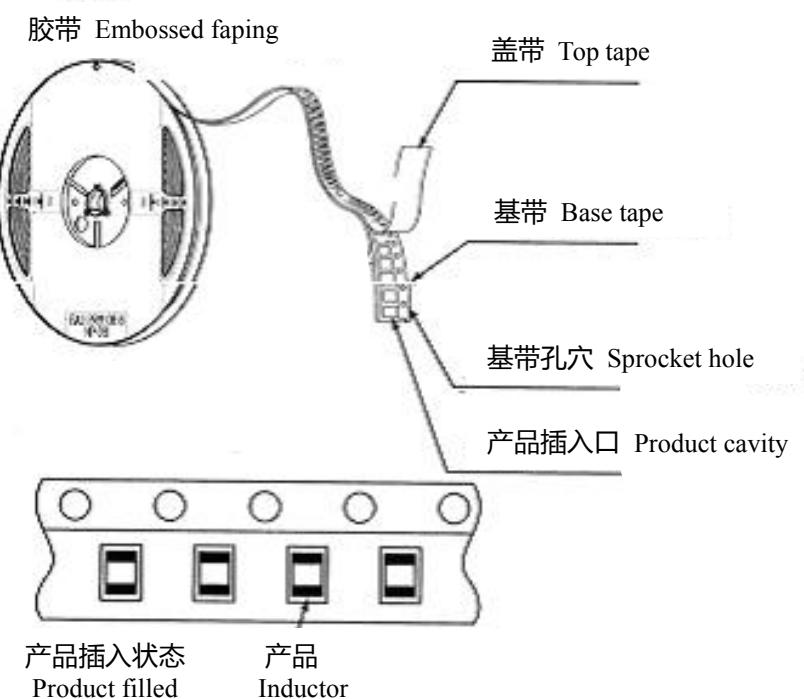


测试项目 Test Items	规格要求 Specifications	测试条件/测试方法 Test Conditions / Test Methods
振动测试 Vibration test	无可见机械损伤。 电感量变化不超过 10%。 No mechanical damage. Inductance should not change more than $\pm 10\%$ .	振幅: 1.5mm 测试时间: 沿三个垂直方向各做 2 小时 频率范围: 10Hz~55Hz~10Hz (1 分钟) Amplitude modulation: 1.5mm Test time: A period of 2h in each of 3 mutually perpendicular directions. Frequency range: 10Hz to 55Hz to 10Hz for 1min.
冲击测试 Shock test	无可见机械损伤。 电感量变化不超过 10%。 No mechanical damage. Inductance should not change more than $\pm 10\%$ .	持续时间: 6ms 峰值加速度: 100g 方向: $\pm X \pm Y \pm Z$ (6 个方向) 冲击次数: 每个方向施加三次连续冲击 (共 18 次)。 Duration: 6ms Peak acceleration: 100g Direction: $\pm X \pm Y \pm Z$ (6 directions) Number of shocks: Three consecutive shocks in each direction (total 18 times).
端电极强度 Adhesion of electrode	无可见机械损伤。 电感量变化不超过 10%。 No mechanical damage. Inductance should not change more than $\pm 10\%$ .	施加一个 17.7N (1.8kg) 的力到测试器件的侧面, 施加时间为 $60 \pm 1$ 秒。 A 17.7N(1.8kg) force is applied to the side of the inductance for $60(\pm 1)$ s.
板弯曲测试 Circuit board bending test	无可见机械损伤。 电感量变化不超过 10%。 No mechanical damage. Inductance should not change more than $\pm 10\%$ .	施加使线路板弯曲至少 (D) $x = 2mm$ 的力, 施加外力的持续时间应为 $60 (\pm 5)$ 秒。 Apply a force to bend the circuit board at least (D) $x=2mm$ , and the duration of the applied force should be $60(\pm 5)$ s.
<b>(3) 环境测试 CLIMATIC TEST</b>		
工作温度范围 Operating temperature range	- 45°C ~ + 125°C	包含产品表面温升。 Includes product surface temperature rise.
耐高温 High temperature resistance	无可见机械损伤。 电感量变化不超过 10%。 No mechanical damage. Inductance should not change more than $\pm 10\%$ .	+ 125°C $\pm 2^\circ\text{C}$ / 1000h 室温静置 1 小时后测试。 Test at room temperature for 1 hour.

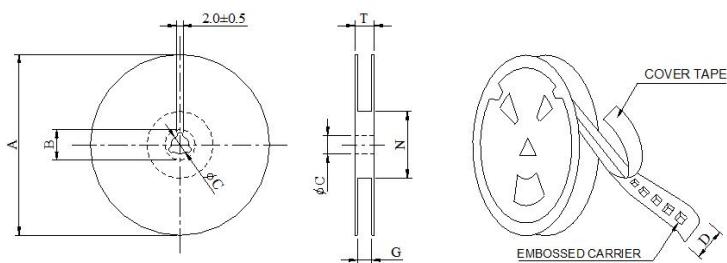
测试项目 Test Items	规格要求 Specifications	测试条件/测试方法 Test Conditions / Test Methods
耐低温 Low temperature resistance	无可见机械损伤。 电感量变化不超过 10%。 No mechanical damage. Inductance should not change more than ±10%.	- 45°C ± 2°C / 1000h 室温静置 1 小时后测试。 Test at room temperature for 1 hour.
温度冲击 Temperature shock	无可见机械损伤。 电感量变化不超过 10%。 No mechanical damage. Inductance should not change more than ±10%.	温度: - 45°C, 30 ± 3 分钟 + 125°C, 30 ± 3 分钟 循环次数: 1000 Temperature: - 45°C for 30 ± 3min + 125°C for 30 ± 3min Number of cycles: 1000
恒定湿热 Static humidity	无可见机械损伤。 电感量变化不超过 10%。 No mechanical damage. Inductance should not change more than ±10%.	湿度: 85% RH 温度: 85°C ± 2°C 测试时间: 1000 ± 2 h Humidity: 85% RH Temperature: 85°C ± 2°C Testing time: 1000 ± 2h

## 5 产品包装 Packaging

### (1) 编带图 Taping Drawings



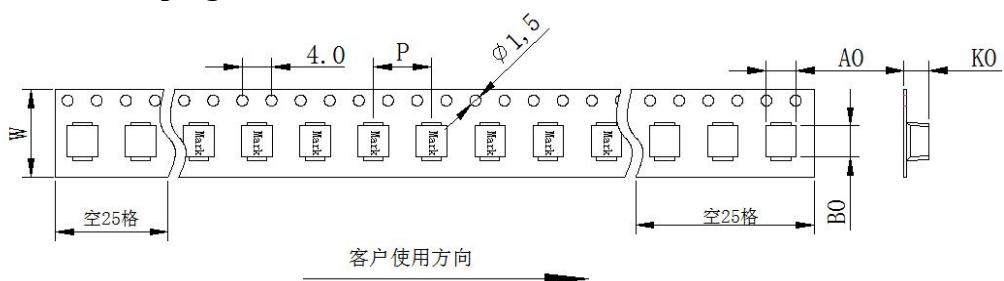
## (2) 卷盘尺寸 Reel Dimensions



Unit: mm

尺寸 Size	A	B	C	D	G	N	T
JP-20	330	21	13	16	17	100	20

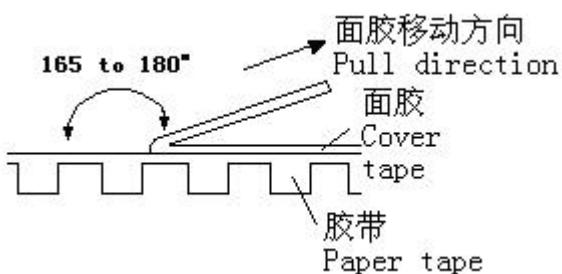
## (3) 编带尺寸 Taping Dimensions



Unit: mm

型号 Size	P	W	A0	B0	K0
0630 系列	12.00 ± 0.10	16.00 ± 0.30	6.90 ± 0.20	7.60 ± 0.20	3.20 ± 0.15

## (4) 剥离力检验 Peeling off Force



a. 盖带的剥离力：沿面胶移动方向拉时要求剥离力为 20g~150g。

Peeling force should be 20~150g pulling in the direction of arrow.

b. 在胶带剥落时，面胶不能有破损。

The cover bond should not be damaged when it peeled off.

## (5) 包装数量 Packaging Number

Unit: PCS

型号 Size	卷盘数量 Reel	内盒数量 Box	外箱数量 Case
0630 系列	1000	3000	9000