

湖南宏磁电子科技有限公司

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产品规格承认书 Product specification recognition

客户名称 Customer Name :

产品名称 Product Name: 一体成型电感 0420 系列

制造商料号 Manufacturer P/N: HCSPI 系列

客户料号 Customer P/N: _____

版本号: 21.01

标准类型: 标准品

制造厂商		
拟制	审核	
	品管部	技术部
日期		

客户承认印章	
日期	

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产品命名 PRODUCT IDENTIFICATION

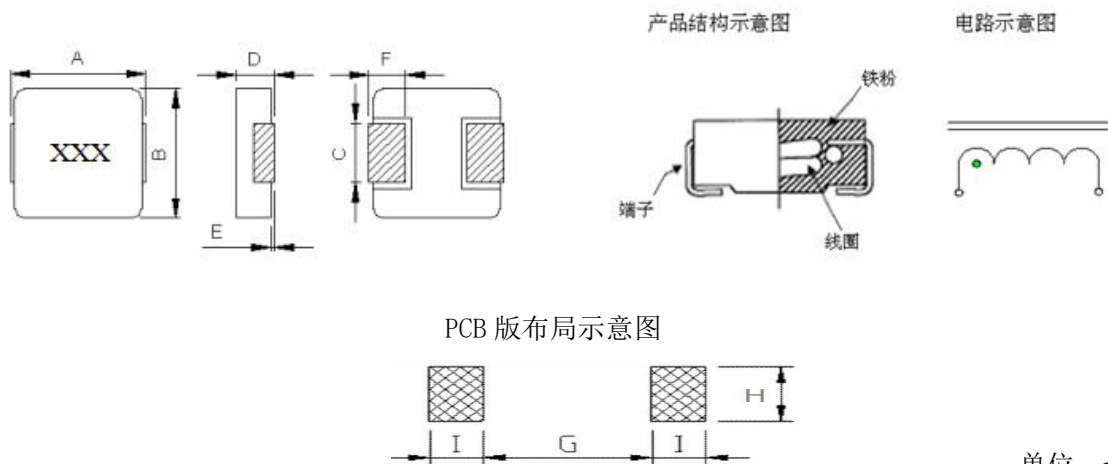
HCSPI 0420 — 8R2 S1 M T F

① ② ③ ④ ⑤ ⑥ ⑦

- ① 类型：HCSPI 型一体成型电感器
- ② 外形尺寸：长*高
- ③ 标称电感：R22—0.22 μ H, 2R2—2.2 μ H, 100—10 μ H
- ④ “S1”：代表羰基铁材料“S2”代表铁基材料没有标识统一为合金系列
- ⑤ 公差：M \pm 20%
- ⑥ 包装：T—编带/盘装
- ⑦ 无铅环保标识 Lead Free

1、外观尺寸 Extrenal Dimensions

注：XXX 表示印字



单位：mm

Series	A	B	C	D max	F	G typ	H typ	I typ.
HC SPI0420	4.75 max	4.2 \pm 0.2	2.0 \pm 0.3	2.0	0.8 \pm 0.3	2.2	2.5	1.5
HC SPI0520	5.95 max	5.2 \pm 0.20	2.3 \pm 0.30	2.0	1.1 \pm 0.3	2.2	2.5	2.0
HC SPI0530	5.95 max	5.2 \pm 0.20	2.3 \pm 0.30	3.0	1.1 \pm 0.3	2.2	2.5	2.0
HC SPI0620	7.50 max	6.6 \pm 0.20	3.0 \pm 0.30	2.0	1.6 \pm 0.3	3.7	3.5	2.4
HC SPI0624	7.50 max	6.6 \pm 0.20	3.0 \pm 0.30	2.4	1.6 \pm 0.3	3.7	3.5	2.4
HC SPI0630	7.50 max	6.6 \pm 0.20	3.0 \pm 0.30	3.0	1.6 \pm 0.3	3.7	3.5	2.4
HC SPI0640	7.50 max	6.6 \pm 0.20	3.0 \pm 0.30	4.0	1.6 \pm 0.3	3.7	3.5	2.4
HC SPI0650	7.50 max	6.6 \pm 0.20	3.0 \pm 0.30	5.0	1.6 \pm 0.3	3.7	3.5	2.4
HC SPI1030	11.50 max	10 \pm 0.30	3.0 \pm 0.30	3.0	2.0 \pm 0.5	5.0	4.1	4.1
HC SPI1040	11.50 max	10 \pm 0.30	3.0 \pm 0.30	4.0	2.0 \pm 0.5	5.0	4.1	4.1
HC SPI1050	11.50 max	10 \pm 0.30	3.0 \pm 0.30	5.0	2.0 \pm 0.5	5.0	4.1	4.1
HC SPI1335	13.45 \pm 0.35	12.6 \pm 0.2	4.0 \pm 0.50	3.5	2.0 \pm 0.5	8.0	5.0	3.3
HC SPI1350	13.45 \pm 0.35	12.6 \pm 0.2	4.0 \pm 0.50	5.0	2.0 \pm 0.5	8.0	5.0	3.3
HC SPI1360	13.45 \pm 0.35	12.6 \pm 0.2	4.0 \pm 0.50	6.0	2.0 \pm 0.5	8.0	5.0	3.3
HC SPI1770	18.3 max	17.3 max	12.0 \pm 0.3	7.0	2.5 \pm 0.5	11.2	12.8	3.3

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2、规格特性 SPECIFICATIONS

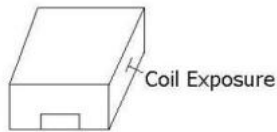
Part Number 型号	Inductance 电感量	Tolerance 公差 (%)	L、Q 值 测试频率	max. Heat rating Current 温升电流	max. Saturation Current 饱和电流	max. DC Resistance 直流电阻
Units 单位	μ H	-	KHz-	A	A	m Ω
Symbol 符号	L	-	Freq	I _{rms}	I _{sat}	DCR
HCSPI 0420-R47MTF	0.47	20	100KHz. 1V	7	9.5	14
HCSPI 0420-R56MTF	0.56	20	100KHz. 1V	6.0	8.5	16
HCSPI 0420-R68MTF	0.68	20	100KHz. 1V	5.2	8.0	21
HCSPI 0420-1R0MTF	1.0	20	100KHz. 1V	4.5	7.0	27
HCSPI 0420-1R5MTF	1.5	20	100KHz. 1V	4.0	6.0	42
HCSPI 0420-2R2MTF	2.2	20	100KHz. 1V	3.0	5.0	58
HCSPI 0420-3R3MTF	3.3	20	100KHz. 1V	2.5	4.0	87
HCSPI 0420-4R7MTF	4.7	20	100KHz. 1V	2.2	3.0	104
HCSPI 0420-6R8MTF	6.8	20	100KHz. 1V	2.0	2.5	175
HCSPI 0420-8R2MTF	8.2	20	100KHz. 1V	1.8	2.0	190
HCSPI 0420-100MTF	10	20	100KHz. 1V	1.6	2.2	265
HCSPI 0420-150MTF	15	20	100KHz. 1V	1.5	2.0	330
HCSPI 0420-220MTF	22	20	100KHz. 1V	1.0	1.8	360

注：蓝色字体规格型号为本次承样型号。

3、外观要求 Appearance Requirement

1 产品无露铜

No coil exposure will be seen in the part surface.

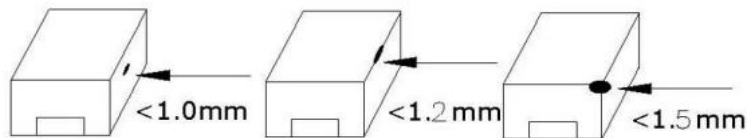


2 产品表面无开裂和铁锈。

No cracks and crust will be seen in the part surface.

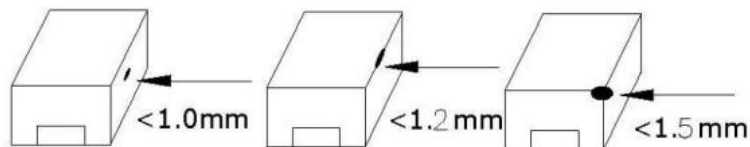
3 产品表面掉块允许超过三块 如果掉块发生在一个表面上，则掉块长度不得大于 1.0mm；如果掉块发生在两个表面的交接处，则掉块长度不得大于 1.2mm；如果掉块发生在三个表面的交接处，则掉块长度不得大于 1.5mm。

Chip must be less than three. About the maximum length of chip off. When the clip off is in one face :1.0mm When the chip off is between two face:1.2mm When the chip off is three face :1.5mm



如果产品表面掉块数是二块，无论在哪个位置，则要求掉块处长度不大于 1mm。

If the part of chip off is two places of less. The chip off of 1.0mm over are not allowed in part surface.



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测试条件 Testing Conditions

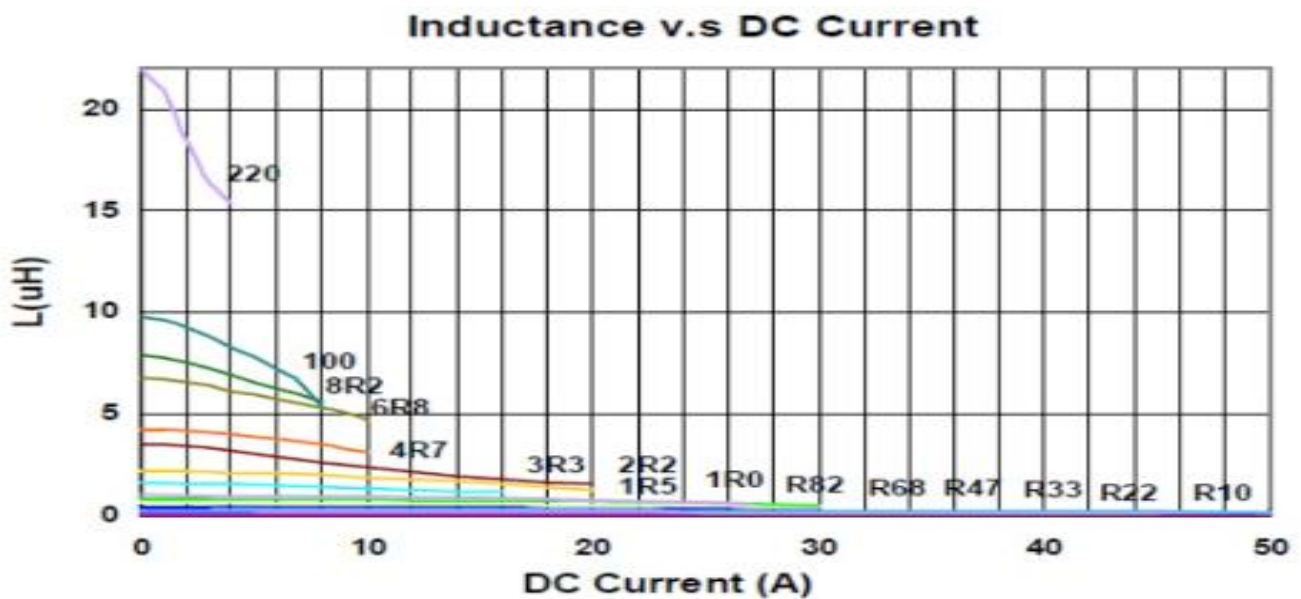
除非另有规定，否则在以下条件下测试 <Unless otherwise specified>

温度 Temperature	: Ordinary Temperature	(5 to 35℃)
湿度 Humidity	: Ordinary Humidity	(25 to 85% RH)

4、电磁和机械特性 Electromagnetic and mechanical Property

项目(Item)	数值(Value)	测试条件(Test Condition)
电感 L _{0A} Inductance of 0A	(X±20%) μH	仪器(Equipment): 3302 频率(Frequency): 100kHz 电压(Voltage): 1.0VrMTFs 温度(Temperature): 25±5°C
饱和电流 Saturation Rated Current (A)	XA Typ	比初始电感降低约-30% max. Saturation Rate Current Thar Will Cause An L0A To Drop -30% max.
温升电流 Temperature Rise Current (A)	XA Typ	产品表面温度ΔT=40°C Surface Temperature of the Product ΔT=40°C
绝缘电阻 Insulation Resistance	>0.1mΩ	仪器(Equipment): 19052 电压(voltage): 50Vdc 温度(Temperature): 25±5°C
线圈电阻 Coil resistance	X mΩ max.	仪器(Equipment): 16502 温度(Temperature): 25±5°C
使用温度 Use Temperature	-55°C ~ +125°C	
储存温度 Preserve Temperature	-10°C ~ +40°C	
Q 值		仪器 (Equipment) :3302 频率 (Frequency) :500KHz 电压 (Voltage) :1.0VrMTFs 温度 (Temperature) :25±5°C

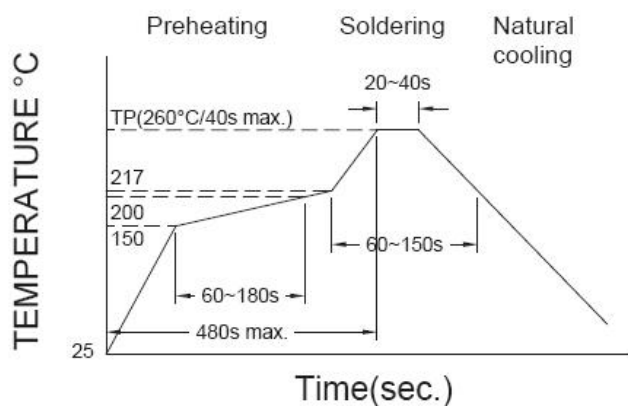
HCSPi0420 系列电气特性图



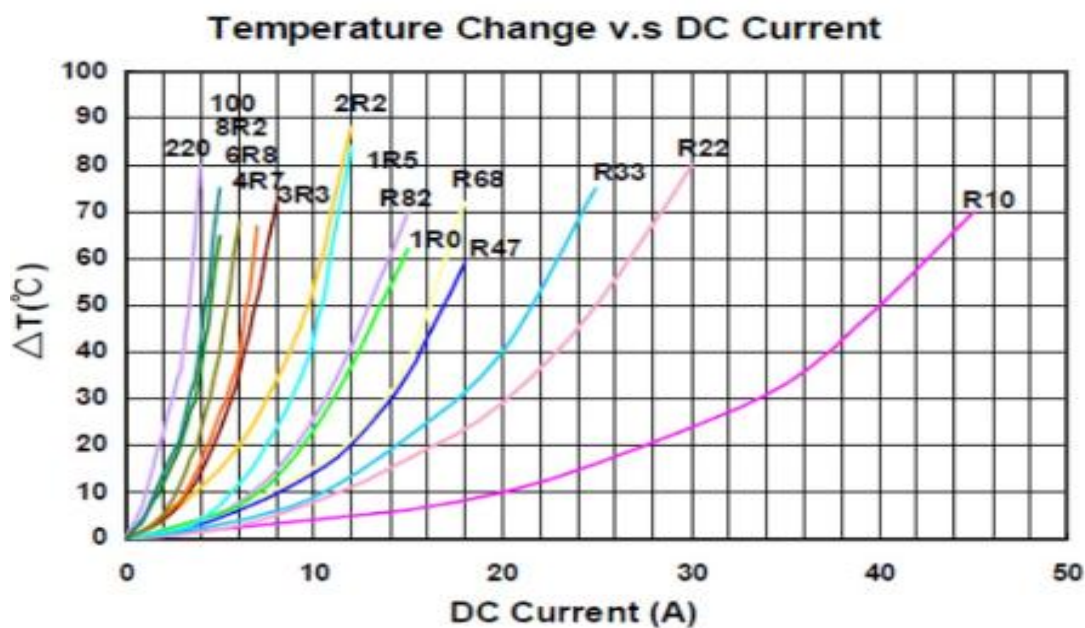
5、材料特性 Material Characteristics

编号	材料名称	材质
1	粉末	合金粉末
2	线圈	圆径漆包铜线（东特，大亚，太平洋）
3	电极端子	红铜，电镀雾面锡（越众）
4	树脂	环氧树脂（台湾、日本）

Solderability Test:



Please keep temperature about 350°C while hand soldering



6、信赖性测试项目

6.1 Endurance characteristics

	Item	Rating	Test conditions
1	Resistance to solder heart	Appearance shall be without distinct damage. Inductance and DC resistance shall be within $\pm 10\%$ of the initial value.	Solder temperature: $245 \pm 5^\circ\text{C}$ Dipping time: $4 \pm 1\text{s}$ (Only a terminal part is immersed)
2	Solderability (reflow soldering)	More than 3/4 of terminal electrodes shall be covered with new solder.	Temperature profile of reflow soldering Pre-heating: 60 to 120s at $160 \pm 10^\circ\text{C}$ Peak temp. : 5s max. at $245 \pm 5^\circ\text{C}$

6.2 Environment test

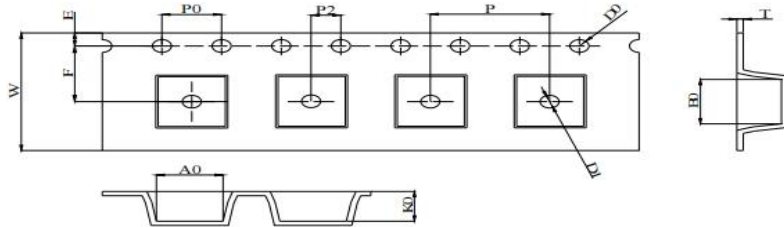
	Item	Rating	Test conditions
1	Vibration	Appearance shall be without distinct damage. Inductance and dc resistance shall be within $\pm 10\%$ of the initial value.	Frequency: 10 to 55Hz Amplitude: 1.5mm Direction: X, Y, Z Direction Time: 2 hours each
2	High temperature storage	Ditto	Temperature: $85 \pm 2^\circ\text{C}$ Time: 96 hours
3	Low temperature storage	Ditto	Temperature: $-40 \pm 2^\circ\text{C}$ Time: 96 hours
4	Humidity resistance	Ditto	Temperature: $60 \pm 2^\circ\text{C}$ Humidity: 90~95%RH Time: 96 hours
5	Heat shock	Ditto	Temperature $-40 \pm 2^\circ\text{C}$ /cycle time 30 min Temperature $125 \pm 2^\circ\text{C}$ /cycle time 30 min Cycle time: 5 cycle

7、包装 Dimensions and peel force of top cover tape

7.1(1)台纸预留长度: (Cover Tapy 拉力: 20~100gf)

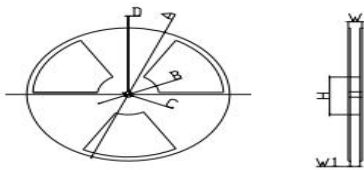
说明: TAPE 前段留空白 ≥ 25 MTFM TF 后段留空白 ≥ 25 MTFM TF;

7.1(2)包装料带尺寸 Tape packaging dimensions



W	A0	B0	K0	P	F	E	D0	PO	T
12	4.5	4.85	2.2	8	5.5	1.75	1.5	4.0	0.35
± 0.30	± 0.10	± 0.10	± 0.10	± 0.10	± 0.1	± 0.1	± 0.10	± 0.10	± 0.05

7.1(3)卷轴尺寸 Reel dimensions



项目	尺寸 (mm)
A	330.0 \pm 2.0
B	100.0 \pm 1.0
C	13.0 \pm 1.0
D	1.9 \pm 0.4
W	30.4Max
W1	24.4 \pm 1.0

7.2. (1) 作业设定状况: 依照下表(勿自行变更)

	前留白	后留白	每卷数量
0420	≥ 25	≥ 25	3000

7.2.(2) 修机、停机、待机时间大于 2 分钟时, 必须插入挡热片。

Reel 搬动时, 一次不能超过 3 层(即 ≤ 3 层), 双手平托 Reel, 不得以其它方式拿持。

7.2.(3) 堆放时, 一次不可超过 6 层 (即 ≤ 6 层) 需水平堆放。

出现上盖剥离, Taping 机重新压合次数限一次 Taping Check 不可手工焊接。

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8、验收规则 Inspection Rules

- 1、产品的验收按 GB/T2828.1-2003 规定进行,其检查水平: 外观、尺寸, II, AQL=0.4; L0A, L30DC, S-4,AQL=0.15;绝缘电阻每批抽 10 只。

The inspection must be performed per GB/T2828.1-2003,with its examination level: Appearance and dimensions,II ,AQL=0.4;L0A and L30DC, S-4, AQL: 0.15; Insulation resistance spot test 10 pieces every batch.

- 2、客户在接收到磁芯产品后一个月内须验收完毕,并将验收结果书面通知供货方,否则视为已验收合格。

Inspection will be completed and inspection result will be feedback to Yiyu in written within one month after cores are received from Yiyu or it will be considered approved by customer.

9、说明 NOTE

- 1、在使用产品前,用户应自行确定本产品是否适用于自身设计,仅保证产品符合产品规格书要求。

Before using these products, buyer agrees to determine suitability of the product for their intended use of application. only ensure our products compliance to this specification.

- 2、本产品不得用于潮湿的环境,如水或其它相当液体中,因为在潮湿条件下,绝缘强度会很低。

This product must not be used in wet condition by water or equal because insulation strength becomes very

low on the cognition.

- 3、电路设计、组件的放置、PCB 大小和厚度、气流及冷却设备都会影响部件温度,在最终应用时,需要

对部件温度进行核对。

Circuit design, component placement, PCB trace size and thickness, airflow and other cooling provision all affect the part temperature. Part temperature should be verified in the end application.

- 4、本承认书的数据更改需经双方确认,任何一方单独修改无效。

Any revision to the specification Approval must be confirmed by both the supplier and the customer, otherwise the revision is invalid.

- 5、本承认书在客户收到 7 天之内,必须签章返回,逾期视为默认。

The specification Approval should be sent back to the supplier with customer's chop on it within 7 days after receiving it, or we will take it as approved by customer.

备注: 所有中英文对照以中文为准,英文仅供参考。