SMD Power Inductor Series

贴片功率电感ACKCS4030系列

Automotive Series
车规品

Operating Temperature: -40~125℃ (including self-temperature rise)
工作温度：-40~125℃（包括自身温升）

BASIC INFORMATION 基本信息

Features 特性

▶Uesd ferrite cores
采用铁氧体磁芯
▶Magnetic-resin shielded Construction reduces buzz noise to ultra-low levels
磁性胶水涂敷结构极大减少了蜂鸣声
▶Metallized electrodes on the magnetic core in excellent shock resistance
在磁芯上金属化电极，抗跌落冲击强
▶Closed magnetic circuit design reduces leakage flux
闭合磁路设计、漏磁干扰小

Applications 用途

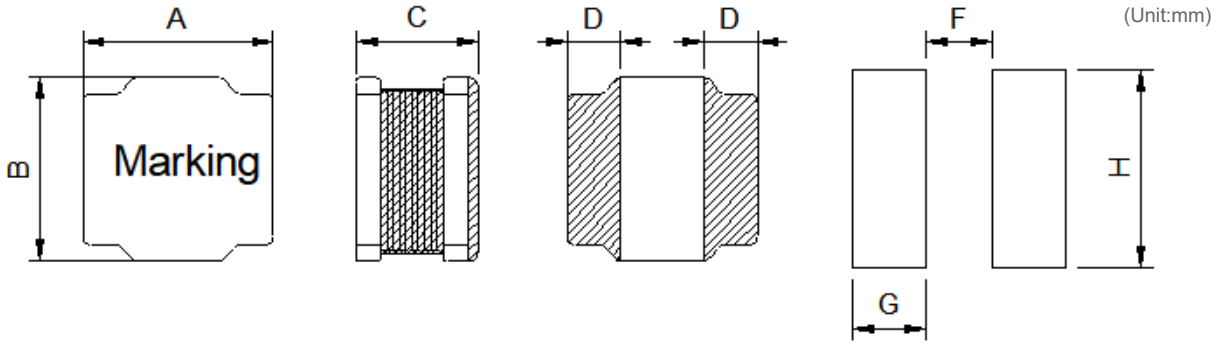
▶Infotainment system
信息娱乐系统
▶LED lighting
LED照明
▶Airbag
安全气囊
▶Internet of vehicle
车联网

PART NUMBERING SYSTEM 品名系统

ACKCS	4030	-	2.2uH	/	M
①	②		③		④

① Type 系列
② External Dimensions 外形尺寸(L×H) (mm)
③ Inductance Value 感值
④ Tolerance 公差

SHAPES AND DIMENSIONS 外形尺寸



(Unit:mm)

Recommended Land Pattern 推荐焊盘

A	B	C	D	F	G	H
4.0±0.2	4.0±0.2	3.0 Max.	1.2±0.3	1.0Ref.	1.7Ref.	4.0Ref.

Please be sure to request delivery specificationsthat provide further details on the features and specifications of the productsfor proper and safe use.
为了确保您能够正确、安全地使用产品，请务必索取能进一步确认详细特性、规格的产品规格书。
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CHARACTERISTICS SPECIFICATION TABLE 特性规格表

Model 产品型号	Inductance 电感值 (uH)	Tolerance 公差 (%)	Test Conditions 测试条件	DCR 直流电阻 (mΩ)Max.	DCR 直流电阻 (mΩ)Typ.	Isat 饱和电流 (A)Max.	Isat 饱和电流 (A)Typ.	Irms 温升电流 (A)Max.	Irms 温升电流 (A)Typ.
ACKCS4030-1uH/N	1	±30	100kHz/1V	19.00	14.00	6.50	7.00	4.00	4.50
ACKCS4030-1.5uH/N	1.5	±30	100kHz/1V	26.00	20.00	5.00	5.20	3.30	3.90
ACKCS4030-2.2uH/M	2.2	±20	100kHz/1V	42.00	32.00	4.50	4.90	3.00	3.50
ACKCS4030-3.3uH/M	3.3	±20	100kHz/1V	48.00	40.00	3.60	3.75	2.40	2.90
ACKCS4030-4.7uH/M	4.7	±20	100kHz/1V	72.00	60.00	3.00	3.20	2.10	2.45
ACKCS4030-5.6uH/M	5.6	±20	100kHz/1V	85.00	65.00	2.60	2.90	1.95	2.10
ACKCS4030-6.8uH/M	6.8	±20	100kHz/1V	117.00	90.00	2.55	2.85	1.70	1.90
ACKCS4030-10uH/M	10	±20	100kHz/1V	132.00	110.00	2.00	2.10	1.55	1.85
ACKCS4030-15uH/M	15	±20	100kHz/1V	228.00	190.00	1.70	1.80	1.25	1.45
ACKCS4030-22uH/M	22	±20	100kHz/1V	290.00	250.00	1.30	1.50	1.10	1.30
ACKCS4030-33uH/M	33	±20	100kHz/1V	420.00	360.00	1.10	1.20	0.90	1.05
ACKCS4030-47uH/M	47	±20	100kHz/1V	590.00	520.00	0.95	1.05	0.75	0.90
ACKCS4030-68uH/M	68	±20	100kHz/1V	890.00	740.00	0.75	0.80	0.60	0.70
ACKCS4030-100uH/M	100	±20	100kHz/1V	1300.00	1090.00	0.60	0.65	0.50	0.60

Notes 注意事项

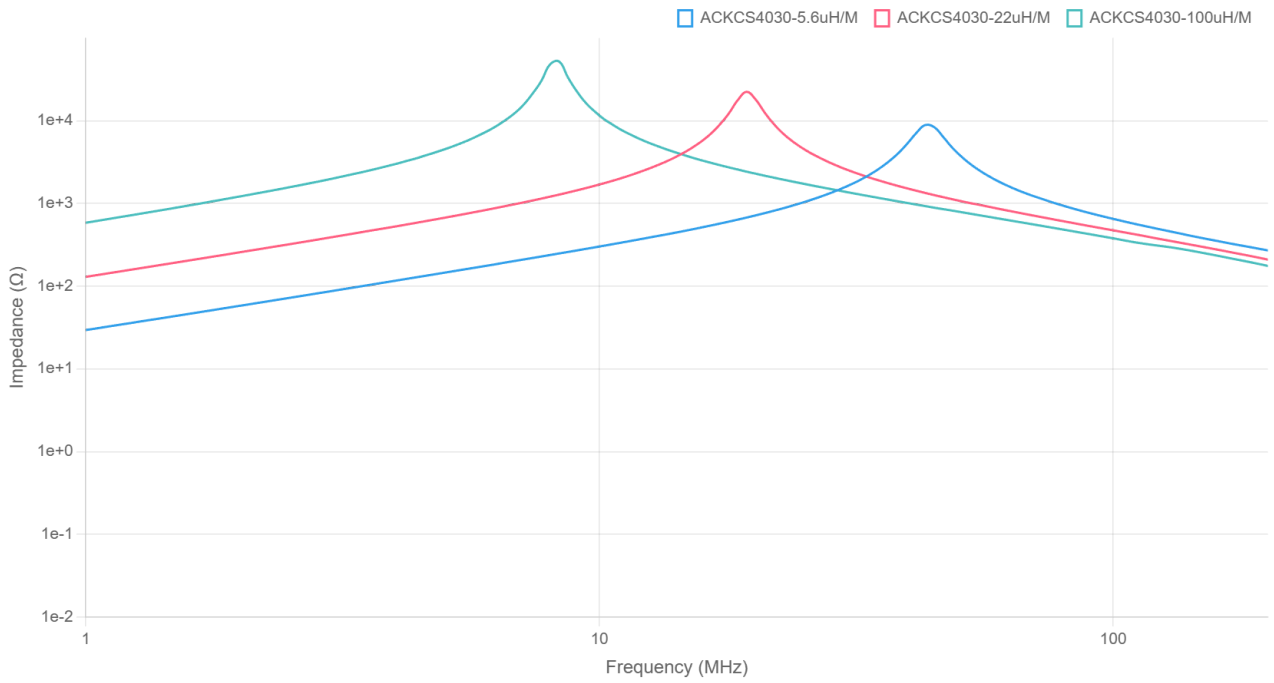
1.All test data is reference to temperature 20±5℃, humidity 60%~80%RH ambient.
所有测试数据均参照20±5℃，60%~80%RH环境。
2.Isat: Max. Value, DC current at which the inductance drops less than 30% from its zero-current value;
饱和电流：最大值，使电感感值下降小于30%时的直流电流；
Typ. Value, DC current at which the inductance drops by approximately 30% from its zero-current value.
典型值，使电感感值下降约30%的直流电流。
3.Irms: Max. Value, DC current at which ΔT < 40°C;
温升电流：最大值，使ΔT < 40℃时的直流电流；
Typ. Value, DC current at which ΔT ≈ 40°C.
典型值，使ΔT约40℃时的直流电流。
4.ACKCS4030-100uH Absolute maximum voltage: DC 50V.
ACKCS4030-100uH 使用最大电压：DC 50V。
5.Special reminder: Circuit design, component layout, printed circuit board (PCB) size and thickness, and heat dissipation system can all affect product temperature.Please be sure to verify the product's heating condition during 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。

Test Equipment Information 测试设备信息

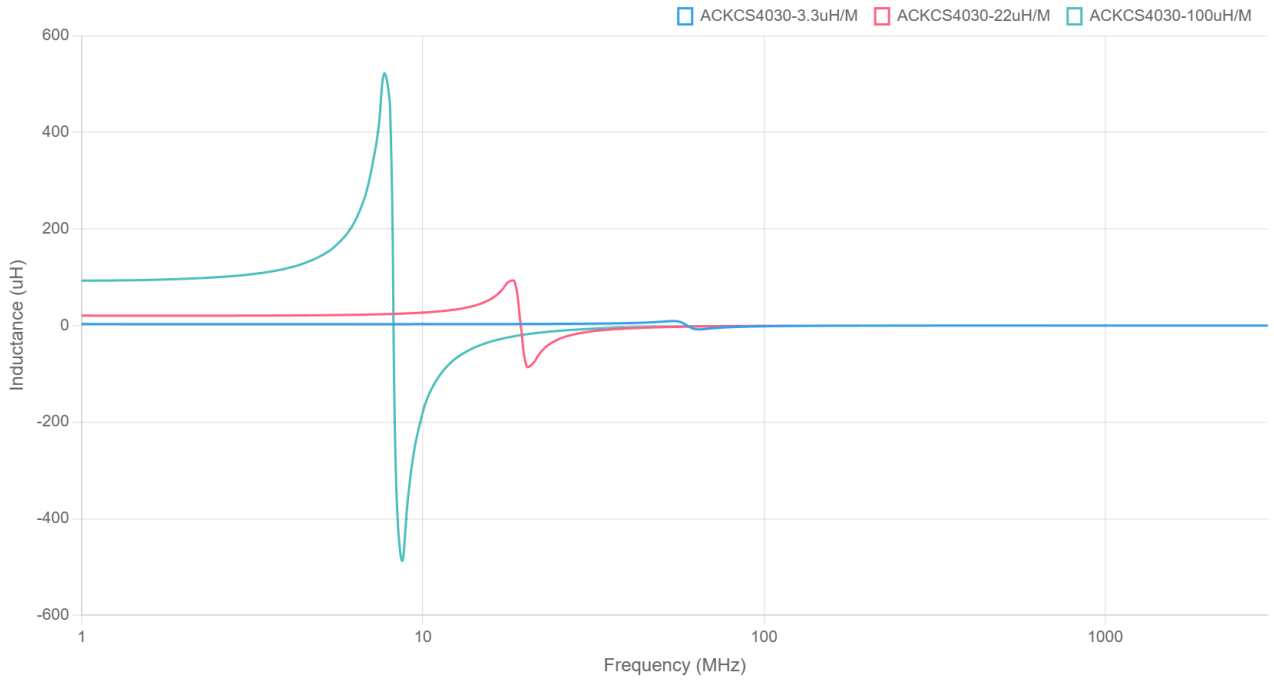
NO. 序号	Measurement Item 测量项目	Equipment Model 设备型号	Manufacturer 制造商
1	L	4284A	Keysight
2	DCR	34420A	Keysight
3	Isat	4284A+42841A	Keysight
4	Irms	42841A	Keysight

TYPICAL ELECTRICAL CHARACTERISTICS 典型电气特性

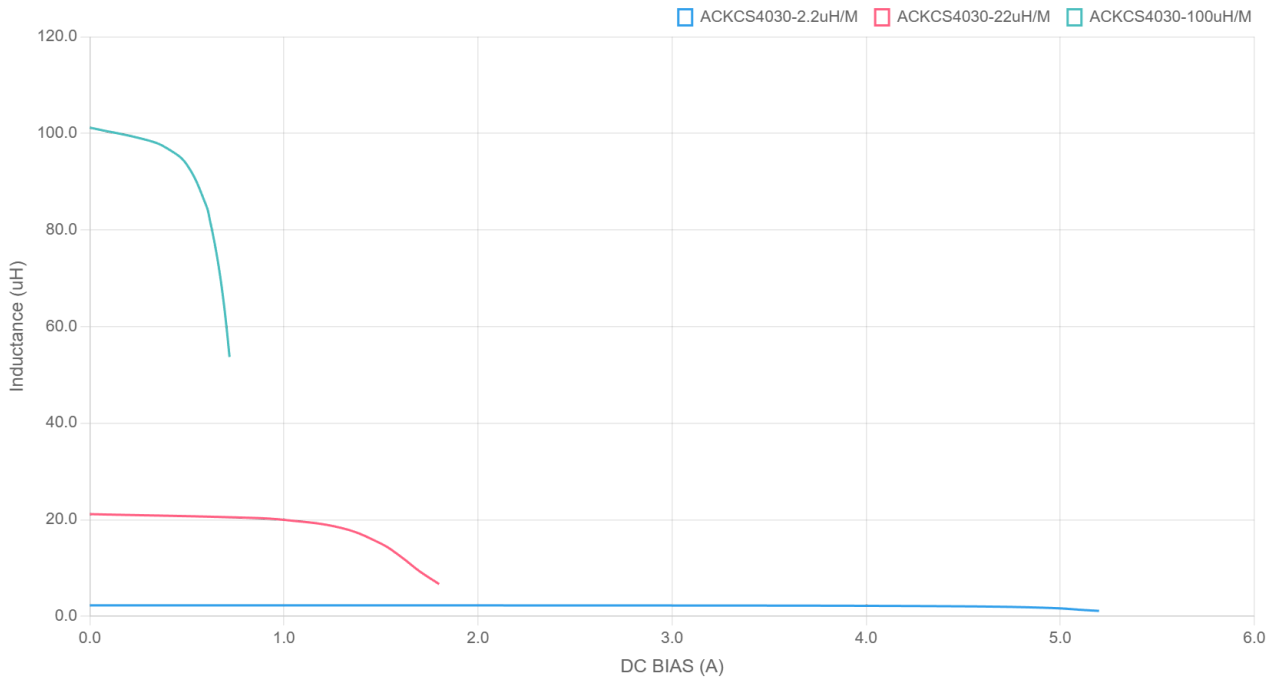
Z FREQUENCY CHARACTERISTICS 阻抗频率特性



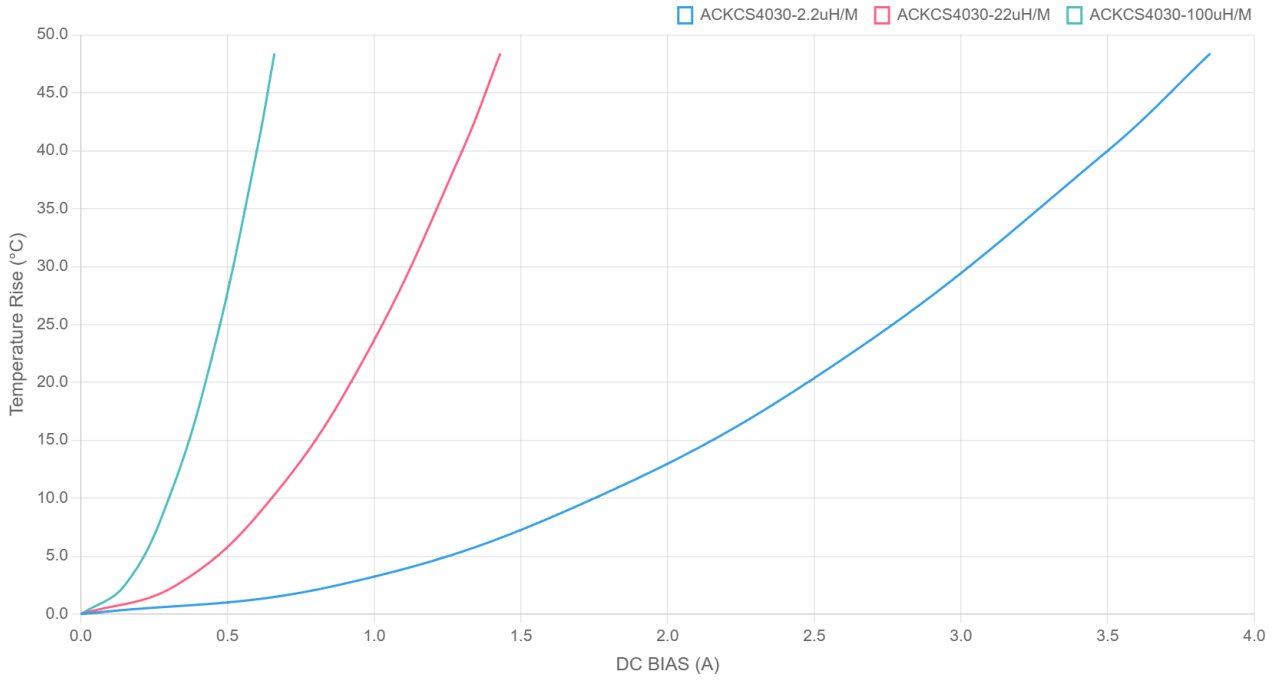
L FREQUENCY CHARACTERISTICS 感值频率特性



INDUCTANCE VS. DC BIAS CHARACTERISTICS 饱和电流曲线

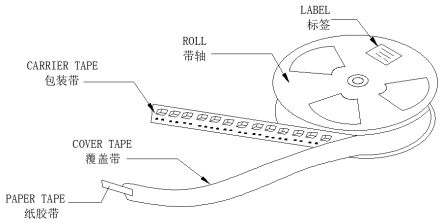


TEMPERATURE VS. DC BIAS CHARACTERISTICS 温升电流曲线



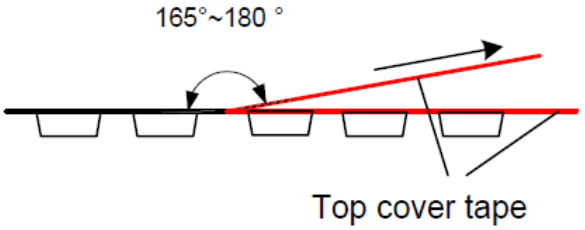
PACKAGE 包装

Packaging 包装



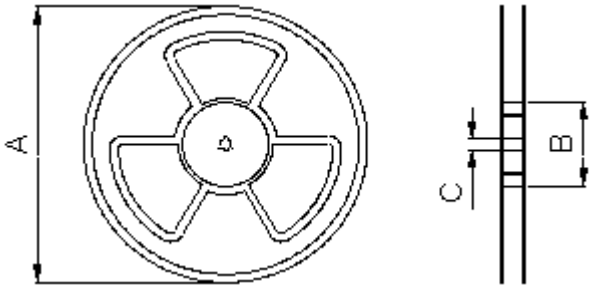
The force for tearing off cover tape is 10 to 130 grams in the arrow direction.
撕下盖带的力是按箭头方向10~130克。

Cover Tape 盖带



Peel-off speed: 300mm/min.
剥离速度：300mm/min。

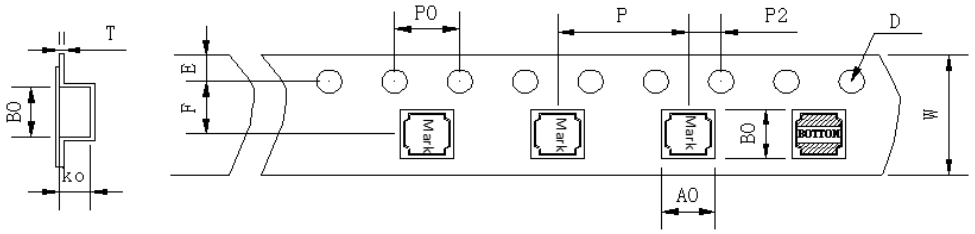
Reel Dimensions 卷轴尺寸



Item 项目	Dimension 尺寸
A	300±1
B	100±1
C	13±0.5

(Unit:mm)

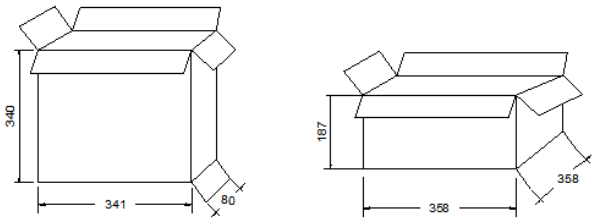
Tape Dimensions 载带尺寸



(Unit:mm)

W	A0	B0	K0	D	F	E	P	P0	P2	T
12.0±0.3	4.3±0.1	4.3±0.1	3.2±0.1	1.5+0.1	5.5±0.1	1.75±0.1	8.0±0.15	4.0±0.1	2.0±0.1	0.4±0.05

Packaging Quantity 包装数量



Reel 卷盘	Box 盒装	Carton 箱装
2000	6000	12000
1Reel	3Reel/Box	2Box/Carton

(Unit:mm)

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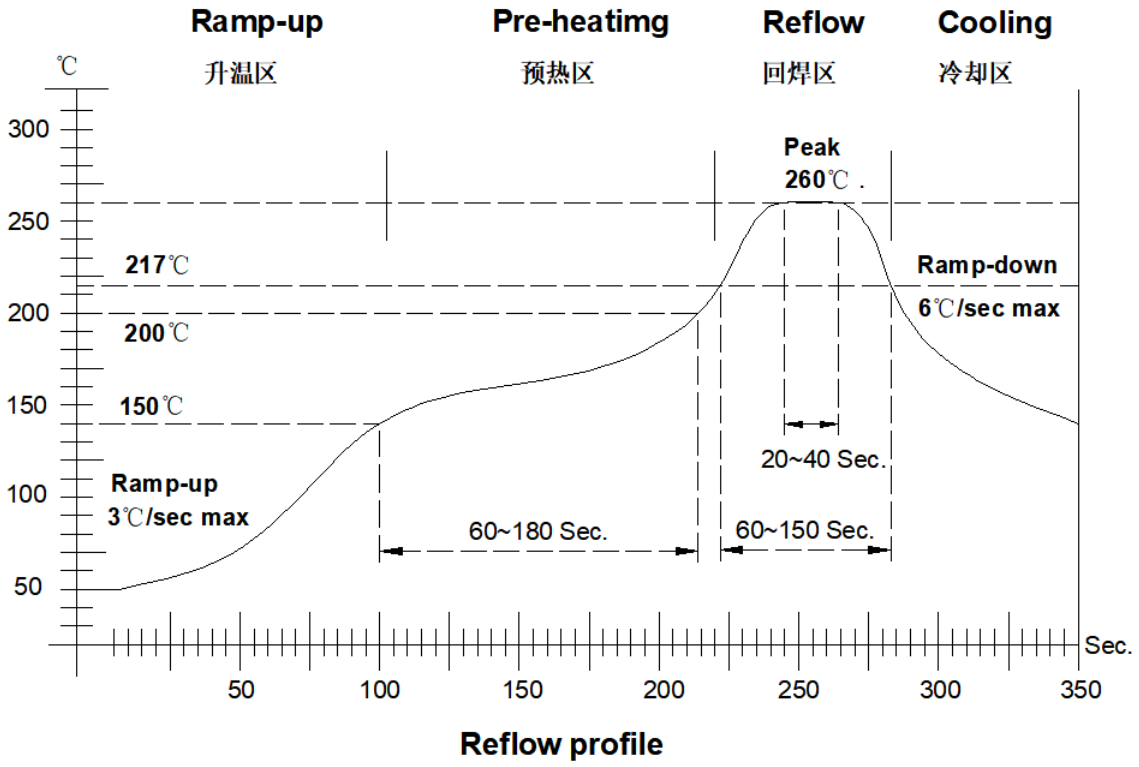
RECOMMENDED REFLOW PROFILE 推荐回流焊温度曲线



Reflow profile

Important Notes 注意事项

1.Do not place this product near magnets or objects with magnetic force.
请勿将本产品靠近磁铁或带有磁力的物体。
2.Do not store the product in unsuitable environments such as high temperature, high humidity, dusty, corrosive environments (salt, acid, alkali, etc.).
请勿将产品保存在高温、高湿、有灰尘、腐蚀环境 （盐、酸、碱等）等不适合环境中。
4.The product will self-heat (temperature rise) due to power-on, and sufficient margin should be left in thermal design.
产品会因通电而发热 （温度上升），在热设计方面需留有充分余量。
5.When designing the PCB, please consider the installation position of the non-magnetic shielded components to avoid failures caused by magnetic interference.
在设计PCB时，请考虑非磁屏蔽元器件的安装位置，避免磁干扰引起的故障。
6.Since the static electricity carried by the human body will be transmitted to the ground wire, please use an anti-static wrist strap.
由于人体所带的静电会传到接地线上，因此请使用防静电腕带。
7.Grease on human hands may lead to decreased solderability. Please avoid direct contact with the terminals.
人体手上有油脂可能导致可焊性下降。请避免手直接接触端子。
8.Excessive bending of the terminal will lead to disconnection, please do not bend the terminal excessively.
端子过度弯曲会导致断线，请不要过度弯曲端子。
9.The product is very sensitive to direct impact, the impact may cause damage and breakage of the product's magnetic core.
产品对直接冲击很敏感，冲击可能导致产品磁芯损伤及破损。
10.When the customer uses, if the product is potted or glued, it must be noted:
在客户使用时，如果产品被灌封或胶固定，必须注意：
▶Most potting materials will shrink when hardened, so there is a stress on the plastic skeleton or magnetic core, this stress action can negatively affect the electrical properties and in extreme cases can damage the mechanical properties of the magnetic core or plastic skeleton.
大部分灌封材料在硬化时都会收缩，因此对塑胶骨架或磁芯有施加应力，这种应力作用可以给电气特性带来负面影响，极端情况下可能损坏磁芯或塑胶骨架的机械性能。
▶It must be checked whether the use of potting materials will cause the insulation layer of the enameled wire, the performance of the plastic skeleton or the glue to be degraded or even damaged.
必须检查使用灌封材料是否会导致漆包线的绝缘层，塑胶骨架或胶水的性能降低甚至损坏。
▶The effect of potting material can change the high frequency characteristics of magnetic components.
灌封材料的影响可以改变磁性元器件的高频特性。
11.For alloy or non-coated products, if the product is placed in a humid environment for a long time, the surface of the product may rust, But it will not affect the characteristics of the product.
对于合金或非涂层产品，如果将产品长期放置在潮湿的环境中，产品的表面可能会生锈，但不会影响产品的特性。
12.This product refers to the standard used in audio-visual entertainment, home appliances, computers, office automation, communications, power modules, LED lighting, measuring equipment, Machine tools, industrial control panels and other electronic equipment. And the electronic equipment should be used under the usual operation and usage methods.
本产品是指在通用标准上用于影音娱乐，家电，计算机，办公自动化，通讯，电源模块，LED照明，测量设备，机械工具，工业控制板等电子设备中。并且该电子设备要在通常的操作和使用方法下使用。
13.When this product is used in occasions other than general electronic equipment, such as: Automotive Electronic products, medical equipment,military equipment, Aerospace equipment, submarine equipment, etc., please be sure to contact the company's sales department, the company will cooperate with customer needs, and negotiate different intended use described in this product.
当本产品使用在一般电子设备以外的场合，如：车载，交通工具控制设备，医疗设备，军用设备，航空航天设备，海底设备等，请务必联系本公司销售部门，本公司会配合客户需求，一起协商不同于本产品中所记载的使用用途。
14. Storage time is within 12 months, storage conditions: temperature -10 ~ 40°C, humidity 70%RH Max. It should be fully noted that if the storage time is exceeded, the solderability of the terminal electrodes may deteriorate.
保存时间为 12 个月以内，保存条件: 温度 -10 ~ 40°C、湿度 70%RH 以下,需充分注意,若超过保存时间，端子电极的可焊性将可能变差.
15.If you have special requirements exceeding the range or conditions set forth in the each catalog, please contact us. Please understand that we are not responsible for any damage or liability caused by use of the products in any of the applications below or for any other use exceeding the range or conditions set forth in this specification sheet.
客户预定在本产品目录的范围，条件之外，或者在特定用途中使用时，请事先咨询本公司相关部门。因用于超过本目录所规定的范围、条件，或用于其他特定用途而产生损失、伤害等情况，我司恕不承担责任，请谅解。