



承认书

Approval Sheet

客户名称:

Customer

/

产品名称:

大电流功率电感器

Part Name

High Current Power Inductor

产品规格:

Specification

JAT6030~1890 Series

版本号:

Version No.

A/0

日期:

Date

2019-3-28

制造Manufacturer			客户Customer		
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履 历 表 Resume

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产品指南Products Guide

Description	Model	P/N	Package Size	Inductance Range(uH)	Irms (A)	Isat (A)
High Current Power Inductor 大电流功率电感器		JAT	6030	0.13-2	6.5-22	9-48
			6040	0.22-4.7	6-21	7-32
			6050	0.24-10	3.5-20	4-28
			1030	0.2-2.2	9-22	15-50
			1040	0.15-4.3	8-25	8-60
			1050	0.16-16	5-25	6.5-58
			1335	0.25-3.3	12-24	14-60
			1350	0.19-10	8.5-29	10-60
			1365	0.2-22	6-32	6.5-65
			1890	0.82-47	6.8-41.5	7-65

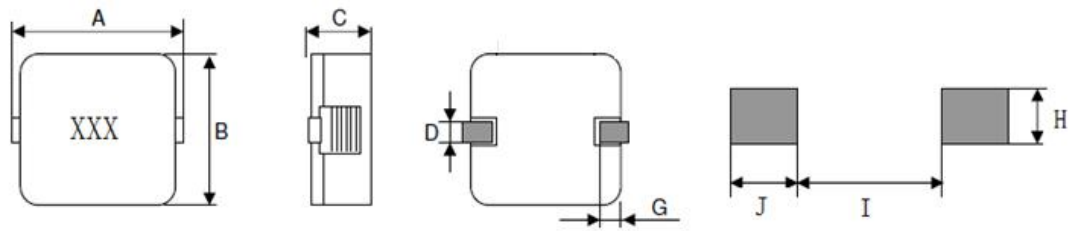
特征Characteristics

- Assemblage design, sturdy structure.
组立式设计，结构坚固。
- High inductance, high current, low magnetic loss, low ESR, small parasitic capacitance.
高电感值，大电流，低磁损，低阻抗，寄生电容小。
- Flat wire winding, achieve a low D.C. Resistance.
扁平线绕组，实现极低的直流电阻。
- Temperature rise current and saturation current is less influenced by environment.
温升电流及饱和电流受环境条件影响小。
- Operating temperature : -40℃ ~ +125℃ (Including coil's temperature rise) 。
工作温度: -40℃ ~ +125℃ (包含线圈发热)

应用Application

- High density DC/DC converters;
- POL convertes;
- High current VRM/VRD for notebook /Server / desktop CPUs ;
- High speed charger.

形状和尺寸Shape And Dimensions (Unit: mm)



单位Unit:mm

Size Code	A	B	C	D	G	H	I	J
6030	7.0±0.4	6.9±0.4	3.3max.	1.2±0.3	1.8±0.5	2.2	2.4	2.7
6040	7.0±0.4	6.9±0.4	4.0max.	1.2±0.3	1.8±0.5	2.2	2.4	2.7
6050	7.0±0.4	6.9±0.4	5.0max.	1.2±0.3	1.8±0.5	2.2	2.4	2.7
1030	10.5±0.5	10.2±0.5	3.1max.	2.0±0.5	2.6±0.5	3.5	3.9	3.8
1040	10.5±0.5	10.2±0.5	4.2 max.	2.5±1.0	2.0±0.5	4	3.8	3.85
1050	10.5±0.5	10.2±0.5	5.0max.	2.0±0.5	2.0±0.5	4	3.8	3.5
1335	13.0±1.0	12.8±0.5	3.5max.	2.5±0.5	3.0±1.0	5	6.3	3.85
1350	13.0±1.0	12.8±0.5	5.0max.	2.5±0.5	3.0±1.0	5	6	4.5
1365	13.0±1.0	12.8±0.5	6.5max.	3.0±1.0	3.0±1.0	5	6	4.5
1890	18.3±1.0	18.2±0.5	9.2max.	3.5±1.5	5.0±1.0	6	7.3	6

Product Spec. Model产品品名构成

JAT 6030 - 1R5 M
(1) (2) (3) (4)

(1)Product symbol系列代号;

(2)Dimensions外形尺寸: 6030、1608、2012、3216;

(3)Inductance电感量: R13: 0.13μH 1R5: 1.5μH 470: 47μH ;

(4)Tolerance公差: M=20%。

规格Specifications

JAT6030 Series

产品型号	L0 (μH) ±20%	直流电阻 (mΩ)		饱和电流 Isat (A)	额定电流 Irms (A)
		典型值Typical	最大值Max		
JAT6030-R13M	0.13	0.91	1	48	22
JAT6030-R24M	0.24	1.8	1.98	40	18
JAT6030-R52M	0.52	3.7	4.07	20	14
JAT6030-R95M	0.95	6.2	6.82	13	11
JAT6030-1R2M	1.2	8.6	9.46	13	8.5
JAT6030-1R5M	1.5	12.7	13.97	12	7.5
JAT6030-2R0M	2	14.2	15.62	9	6.5

*此参数为我司常规产品特性, 如不能满足您的需求, 请与我们联系。

JAT6040 Series

产品型号	L0 (μH) ±20%	直流电阻 (mΩ)		额定电流 Irms (A)	饱和电流 Isat (A)
		典型值Typical	最大值Max		
JAT6040-R22M	0.22	1.1	1.21	32	21
JAT6040-R40M	0.4	1.85	2.04	25	19
JAT6040-R68M	0.68	3.1	3.41	20	17
JAT6040-1R0M	1	4.6	5.06	19	15
JAT6040-1R5M	1.5	6.6	7.26	14	11
JAT6040-2R2M	2.2	11.4	12.54	13	9
JAT6040-3R3M	3.3	17.2	18.92	11	6.5
JAT6040-4R7M	4.7	19.5	21.45	7	6

JAT6050 Series

产品型号	L0 (μH) ±20%	直流电阻 (mΩ)		额定电流 Irms (A)	饱和电流 Isat (A)
		典型值Typical	最大值Max		
JAT6050-R24M	0.24	1	1.1	28	20
JAT6050-R47M	0.47	1.35	1.49	20	18
JAT6050-R76M	0.76	2.25	2.48	15	15.5
JAT6050-1R1M	1.1	3.15	3.47	13	15
JAT6050-1R5M	1.5	4.3	4.73	11	13
JAT6050-2R0M	2	5.85	6.44	9	11.5
JAT6050-3R3M	3.3	9	9.9	8	9
JAT6050-4R9M	4.9	14.5	15.95	6.5	6.5
JAT6050-6R5M	6.5	21.5	23.65	6	6
JAT6050-7R6M	7.6	30.2	33.22	4.8	4.2
JAT6050-8R5M	8.5	32.5	35.75	4.5	4
JAT6050-100M	10	33	36.3	4	3.5

JAT1030 Series

产品型号	L0 (μH) ±20%	直流电阻 (mΩ)		额定电流 Irms (A)	饱和电流 Isat (A)
		典型值Typical	最大值Max		
JAT1030-R20M	0.2	0.82	0.9	50	22
JAT1030-R33M	0.33	2.17	2.39	36	18
JAT1030-R56M	0.56	2.17	2.39	33	18
JAT1030-R68M	0.68	4.79	5.27	21	14
JAT1030-1R0M	1	4.79	5.27	21	14
JAT1030-1R2M	1.2	6.6	7.26	15	12
JAT1030-1R5M	1.5	6.6	7.26	18	12
JAT1030-2R2M	2.2	11.38	12.52	15	9

*此参数为我司常规产品特性, 如不能满足您的需求, 请与我们联系。

JAT1040 Series

产品型号	L0 (μH) ±20%	直流电阻 (mΩ)		额定电流 Irms (A)	饱和电流 Isat (A)
		典型值Typical	最大值Max		
JAT1040-R15M	0.15	0.58	0.64	60	25
JAT1040-R30M	0.3	1.1	1.21	35	22
JAT1040-R56M	0.56	1.61	1.77	30	20
JAT1040-1R0M	1	3.3	3.63	20	16
JAT1040-1R5M	1.5	5.3	5.83	17	14
JAT1040-2R2M	2	7.3	8.03	13	11
JAT1040-2R8M	2.8	10.6	11.66	11	9.5
JAT1040-4R3M	4.3	14.1	15.51	8	8

JAT1050 Series

产品型号	L0 (μH) ±20%	直流电阻 (mΩ)		额定电流 Irms (A)	饱和电流 Isat (A)
		典型值Typical	最大值Max		
JAT1050-R16M	0.16	0.51	0.56	58	25
JAT1050-R40M	0.4	0.67	0.74	37	24
JAT1050-R72M	0.72	1.3	1.43	35	22
JAT1050-1R2M	1.2	1.8	1.98	25	20
JAT1050-1R8M	1.8	3.5	3.85	18	16
JAT1050-2R4M	2.4	4.75	5.23	17	14
JAT1050-3R3M	3.3	5.9	6.49	15	12
JAT1050-4R2M	4.2	7.1	7.81	14	11
JAT1050-5R5M	5.5	10.3	11.33	12	10
JAT1050-6R5M	6.5	12.5	13.75	10	8.4
JAT1050-7R8M	7.8	13.6	14.96	9.5	8
JAT1050-100M	10	16.3	17.93	8.5	7.2
JAT1050-160M	16	34.5	37.95	6.5	5

JAT1335 Series

产品型号	L0 (μH) ±20%	直流电阻 (mΩ)		额定电流 Irms (A)	饱和电流 Isat (A)
		典型值Typical	最大值Max		
JAT1335-R25N	0.25	0.75	0.83	60	24
JAT1335-R68M	0.68	1.58	1.74	40	22
JAT1335-1R2M	1.2	2.85	3.14	28	17
JAT1335-1R8M	1.8	5.6	6.16	22	14
JAT1335-2R2M	2.2	5.7	6.27	18	14
JAT1335-3R3M	3.3	8.1	8.91	14	12

*此参数为我司常规产品特性, 如不能满足您的需求, 请与我们联系。

JAT1350 Series

产品型号	L0 (μH) ±20%	直流电阻 (mΩ)		额定电流 Irms (A)	饱和电流 Isat (A)
		典型值Typical	最大值Max		
JAT1350-R19M	0.19	0.5	0.55	60	29
JAT1350-R47M	0.47	0.9	0.99	50	26
JAT1350-R90M	0.9	1.6	1.76	28	24
JAT1350-1R4M	1.4	2.4	2.64	26	22
JAT1350-2R3M	2.3	3.7	4.07	17	17.5
JAT1350-3R2M	3.2	5.3	5.83	15	16
JAT1350-4R8M	4.8	10.5	11.55	13	11
JAT1350-6R0M	6	13.5	14.85	11.5	9.5
JAT1350-8R2M	8.2	11.6	12.76	11	10
JAT1350-100M	10	14.1	15.51	10	8.5

JAT1365 Series

产品型号	L0 (μH) ±20%	直流电阻 (mΩ)		额定电流 Irms (A)	饱和电流 Isat (A)
		典型值Typical	最大值Max		
JAT1365-R22M	0.2	0.35	0.39	65	32
JAT1365-R47M	0.47	0.67	0.74	50	30
JAT1365-R82M	0.82	0.9	0.99	35	27
JAT1365-1R3M	1.3	1.8	1.98	25	25
JAT1365-2R0M	2	2.6	2.86	22	23
JAT1365-2R8M	2.8	3.3	3.63	17.5	20
JAT1365-3R7M	3.7	4.9	5.39	16	17
JAT1365-4R7M	4.7	7	7.7	15	13
JAT1365-6R0M	6	8.4	9.24	14	12
JAT1365-7R3M	7.3	5.9	6.49	12	13
JAT1365-9R2M	9.2	7.8	8.58	10.5	12
JAT1365-110M	11.3	9.1	10	9.5	11
JAT1365-130M	13	11.2	12.32	9	10
JAT1365-150M	15.4	14.8	16.28	8	9
JAT1365-220M	22	24.7	27.17	6.5	6

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JAT1890 Series

产品型号	L0 (μH) ±20%	直流电阻 (mΩ)		额定电流 Irms (A)	饱和电流 Isat (A)
		典型值Typical	最大值Max		
JAT1890-R82M	0.82	0.54	0.58	65	41.5
JAT1890-1R3M	1.3	0.94	1.02	62	34.5
JAT1890-1R9M	1.9	1.2	1.3	52	32.5
JAT1890-2R6M	2.6	1.58	1.71	50	31.5
JAT1890-3R6M	3.6	3.1	3.35	37	22.5
JAT1890-4R5M	4.5	3.4	3.67	37	20.5
JAT1890-5R6M	5.6	3.7	4	33	19
JAT1890-6R8M	6.8	4.1	4.43	27	18.5
JAT1890-100M	10	6.9	7.45	21.5	15
JAT1890-100M	10	7.1	7.67	18.5	16.5
JAT1890-150M	15	9.3	10.05	14	14
JAT1890-220M	22	14.6	15.77	11	11
JAT1890-330M	33	22.6	24.41	9	8.5
JAT1890-470M	47	34	36.72	7	6.8

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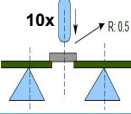
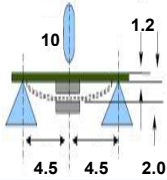
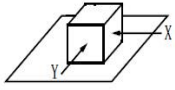
可靠性测试Reliability testing

SN	Test Item	Test Item	Standard	Samples (pcs)
1	Thermal Shock 冷热冲击测试	Temperature: - 40 °C / +85 °C kept stabilized for 30minutes ; Cycle: 100 cycles (power off)	No appearance deformation Inductance deviation within ±5%	30
2	Humidity Resistance 防潮性能测试	Humidity: 90%- 95% RH; Temperature: 40±2 °C Time: 500±12 hours	No appearance deformation Inductance deviation within ±5%	30
3	High Temperature 耐热测试	Temperature: 105±2 °C Time: 500±12 Hours	No appearance deformation Inductance deviation within ±5%	30
4	Low Temperature 耐寒测试	Temperature: - 40± 2 °C Time: 500±12 Hours	No appearance deformation Inductance deviation within ±5%	30

***Remark:** Before/after reliability test for above each item, must carry out visual inspection and/or measure crucial dimension inspection;

*if needed. If confirmation of defects is required, use visual aids or equipment such as 10X magnifying glass, microscope etc. to check.

可靠性测试 Reliability testing

SN	Test Item	Test Item	Standard	Samples (pcs)	
5	Temperature and Humidity Cycle 温/湿度循环测试	Temperature Humidity Time 25 °C ± 2 °C 90% - 95% RH 3.0 hours 55 °C ± 2 °C 95% - 96% RH 5.0 hours 25 °C ± 2 °C 90% - 95% RH 3.0 hours Cycle: 100 cycles	No appearance deformation Inductance deviation within ±5%	30	
6	Reflow Heating Resistance 回流焊耐热性测试	IR-Reflow (3 times) Preheat: 150~200°C Time: 60-120 sec. Peak Temp.: 255±5 °C Time: 30 sec. Reflow Temp.: above 217 °C Time: 60-150 sec.	No appearance deformation Inductance deviation within ±5%	30	
7	Iron Heating Resistance 烙铁焊耐热性测试	Soldering Temp.: 350 ± 5 °C Time: 3±1 sec.	No appearance deformation Inductance deviation within ±5%	30	
8	Withstanding Voltage 耐压测试	100 VDC/ 1 minute, between core & winding	No dielectric breakdown	30	
9	Rated Current 额定电流测试	Temperature: 25±3 °C; Time: 10 minutes Load: Rated Current	Inductance and Temp. Rise variation within spec.	30	
10	Bending Strength 折断力测试	Uint: mm IR-Reflow (2 times) Force : 1 kgf/ min.		No appearance deformation Inductance deviation within ±3%	30
11	Flexure Strength 抗弯强度测试	Uint: mm IR-Reflow (2 times) Solder cream 0.15mm		No appearance deformation Inductance deviation within ±3%	30
12	Electrode Strength 电极强度测试	Mounted on PCB Pushed in X, Y direction, Strength: 5N for 10±2 sec.		No electrode detachment No appearance deformation Inductance deviation within ±3%	30
13	Vibration 振动测试	Frequency: 10Hz-55Hz Amplitude: 1.5mm Direction: X,Y,Z Time: 2 hours for each Product: after packing	No appearance deformation Inductance deviation within ±3%	30	
14	Dropping 跌落测试	Freely dropped down; Height: 1m ; Direction: 1 Angle ridge; 3 surfaces; Product: after packing	No appearance deformation Inductance deviation within ±3%	30	

◆**Remark:** Before/after reliability test for above each item, must carry out visual inspection and/or measure crucial dimension inspection;

◆if needed. If confirmation of defects is required, use visual aids or equipment such as 10X magnifying glass, microscope etc. to check.

Recommendation1

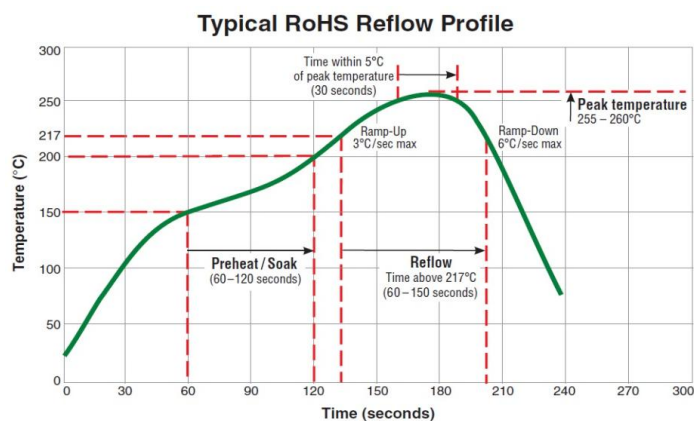
General

- ◆ Products should not be kept in unsuitable storage conditions, such as areas susceptible to high temperatures, high humidity, dust or corrosion.
- ◆ Don't use products in a place where dew condenses. Since dew condensation caused by temperature change, please pay special attention when using products in a sealed condition."
- ◆ Always handle products with care.
- ◆ Don't touch electrodes directly with bare hands as oil secretions may inhibit soldering.
- ◆ Always ensure optimum conditions for soldering.
- ◆ Don't bend the terminals or subject them to excessive stress.
- ◆ Please ensure that all terminals and case lugs are completely fixed with solder onto PCB.
- ◆ Avoid placing chip inductors near the edge of the PCB.
- ◆ Our SMD coils are designed for automatic mounting. Please be careful if soldering by hand.
- ◆ Don't touch any exposed winding part and avoid coming into contact with the guide of electrode in automatic mounting.
- ◆ Our specification limits the quality of the component as a single unit. Please ensure the component is thoroughly evaluated in your application circuit.
- ◆ When using our high voltage inverter transformers, please keep 2mm away from the electric conductor.

Soldering

◆ Reflow soldering

Please refer to the following recommended condition. Please do not add any stress to a product until it returns to normal temperature after reflow soldering.



◆Lead free soldering

When using products with lead free soldering, we request to use them after confirming of adhesion, temperature of resistance to soldering heat, soldering etc. sufficiently.

◆Soldering iron

Put the soldering iron on the land-pattern.

Soldering iron's temperature - Below 350°C (FCD43 Type).

Duration - 3 seconds or less.

The soldering iron should not directly touch the inductor.

Recommendation2

General

◆Refrain from cleaning coils. Ultrasonic cleaning may cause broken products. If it is a must, kindly refer to following advice or consult with our company.

◆When cleaning the PC board after the inductors are all mounted, select the appropriate cleaning solution according to the type of flux used and purpose of the cleaning (e.g. to remove soldering flux or other materials from the production process.)

◆Cleaning conditions should be determined after verifying through a test run, the cleaning process does not affect the inductor's characteristics.

◆The use of inappropriate solutions can cause foreign substances such as flux residue to adhere to the inductor, resulting in a degradation of the inductor's electrical properties, especially insulation resistance.

◆Inappropriate cleaning conditions (insufficient or excessive cleaning) may detrimentally affect the performance of the inductors.

*In the case of ultrasonic cleaning, too much power output can cause excessive vibration of the PC board which may lead to the cracking of the inductor or the soldered portion, or decrease the terminal electrodes' strength. Thus following conditions shall be checked.

Ultrasonic output below 20W

Ultrasonic frequency below 40KHz

Ultrasonic washing period 5 minutes or less

Handling

◆Keep the product away from all magnets and magnetic objects.

◆Breakaway PC boards (splitting along perforations)

1. When splitting the PC board after mounting product, care should be taken not to give any stresses of deflection or twisting to the board.

2. Board separation should not be done manually, but by using the appropriate devices.

◆Mechanical considerations

Please do not give the product any excessive mechanical shocks and power in transportation.

◆Pick-up pressure

Damage and a characteristic can vary with an excessive shock or stress. Please don't push to add any pressure to a winding part.

◆Packing- Please avoid accumulation of a packing box as much as possible.

Storage

◆To maintain the solderability of terminal electrodes and to keep the packaging material in good condition, care must be taken to control temperature and humidity in the storage area. Humidity should especially be kept as low as possible.

◆Recommended conditions

Ambient temperature Below 40°C

Humidity Below 70% RH

◆The ambient temperature must be kept below 40°C. Even under ideal storage conditions inductor electrode solderability decreases as time passes, so inductors should be used within 6 months from the time of delivery.

◆In case of storage over 6 months, solderability shall be checked before actual usage.

◆The packaging material should be kept where no chlorine or sulfur exists in the air.

◆Under a high temperature and humidity environment, problems such as reduced solderability caused by oxidation of terminal electrodes and deterioration of taping/ packaging materials may take place.