

规格确认书

SPECIFICATION

客 户

CUSTOMER:

客 户 料 号

CUSTOMER P/N:

物 料 名 称

超大电流贴片模压电感

MODEL NO:

Molded SMD Power Inductors

料 号

HXAL 系列

P/N:

HXAL series

文 件 编 号

FILE NO:

23-07

日期: 2023-07-06

承办人: 刘俊

DATE: July 06, 2023

ISSUEDER: Liu Jun

客户确认 APPROVED BY

签名:

日期:

SIGN:

DATE:

结论 RESULT:

确认后请回传 PLEASE RETURN BY ONE COPY

●特征

铁合金材料，高通流，低损耗。
黑胶热喷，表面致密性更好。
闭合磁路设计，漏磁干扰小。
工作温度范围-55℃至+125℃

●用途

笔记本电脑电源系统，包括 IMVP-6。
DC/DC 转换电路等。

●品名系统

HXAL 4020 - 472 M E C
② ③ ④ ⑤ ⑥

产品代号：超大电流模压片式电感。

- ② 尺寸规格：4012=4.1x4.1x1.2(mm)
4015=4.1x4.1x1.5(mm)
4020=4.1x4.1x2.0(mm)
4030=4.1x4.1x3.0(mm)
5020=5.2x5.0x2.0(mm)
5030=5.2x5.0x3.1(mm)
5040=5.2x5.0x4.0(mm)
6030=6.2x6.0x3.1(mm)
6060=6.2x6.0x6.0(mm)
7015=7.2x7.0x1.5(mm)
7030=7.2x7.0x3.0(mm)
7040=7.2x7.0x4.0(mm)
7050=7.2x7.0x5.0(mm)
7060=7.2x7.0x6.0(mm)
8050=8.2x8.0x5.4(mm)
1030=10.2x10.0x3.0(mm)
1040=10.2x10.0x4.0(mm)
1050=10.2x10.0x5.0(mm)
1080=10.2x10.0x8.0(mm)
1230=12.2x12.0x3.0(mm)
- ③ 电感量标称值：472=4.7μH
④ 电感量公差：M=±20% N=±30%
⑤ 符合 RoHS 标准。
⑥ 包装：C=卷带包装。

●FEATURES

Metal material for large current and low loss.
Vinyl thermal spray, better surface compactness.
Closed magnetic circuit design reduces leakage flux.
Operating temperature range -55°C to +125°C

●Applications

Note PC power system incl. IMVP-6
DC/DC converter.

●Product Identification

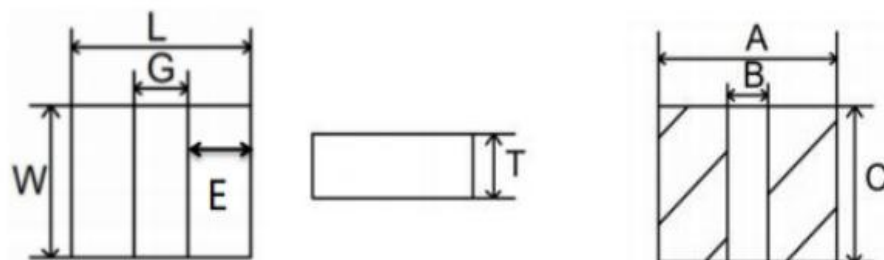
HXAL 4020 - 472 M E C
② ③ ④ ⑤ ⑥

Product symbol: Molded SMD Power Inductors

- ② Dimension: 4012=4.1x4.1x1.2(mm)
4015=4.1x4.1x1.5(mm)
4020=4.1x4.1x2.0(mm)
4030=4.1x4.1x3.0(mm)
5020=5.2x5.0x2.0(mm)
5030=5.2x5.0x3.1(mm)
5040=5.2x5.0x4.0(mm)
6030=6.2x6.0x3.1(mm)
6060=6.2x6.0x6.0(mm)
7015=7.2x7.0x1.5(mm)
7030=7.2x7.0x3.0(mm)
7040=7.2x7.0x4.0(mm)
7050=7.2x7.0x5.0(mm)
7060=7.2x7.0x6.0(mm)
8050=8.2x8.0x5.4(mm)
1030=10.2x10.0x3.0(mm)
1040=10.2x10.0x4.0(mm)
1050=10.2x10.0x5.0(mm)
1080=10.2x10.0x8.0(mm)
1230=12.2x12.0x3.0(mm)
- ③ Inductance: 472=4.7μH
④ Tolerance: M=±20% N=±30%
⑤ RoHS compliant.
⑥ Packing: C=Tape & Reel

●结构及尺寸

●Structure And Dimensions



Units:mm

Series	L	G	W	E	T	A	B	C
4012	4.1±0.2	1.3±0.2	4.1±0.2	1.40±0.2	1.20Max.	4.10	1.10	4.10
4015	4.1±0.2	1.3±0.2	4.1±0.2	1.40±0.2	1.50Max.	4.10	1.10	4.10
4020	4.1±0.2	1.3±0.2	4.1±0.2	1.40±0.2	2.00Max.	4.10	1.10	4.10
4030	4.1±0.2	1.3±0.2	4.1±0.2	1.40±0.2	3.00Max.	4.10	1.10	4.10
5020	5.2±0.2	2.0±0.2	5.0±0.2	1.60±0.2	2.00Max.	5.50	1.60	5.30
5030	5.2±0.2	2.0±0.2	5.0±0.2	1.60±0.2	3.10Max.	5.50	1.60	5.30
5040	5.2±0.2	2.0±0.2	5.0±0.2	1.60±0.2	4.00Max.	5.50	1.60	5.30
6030	6.2±0.2	2.6±0.2	6.0±0.2	1.80±0.2	3.10Max.	6.50	2.00	6.30
6060	6.2±0.2	2.6±0.2	6.0±0.2	1.80±0.2	6.00Max.	6.50	2.00	6.30
7015	7.2±0.2	2.6±0.2	7.0±0.2	2.30±0.2	1.50Max.	7.50	2.40	7.30
7030	7.2±0.2	2.6±0.2	7.0±0.2	2.30±0.2	3.00Max.	7.50	2.40	7.30
7040	7.2±0.2	2.6±0.2	7.0±0.2	2.30±0.2	4.00Max.	7.50	2.40	7.30
7050	7.2±0.2	2.6±0.2	7.0±0.2	2.30±0.2	5.00Max.	7.50	2.40	7.30
7060	7.2±0.2	2.6±0.2	7.0±0.2	2.30±0.2	6.00Max.	7.50	2.40	7.30
8050	8.2±0.2	2.8±0.2	8.0±0.2	2.70±0.2	5.40Max.	8.50	2.60	8.30
1030	10.2±0.2	3.6±0.2	10.0±0.2	3.30±0.2	3.00Max.	10.50	3.20	10.30
1040	10.2±0.2	3.6±0.2	10.0±0.2	3.30±0.2	4.00Max.	10.50	3.20	10.30
1050	10.2±0.2	3.6±0.2	10.0±0.2	3.30±0.2	5.00Max.	10.50	3.20	10.30
1080	10.2±0.2	3.6±0.2	10.0±0.2	3.30±0.2	8.00Max.	10.50	3.20	10.30
1230	12.2±0.2	4.6±0.2	12.0±0.2	3.8±0.2	3.00Max.	12.50	3.60	12.30

●规格

Specifications

P/N	L0(μH)±20% 1MHz	Rdc(mΩ)		Heat rating current		Saturation current	
				Irms(A)		Isat(A)	
		Typical	Max	Typical	Max	Typical	Max
HXAL4012-221MEC	0.22	6.5	7.5	14.0	13.0	15.0	14.0
HXAL4012-471MEC	0.47	7.5	8.5	12.0	11.0	11.0	10.0
HXAL4015-101MEC	0.10	1.8	2.2	19.0	25.9	16	24.5
HXAL4015-471MEC	0.47	5.8	7.0	13.0	12.0	13.0	12.0
HXAL4015-102MEC	1.0	12.5	15	11.0	10.0	9.0	8.0
HXAL4020-101MEC	0.10	1.2	1.6	34.0	30.5	35.0	30.0
HXAL4020-121MEC	0.12	1.3	1.7	34.0	30.5	31.0	29.0
HXAL4020-151MEC	0.15	1.8	2.2	28.5	25.5	28.0	24.0
HXAL4020-221MEC	0.22	2.0	2.7	20.0	19.0	20.0	19.0
HXAL4020-331MEC	0.33	2.8	3.3	23.0	20.5	19.0	18.0
HXAL4020-471MEC	0.47	4.0	4.8	17.0	16.0	15.2	14.2
HXAL4020-561MEC	0.56	4.7	5.6	18.5	16.5	14.0	13.0
HXAL4020-681MEC	0.68	5.5	6.2	14.0	13.0	13.0	12.0
HXAL4020-821MEC	0.82	6.8	8.0	13.0	12.0	12.0	11.0
HXAL4020-102MEC	1.0	7.5	9.0	12.5	11.5	10.0	9.0
HXAL4020-122MEC	1.2	10.5	12.0	10.0	9.0	10.0	9.0
HXAL4030-472MEC	4.70	27.0	32.4	6.6	5.9	5.8	5.1
HXAL5012-102MEC	1.0	16	18	8.5	7.5	9.5	8.5
HXAL5020-102MEC	1.0	7.0	8.4	14.0	13.0	16.0	14.0
HXAL5020-152MEC	1.5	13	17	13.0	10.0	12.0	10.0
HXAL5020-222MEC	2.2	24	29	7.0	6.5	9.5	8.5
HXAL5030-151MEC	0.15	1.05	1.45	25	24	43	41
HXAL5030-161MEC	0.16	1.1	1.5	24	23	42	40
HXAL5030-301MEC	0.30	1.5	1.8	22	21	29	27
HXAL5030-331MEC	0.33	1.6	2.0	21	19	28	26
HXAL5030-471MEC	0.47	2.5	3.0	21	18	26	23
HXAL5030-681MEC	0.68	3.8	4.6	19	16	21	18.5
HXAL5030-102MEC	1.0	6.0	7.6	12.2	10.0	19.0	16.5
HXAL5030-122MEC	1.2	5.2	6.0	13.0	11.0	15.0	13.5
HXAL5030-152MEC	1.5	9.8	11.0	14	12.6	11.0	10.6
HXAL5030-332MEC	3.3	24	27	7.3	6.5	7.2	6.0
HXAL5040-472MEC	4.7	32	36	7.0	5.5	8.5	7.0
HXAL5040-682MEC	6.8	40	44	7.0	5.0	9.0	7.0
HXAL6030-222MEC	2.2	9.0	10.0	12.0	11.0	14	12.2
HXAL6040-151MEC	0.15	1.12	1.32	35.0	30.0	65.0	60.0
HXAL6040-102MEC	1.0	4.5	5.8	16.0	14.0	20.0	18.0

●规格

Specifications

P/N	L0(μH)±20% 1MHz	Rdc(mΩ)		Heat rating current Irms(A)		Saturation current Isat(A)	
		Typical	Max	Typical	Max	Typical	Max
HXAL6040-472MEC	4.7	15.0	18.0	9.5	8.0	10.5	8.5
HXAL6050-152MEC	1.5	5.0	6.3	18.0	16.0	21.0	19.0
HXAL6060-153MEC	15.0	38.0	43.5	6.0	4.5	5.8	5.0
HXAL6060-223MEC	22.0	52.0	60.0	5.0	3.8	5.6	4.8
HXAL7015-222MEC	2.2	30	36	5.5	5.0	6.8	6.3
HXAL7030-471MEC	0.47	2.6	3.2	28	27	33	31
HXAL7030-681MEC	0.68	3.3	4.0	24	23	28	26
HXAL7030-152MEC	1.5	6.9	8.3	15	12	22	19
HXAL7030-102MEC	1.0	4.7	5.2	12	10	23	20
HXAL7030-222MEC	2.2	11	13	13	10	21	18
HXAL7030-472MEC	4.7	28	32	6.6	6.2	8.5	8.0
HXAL7030-223MEC	22.0	155	168	2.7	2.5	5.0	4.5
HXAL7040-472MEC	4.7	14.0	16.5	9.0	8.0	14.5	13.5
HXAL7050-223MEC	22.0	55	60.5	5.0	4.5	7.5	6.5
HXAL7060-222MEC	2.2	6.0	7.0	15	13	23	20
HXAL7060-472MEC	4.7	12	14.5	13	12	18	16
HXAL7060-682MEC	6.8	14	17	10	8	12	10
HXAL8050-104MEC	100	320	340	2.0	1.8	2.5	2.2
HXAL1030-332MEC	3.3	10	12	16	15	16	15
HXAL1030-472MEC	4.7	15	18	13	12	14	13
HXAL1030-682MEC	6.8	21	25	11	10	11	10
HXAL1030-103MEC	10.0	33	38	8.0	7.0	10.0	9.0
HXAL1040-471MEC	0.47	0.8	1.3	32	30	42	40
HXAL1040-102MEC	1.0	2.2	3.0	26	24	32	30
HXAL1040-222MEC	2.2	4.7	6.0	17	16	25	23
HXAL1040-332MEC	3.3	6.5	7.8	16	15	21	19
HXAL1040-472MEC	4.7	10.5	12.5	14	13	19	17
HXAL1040-682MEC	6.8	13.5	16	12	11	15	14
HXAL1050-102MEC	1.0	1.5	2.2	28	26	34	32
HXAL1050-332MEC	3.3	5.0	6.5	18	17	24	22
HXAL1050-472MEC	4.7	6	8	16	15	21	19
HXAL1050-103MEC	10.0	17	20	12	11	11	10
HXAL1060-103MEC	10.0	14	15	14	12	20	16
HXAL1080-153MEC	15.0	35	40	5.2	4.6	10.5	9.1
HXAL1230-102MEC	1.0	2.4	3.0	28.0	24.0	35.0	32.0
HXAL1230-152MEC	1.5	3.8	4.2	24.0	21.0	32.0	28.0
HXAL1230-222MEC	2.2	5.0	5.5	20	18	28	25

更多型号参数请联系我们！

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- 1.:All test data is referenced to 25 °C ambient.
- 2.:Test Condition:1MHZ,1.0Vrms.
- 3.:Irms:DC current(A)that will cause an approximate AT of 40 °C.
- 4.:Isat:DC current (A)that will cause LO to drop approximately 30%.
- 5.:Operating Temperature Range-55 °C to +125 °C.
- 6.:The part temperature (ambient temp rise)should not exceed 125 °C under C the worst case operating conditions.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.

● Note

- 1 Storage Period To maintain the solderability of terminal electrodes and to keep the packing material in good condition,product should be used within 12 months from the time of delivery.
And the solderability of products electrodes may decrease as time passes,so in case of storage over 12 months,solderability shall be checked before actual usage.
- 2 Storage Conditions
Store products in a warehouse in compliance with the following condition
Temperature:Inductors (product with taping)+15 °C to +35 °C;Humidity:25~70%RH
If the product is not used up 24H after opening,desiccant should be placed in the package and sealed.
- 3 Do not subject products to rapid changes in temperature and humidity.
- 4 Do not store the products in chemical atmosphere such as one containing sulfurous acid gas or alkaline gas, that will causes poor solderability and corrosion of inductors.
- 5 Do not store products in bulk packaging to prevent collision among inductors which causes core chipping and wire breakage.
- 6 Store products on pallets to protect from humidity, dust, etc.
- 7 Avoid heat shock, vibration, direct sunlight, etc.
- 8 When designing the PCB, please consider the installation position of the non-magnetic shielded components to avoid failures caused by magnetic interference.
- 9 Do not place this product near magnets or objects with magnetic force.
- 10 The product will self-heat (temperature rise) due to power-on, and sufficient margin should be left in thermal design.
- 11 Mounting density
If this product is placed near heat-generating products, be sure to implement sufficient heat-dissipating measures. If this product is subjected to a significant amount of heat from other products, this could adversely affect product quality, resulting in a circuit malfunction or failure of the mounted section. Also, be sure that the product is used in a manner so that the heat that the product is subjected to from other products does not exceed the upper limit of the rated operating temperature for the product.
- 12 Since the static electricity carried by the human body will be transmitted to the ground wire, please use an anti-static wrist strap.
- 13 Grease on human hands may lead to decreased solderability. Please avoid direct contact with the terminals.

14 This product refers to the general 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 general electronic equipment. And the general electronic equipment should be used under the usual operation and usage methods.

15 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

16 Reworking with soldering iron

ITEM	Requirement
Pre-heating	150° C/approx. 1 min
Tip temperature of soldering iron	350° C max.
Soldering time	3 s (+1 s, -0 s)
Number of reworking operations	1 times max.
It is recommended to replace the product directly, rework may cause poor appearance	

17 We cannot warrant against failure caused by any use of our product that deviates from the intended use as described in this product specification.

18 Please approve our product specifications or transact the approval sheet for product specifications before ordering.

19 Our specification limits the quality of the component as a single unit. Please ensure the component is thoroughly evaluated in your application circuit.