承认书

SPECIFICATION FOR APPROVAL

客户 Customer	
客户料号 Customer P/N	
安规型号 Safety Model	
品名 Description	**Differential Mode Inductor**
产品型号 Product Model	**T038-125-6.8uH±15%(CR2984-S)**
图纸编号 Drawing No.	
版本 REV	**A5**

出图 DRAWING		
制作 Prepared	**审核 Checked**	**批准 Approved**
夏欢	郭亦雄	陈林
DATE : 2024-03-23		

客户承认 CUSTOMER APPROVE

惠州市长瑞工贸有限公司

（Huizhou Changrui Industry and Trade Co., Ltd.）

惠州市长瑞智造电子有限公司

（Huizhou Changruizhizao Electronics Co., Ltd.）

Web:www.changereal.cn/Tel:0752-2280100/Fax:0752-2280130

地址(Add)： 惠州市惠城区水口街道水青路1号联东U谷1栋11楼

11th Floor, Building 1, Liandong U Valley, No.1 Shuiqing Road, Shuikou Street, Huicheng District, Huizhou City

SPECIFICATION FOR APPROVAL

CUSTOMER		REV NO.	A5
MODEL NO.	Differential Mode Inductor	PAGE NO.	PAGE 1 OF 13
CUST P/N:		DW NO.	2024032101
PART NO.	T038-125-6.8uH±15%	DATE	2024-03-23

INDEX 目录

Index 目录 …… P1

Change History 变更履历 …… P2

Schematic/Winding Construction/Electrical SPEC接线图/绕组结构/电性规格 …… P3

Dimensions / Definition of Product name / General SPEC 尺寸/产品名称定义 …… P4

Materials List/Soldering requirement 材料清单 /焊锡要求 …… P5

Package Specification 包装说明 …… P6

Test Report 测试报告 …… P7

Core Curves 磁芯材质曲线 …… P8

Inductance VS DC Bias Curve 直流叠加特性曲线 …… P9

Impedance Curve 阻抗曲线 …… P10

PCB Drawing 底板图纸 …… P11

Dimensions 尺寸 …… P12

Electrical Characteristic电气特性 …… P13

SPECIFICATION FOR APPROVAL

CUSTOMER		REV NO.	A5
MODEL NO.	Differential Mode Inductor	PAGE NO.	PAGE 2 OF 13
CUST P/N:		DW NO.	2024032101
PART NO.	T038-125-6.8uH±15%	DATE	2024-03-23

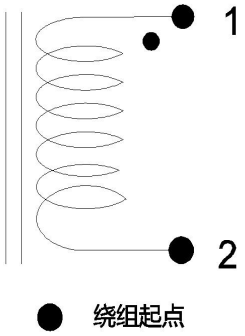
CHANGE LIST 变更履历

DATE 日期	VERSION 版本	CHANGE CONTENT 修订内容	PREPARED 制定	CHECKED 审核
2024-03-23	A0	Initial release	刘珊萍	夏欢
2024-05-23	A1	D尺寸2.8±0.3mm变更为2.7±0.3mm; E尺寸4.5±0.5mm变更为4.5±0.3mm; F尺寸0.7±0.1mm变更为0.7±0.05mm。	刘珊萍	夏欢
2024/7/24	A2	饱和电感4Amax更改为1Amax	刘珊萍	夏欢
2024/8/16	A3	增加一组直流叠加数据，增加PCB图纸	尤标	夏欢
2024/9/19	A4	增加尺寸，电性，测试数据	尤标	夏欢
2025/4/15	A5	产品增加侧面点胶，由正面背面点胶变更为四面点胶	尤标	夏欢

SPECIFICATION FOR APPROVAL

CUSTOMER		REV NO.	A5
MODEL NO.	Differential Mode Inductor	PAGE NO.	PAGE 3 OF 13
CUST P/N:		DW NO.	2024032101
PART NO.	T038-125-6.8uH±15%	DATE	2024-03-23

1. SCHEMATICS (接线图）：



2. WINDING CONSTRUCTION（绕组结构）：

ORDER	S - F 开始 - 结束	WIRE SIZE 线径	TURNS 圈数	NOTES 说明
N1	1 - 2	UEW-F Φ0.7mm 本色	9.5Ts	

Note :

3. ELECTRICAL SPECIFICATION (at 25°C) 电性规格

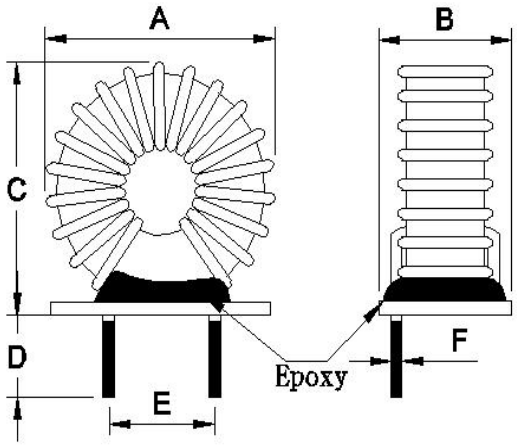
Test Item 测试项目	SPEC 规格	Test Condition 测试条件	Test Instruments 测试仪器
Inductance L 电感	6.8uH ±15%	1kHz, 0.25V，R100Ω	ZX1373X-12A
DCR 直流阻抗	10mΩ max	at25℃	TH2512B
Layer short 层间短路	1000V REF	波形无异常	2882A-5
Isat 饱和电流	1A max	L0A x 90% REF 1kHz, 0.25V	ZX1373X-12A
Insulation impedance 绝缘阻抗	100MΩ min	500V DC COIL-CORE	ZX9320S-4

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夏欢	郭亦雄	陈林

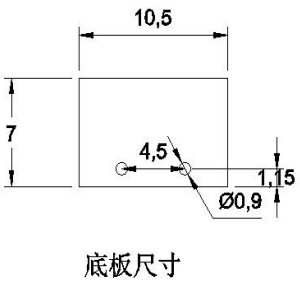
SPECIFICATION FOR APPROVAL

CUSTOMER		REV NO.	A5
MODEL NO.	Differential Mode Inductor	PAGE NO.	PAGE 4 OF 13
CUST P/N:		DW NO.	2024032101
PART NO.	T038-125-6.8uH±15%	DATE	2024-03-23

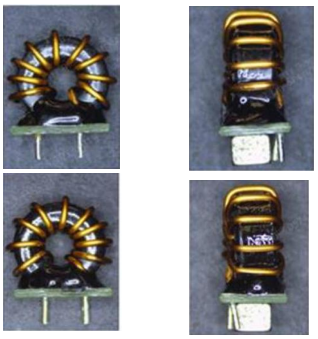
4. DIMENSIONS 尺寸: (Unit:mm)



正视图 侧视图



底板尺寸



SPEC. (mm)	
A	12.5max
B	7.5max
C	13.5max
D	2.7±0.3
E	4.5±0.3
F	0.7±0.05

Note: 绕线均绕，线包置于底板中间，须点胶固定（四面点胶），成品需含浸。

5. DEFINITION OF PRODUCT NAME 产品名称定义:

T	038-125	6.8uH	±15%			
A	B	C	D	E	F	G

A.产品类型：环形电感
B.磁芯尺寸规格
C.感量
D.公差
E.
F.
G.

6. GENERAL SPECIFICATON :

a. Storage temperature : -25°C ~ 50°C, R.H. : 30% ~ 70%
b. Operating temperature : -40°C ~ +125°C
c. Moisture sensitivity level (MSL) 2 (1 year floor life at <30°C/85% relative humidity)
d. Failures in time(FIT)/Mean time between failures(MTBF) 38 per billiion hours/26,315,789 hours, calculated per Telcordia SR-332

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SPECIFICATION FOR APPROVAL

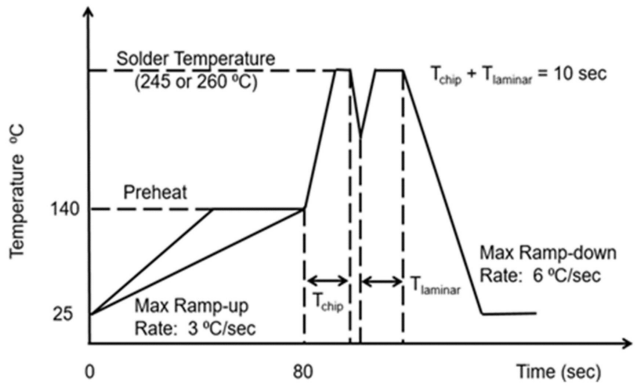
CUSTOMER		REV NO.	A5
MODEL NO.	Differential Mode Inductor	PAGE NO.	PAGE 5 OF 13
CUST P/N:		DW NO.	2024032101
PART NO.	T038-125-6.8uH±15%	DATE	2024-03-23

7. MATERIAL LIST 材料清单:

No.	Item	Material Description 材料描述	Manufacturer 制造商	TEMP 温度	UL File UL档案号	Remark
1	CORE	T038-125	Boluo County F Chenxing Electronic Technology Co., Ltd.			V
2	WIRE	UEW-F Φ0.7mm 本色	DONGGUAN YIDA NDUSTRY Co,LTD.	155℃	E344055	
		QA-X/155 Φ0.7mm 本色	HONGQI GROUP JIANGXI COPPER CO.,LTD.	155℃	E355168	
3	VARNISH	JX-1150(*)	Yueyang GREEN Technology Co., Ltd.	130℃	E303754	
4	EPOXY	3300A/B-1	DONGGUAN EATTO ELECTRONIC MATERIAL CO.,LTD.	130℃	E218090	
5	PCB BASE	FR-4/HF140	KINGBO ARD LAMINATES HOLDINGS LTD	130℃	E123995	

Note : Core source marded "V" means design & verify ok. 磁芯打“V” 表示设计验证Ok.

8. SOLDERING REQUIREMENT 焊接要求:

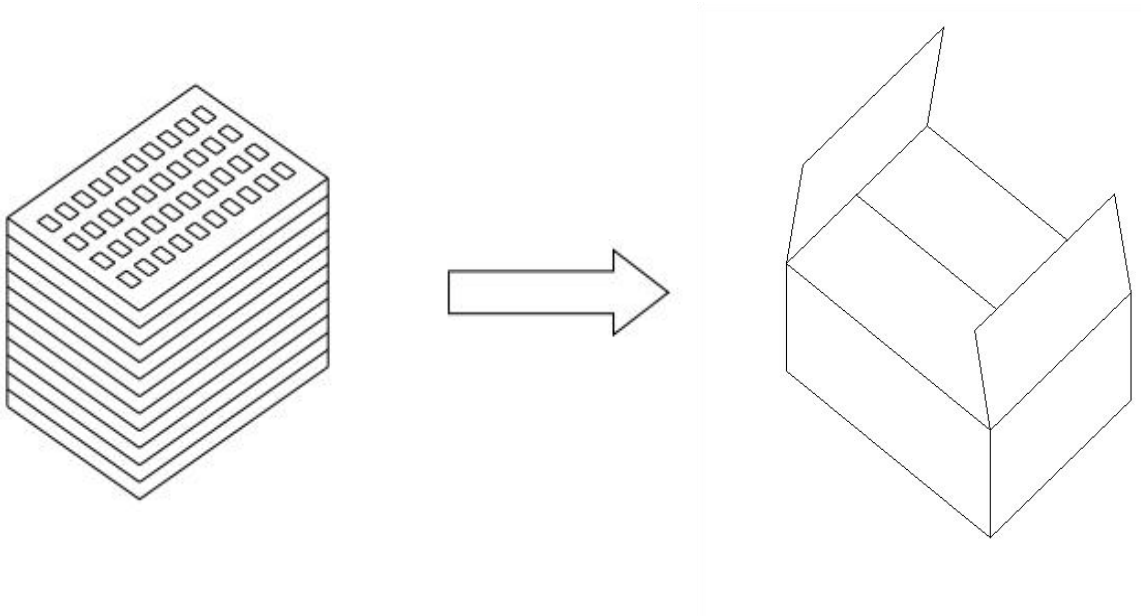
Solding process 焊接工艺	Wave soldering 波峰焊 
Resistnace to soldering heat requirements 耐焊接热要求	Soldering times 焊接次数：≥ 3次
	Wave soldering heat resistance requirements波峰焊耐热要求: 1> 器件引脚峰值温度≥265℃，265℃以上时间≥10s 2> 器件本体满足峰值温度Tp≥160℃，Tp-5℃以上时间tp≥30s，且120℃以上时间t≥150s

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夏欢	郭亦雄	陈林

SPECIFICATION FOR APPROVAL

CUSTOMER		REV NO.	A5
MODEL NO.	Differential Mode Inductor	PAGE NO.	PAGE 6 OF 13
CUST P/N:		DW NO.	2024032101
PART NO.	T038-125-6.8uH±15%	DATE	2024-03-23

9. PACKAGE SPECIFICATION 包装规格:



序号(N0)	包装材料 Packing material	尺寸 Size	材质 Material	数量 Quantity
1	吸塑Plastic uptake	378*275*13mm	PET	240/BOX
2	外箱Master Carton	385*280*145mm	K747K	4800/Carton

Remark : Weight (REF): 2.04g

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夏欢	郭亦雄	陈林

SPECIFICATION FOR APPROVAL

CUSTOMER		REV NO.	A5
MODEL NO.	Differential Mode Inductor	PAGE NO.	PAGE 7 OF 13
CUST P/N:		DW NO.	2024032101
PART NO.	T038-125-6.8uH±15%	DATE	2024-03-23

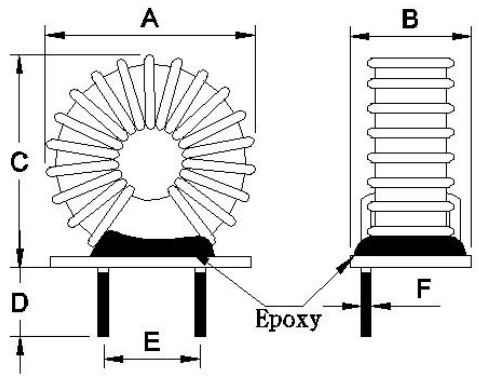
10. TEST DATA FOR PREPRODUCTION SAMPLE 样品测试数据:

Electrical Characteristic 电气特性				Dimensions 尺寸 (mm)								
Item	L	Isat 1A	DCR	A	B	C	D	E	F	G	G	I
STD.	6.8uH±15%	L0A x 90% REF 1kHz, 0.25V	10mΩmax	12.5max	7.5max	13.5maxx	2.8±0.3	4.5±0.5	0.7±0.1			
1	6.7	6.1	7.8	11.9	7.2	12.3	2.7	4.6	0.68			
2	6.6	6.1	7.8	12.2	7.1	12.2	2.7	4.5	0.69			
3	6.7	6.1	7.9	12.1	7.3	12.2	2.8	4.6	0.68			
4	6.5	6.1	7.8	12	7.2	12.1	2.7	4.5	0.68			
5	6.7	6.1	7.8	12.1	7.2	12.1	2.7	4.6	0.69			
6	6.6	6	7.8	12.3	7.1	12.1	2.7	4.6	0.69			
7	6.7	6.1	7.8	11.8	7.2	12.0	2.8	4.6	0.68			
8	6.8	6.2	7.7	11.9	7.2	12.1	2.8	4.6	0.68			
9	6.7	6.2	7.8	12.2	7.2	12.2	2.7	4.5	0.68			
10	6.7	6.1	7.8	12.3	7.1	12.1	2.8	4.5	0.68			
$\overline{X}$	6.67	6.11	7.8	12.08	7.18	12.14	2.74	4.56	0.683			

综合判定

√	OK		NG

外观尺寸图



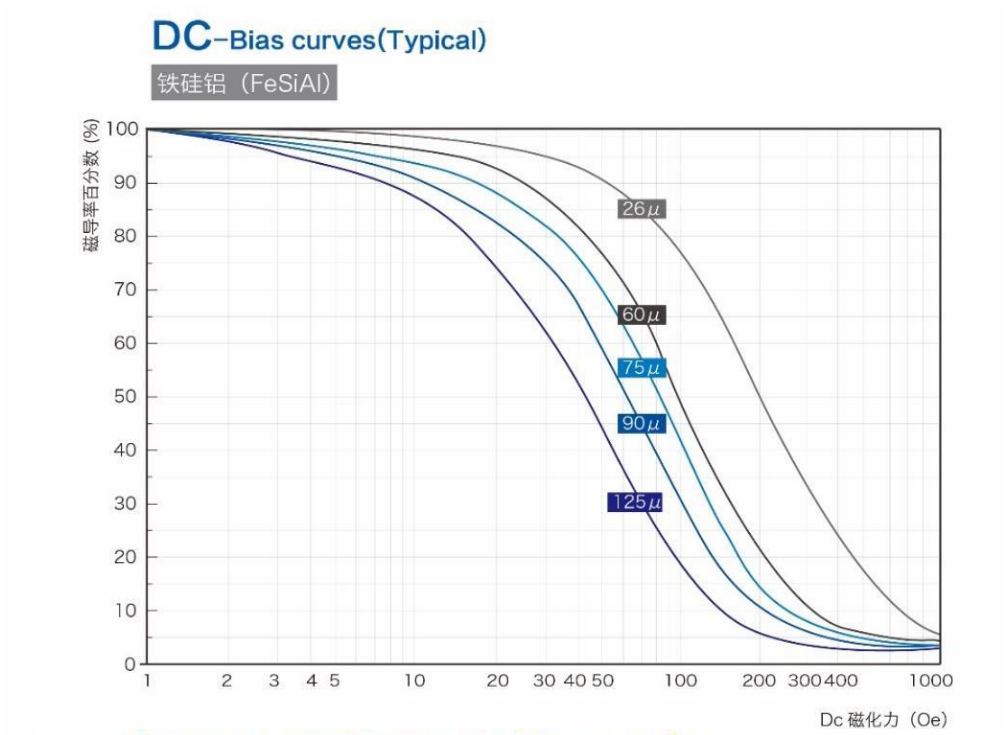
正视图 侧视图

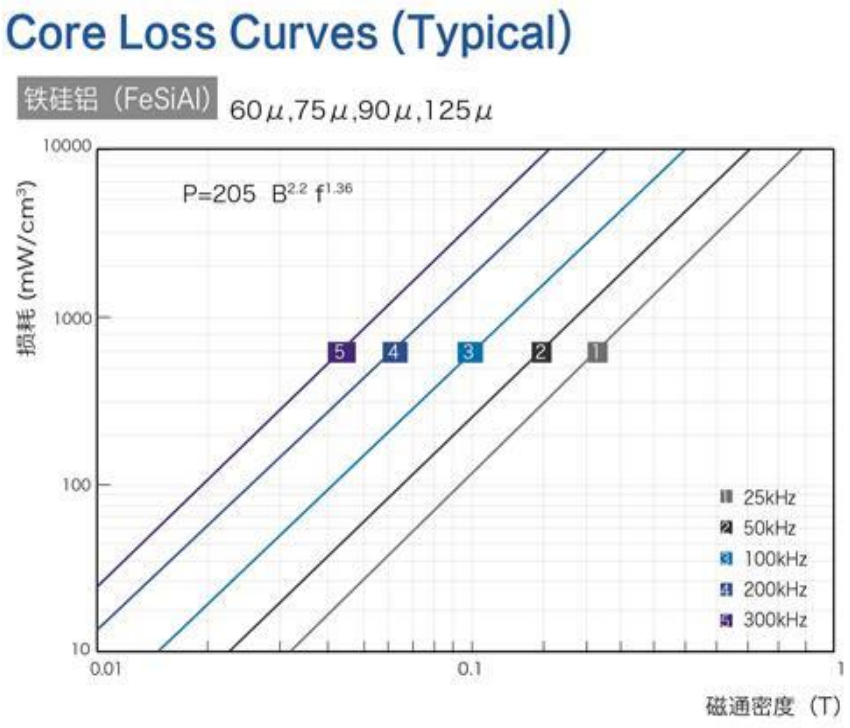
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SPECIFICATION FOR APPROVAL

CUSTOMER		REV NO.	A5
MODEL NO.	Differential Mode Inductor	PAGE NO.	PAGE 8 OF 13
CUST P/N:		DW NO.	2024032101
PART NO.	T038-125-6.8uH±15%	DATE	2024-03-23

11. CORE MATERIAL CHARACTERISTIC 磁芯材质特性





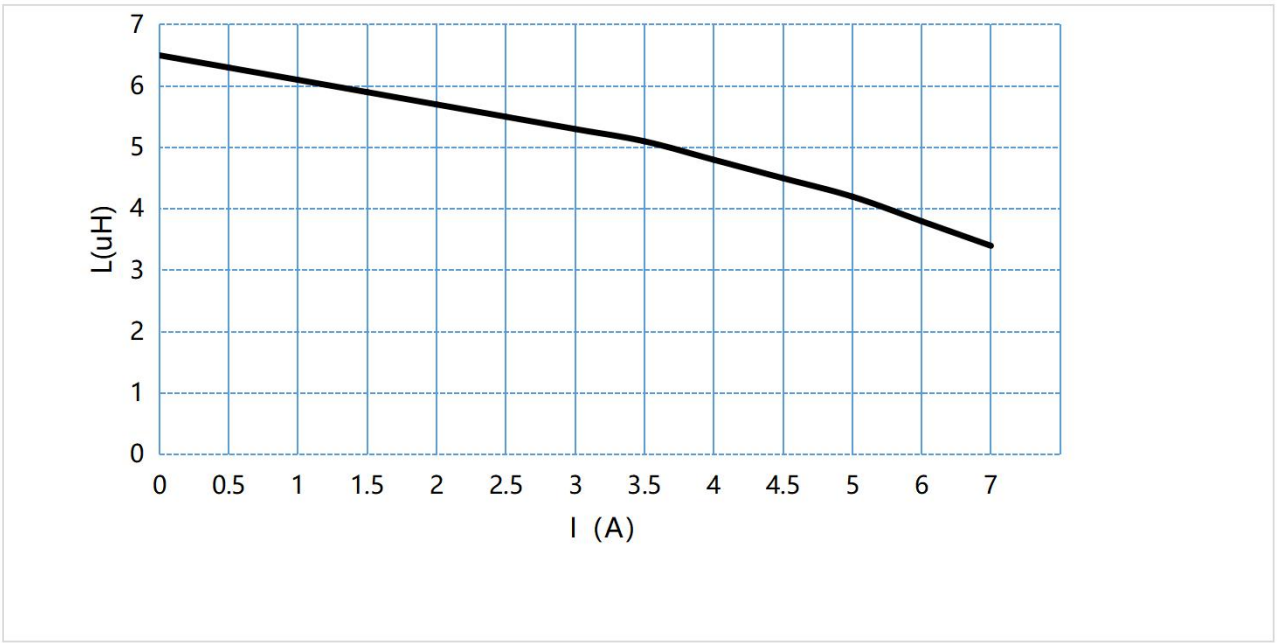
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SPECIFICATION FOR APPROVAL

CUSTOMER		REV NO.	A5
MODEL NO.	Differential Mode Inductor	PAGE NO.	PAGE 9 OF 13
CUST P/N:		DW NO.	0
PART NO.	T038-125-6.8uH±15%	DATE	2024-03-23

12. INDUCTANCE VS DC BIAS CURVE 直流叠加特性曲线:

DC BIAS (A)	Inductance (uH) @1kHz, 0.25V		Inductance (uH) @100kHz, 1V	
0 A	6.5		6.6	
0.5 A	6.3	96.9%	6.4	97.0%
1 A	6.1	93.8%	6.2	93.9%
1.5 A	5.9	90.8%	6	90.9%
2 A	5.7	87.7%	5.7	86.4%
2.5 A	5.5	84.6%	5.5	83.3%
3 A	5.3	81.5%	5.3	80.3%
3.5 A	5.1	78.5%	5	75.8%
4 A	4.8	73.8%	4.8	72.7%
4.5 A	4.5	69.2%	4.6	69.7%
5 A	4.3	66.2%	4.3	65.2%
6 A	3.8	58.5%	3.9	59.1%
7 A	3.4	52.3%	3.5	53.0%



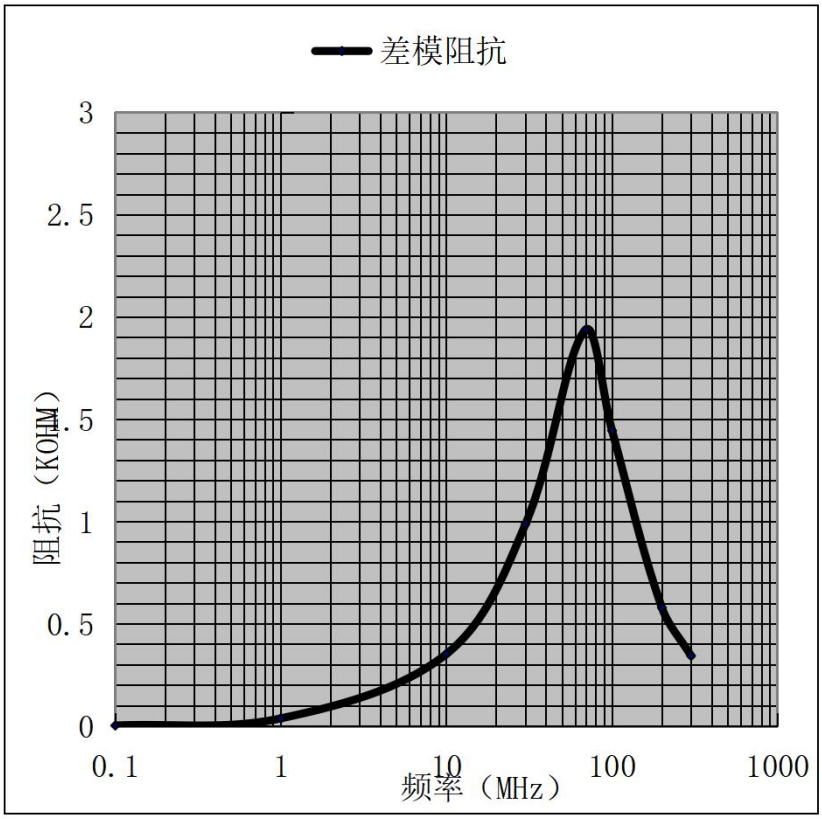
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SPECIFICATION FOR APPROVAL

CUSTOMER		REV NO.	A5
MODEL NO.	Differential Mode Inductor	PAGE NO.	PAGE 10 OF 13
CUST P/N:		DW NO.	0
PART NO.	T038-125-6.8uH±15%	DATE	2024-03-23

13. IMPEDANCE CURVE 阻抗曲线:

Fequency (MHz)	0.1	1	10	30	69	100	200	300
Impendance (KΩ)	0.004	0.039	0.354	0.989	1.938	1.446	0.58	0.345

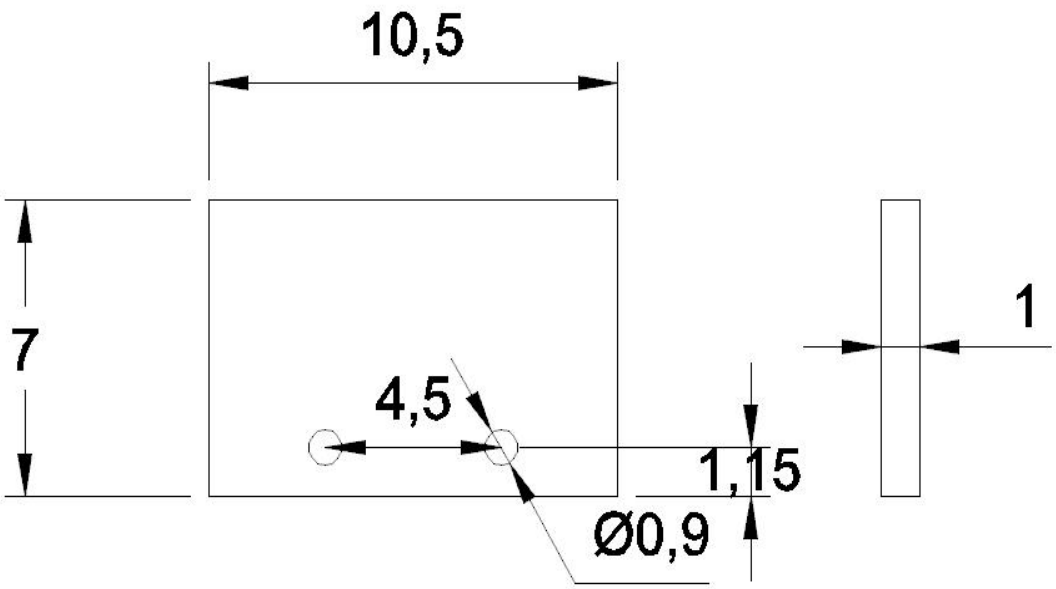


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SPECIFICATION FOR APPROVAL

CUSTOMER		REV NO.	A5
MODEL NO.	Differential Mode Inductor	PAGE NO.	PAGE 11 OF 13
CUST P/N:		DW NO.	0
PART NO.	T038-125-6.8uH±15%	DATE	2024-03-23

14. PCB DRAWING 底座图纸:



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SPECIFICATION FOR APPROVAL

CUSTOMER		REV NO.	A5
MODEL NO.	Differential Mode Inductor	PAGE NO.	PAGE 12 OF 13
CUST P/N:		DW NO.	2024032101
PART NO.	T038-125-6.8uH±15%	DATE	2024-03-23

15. Dimensions 尺寸 (mm) :

项目	A	B	C	D	E	F									
要求(mm)	12.5max	7.5max	13.5max	2.7±0.3	4.5±0.3	0.7±0.05									
1	11.91	7.21	12.03	2.80	4.59	0.69									
2	12.15	7.18	12.13	2.80	4.60	0.68									
3	11.93	7.10	12.01	2.75	4.53	0.68									
4	12.17	7.13	12.25	2.70	4.51	0.68									
5	12.06	7.21	12.22	2.80	4.50	0.69									
6	12.13	7.20	12.06	2.80	4.57	0.68									
7	11.94	7.12	12.00	2.73	4.50	0.69									
8	12.19	7.18	12.23	2.75	4.58	0.70									
9	11.92	7.25	12.07	2.79	4.53	0.70									
10	11.91	7.24	12.38	2.79	4.57	0.67									
11	12.24	7.20	12.14	2.73	4.50	0.69									
12	12.02	7.21	12.15	2.72	4.55	0.69									
13	12.12	7.18	12.10	2.80	4.53	0.69									
14	12.26	7.14	12.03	2.76	4.60	0.71									
15	12.17	7.16	12.18	2.76	4.59	0.69									
16	12.17	7.15	12.06	2.80	4.58	0.70									
17	11.90	7.16	12.02	2.74	4.50	0.68									
18	12.24	7.20	12.05	2.71	4.53	0.69									
19	11.80	7.22	12.23	2.79	4.52	0.69									
20	12.00	7.15	12.30	2.70	4.58	0.70									
21	12.17	7.25	12.23	2.70	4.60	0.70									
22	12.10	7.14	12.15	2.77	4.52	0.68									
23	12.01	7.17	12.12	2.77	4.54	0.68									
24	12.31	7.14	12.30	2.74	4.60	0.71									
25	11.84	7.25	12.24	2.80	4.60	0.70									
26	11.85	7.19	12.29	2.75	4.53	0.69									
27	11.95	7.11	12.32	2.73	4.56	0.70									
28	12.16	7.16	12.24	2.71	4.59	0.70									
29	12.26	7.25	12.36	2.79	4.58	0.67									
30	12.27	7.18	12.28	2.76	4.53	0.70									
31	12.02	7.15	12.39	2.79	4.55	0.70									
32	12.02	7.23	12.24	2.78	4.54	0.70									
33	12.21	7.13	12.17	2.70	4.58	0.69									
34	11.96	7.11	12.03	2.77	4.55	0.70									
35	12.03	7.25	12.16	2.72	4.54	0.69									
36	12.21	7.22	12.21	2.71	4.54	0.70									
Min	11.80	7.10	12.00	2.70	4.50	0.67									
Max	12.31	7.25	12.39	2.80	4.60	0.71									
Average	12.07	7.18	12.18	2.76	4.55	0.69									
Judge	ok	ok	ok	ok	ok	ok									

PREPARED BY	CHECKED BY	APPROVAL BY
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CUSTOMER		REV NO.	A5
MODEL NO.	Differential Mode Inductor	PAGE NO.	PAGE 13 OF 13
CUST P/N:		DW NO.	2024032101
PART NO.	T038-125-6.8uH±15%	DATE	2024-03-23

16. Electrical Characteristic电气特性:

项目	L	Isat 1A	DCR									
要求	6.8uH±15%	L0A x 90% REF 1kHz, 0.25V	10mΩmax									
1	6.8	6.2	7.7									
2	6.6	6.3	7.8									
3	6.8	6.3	7.7									
4	6.8	6.3	7.7									
5	6.8	6.3	7.7									
6	6.8	6.2	7.7									
7	6.6	6.3	7.9									
8	6.8	6.2	7.7									
9	6.7	6.3	7.7									
10	6.8	6.3	7.8									
11	6.6	6.3	7.8									
12	6.6	6.3	7.8									
13	6.8	6.2	7.9									
14	6.7	6.3	7.8									
15	6.7	6.3	7.9									
16	6.6	6.2	7.7									
17	6.8	6.2	7.7									
18	6.8	6.2	7.7									
19	6.8	6.2	7.9									
20	6.6	6.3	7.8									
21	6.6	6.2	7.7									
22	6.7	6.2	7.8									
23	6.6	6.3	7.8									
24	6.8	6.3	7.7									
25	6.8	6.3	7.8									
26	6.8	6.3	7.7									
27	6.6	6.2	7.9									
28	6.7	6.3	7.8									
29	6.7	6.2	7.8									
30	6.6	6.3	7.7									
31	6.8	6.2	7.9									
32	6.6	6.3	7.9									
33	6.6	6.2	7.8									
34	6.7	6.3	7.9									
35	6.8	6.2	7.8									
36	6.7	6.3	7.8									
Min	6.60	6.20	7.70									
Max	6.80	6.30	7.90									
Average	6.71	6.26	7.78									
Judge	ok	ok	ok									

PREPARED BY	CHECKED BY	APPROVAL BY
夏欢	郭亦雄	陈林