



## SPECIFICATION FOR APPROVAL

产品规格承认书

High Current Power Inductor

大电流功率电感

CUSTOMER.

MODEL NO.

MTF1342-R68M-A

CUSTOMER'S PART NO.

LILE NO.

DATE.

2023.05.10

REVISION.

A/0

CUSTOMER APPROVE

DATE:

DRAWING

DRAWN BY

CHECK BY

APPROVAL BY

DATE: 2023.05.10



**sira**  
CERTIFICATION



IATF16949 / ISO9001 / ISO14000

深圳市迈翔科技有限公司

SHENZHEN MOTTO TECHNOLOGY Co., Ltd

香港瑞德科技有限公司 黄冈市迈翔电子有限公司

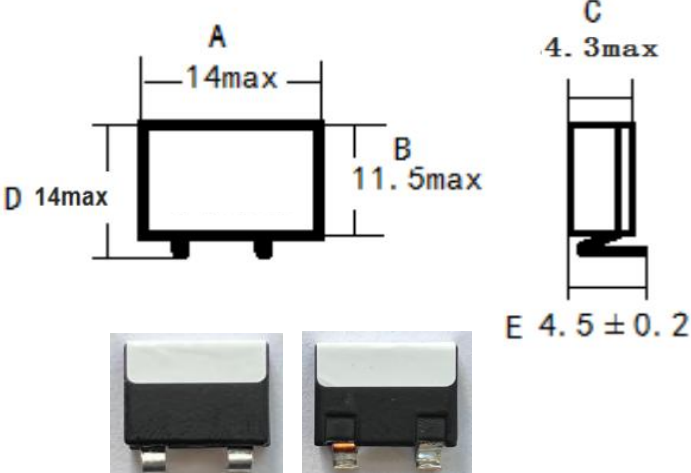
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CUSTOMER		MODEL NO.	MTF1342-R68M-A	REVISION	A/0
FILE NO.		PART NO.		DATE	2023.05.10

1.PRODUCT DIMENSION		UNIT:mm		
	A	14max		
	B	11.5max		
	C	4.3max		
	D	14max		
	E	4.5±0.2		
	备注	产品须如图示贴高温胶纸		

2.ELECTRICAL REQUIREMENTS			
PARAMETER	SPECIFICATION	CONDITION	TEST INSTRUMENTS
L(uH)	0.68±20%	100KHz/0.25V	MICROTEST 6377
DCR(mΩ)	2.5MAX	At 25℃	TH2512A
I sat(A)	50A TYP L0A*70%	100KHz/0.25V	MICROTEST 6377+6220

3.MATERIAL LIST		
ITEM	MATERIAL	SUPPLIER
CORE	YEE131128TF-108/YEI131111F-25	YUZHENG/MAIXIANG
WIRE	0.45*2.4*6.2*2.75TS	TAIYI/JIATENG
SOLDER	TIN-Sn99.95	QIANDAO

4.CHARACTERISTICS
(1). All test data is referenced to 25℃ ambient.
(2). Irms : DC current (A) that will cause an approximate $\Delta T$ of 40℃.
(3). Isat : DC current (A) that will cause Lo to drop approximately 30%.
(4). Operating Temperature Range -55℃ to + 155℃ .
(5). The part temperature (ambient + temp rise) should not exceed 155℃ under the worst case operating conditions. Circuit design, component placement, PCB trace size and thickness,application. airflow and other cooling provision all affect the part temperature. Part temperature should be verified in the end application.
(6). The rated current as listed is either the saturation current or the heating current depending

5.SPECIAL REQUEST
(1)No marking on top of the body.

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**6.PRODUCT IDENTIFICATION**

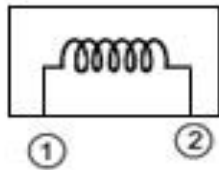
XX XXXX - XXX X X

① ② ③ ④ ⑤

①、 Product Symbol ②、 Dimensions ③、 Inductance

④、 Tolerance: M±20%, N±30%. ⑤、 Material

**7.ELECTRICAL SCHEMATICS**



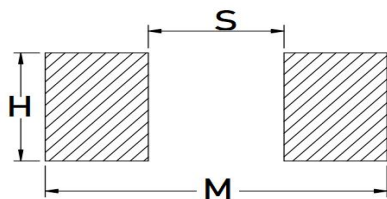
**8.APPLICATION**

- (1)Low profile,high current power supplies.
- (2)Battery powered devices.
- (3)DC/DC converters in distributed power systems.
- (5)DC/DC converters for field programmable gate array.

**9.FEATURES**

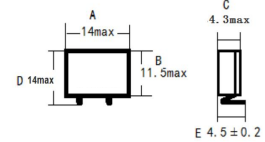
- (1)ROHS compliant.
- (2)Super low resistance,ultra high current rating.
- (3)high performance(I sat)realized by metal dust core.
- (4)Frequency Range:up to 1MHZ.

**10.RECOMMENDED PCB LAYOUT**



H	3.5
S	3
M	7.4

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SORT	ITEM	A	B	C	D	E	
PRODUCT & DIMENSION	SPEC	14max	11.5max	4.3max	14max	4.5±0.2	
	1	13.54	10.98	3.98	12.56	4.45	
	2	13.53	10.99	3.99	12.56	4.45	
	3	13.54	10.98	3.98	12.57	4.42	
	4	13.52	10.97	3.98	12.57	4.46	
	5	13.54	10.98	3.99	12.57	4.52	
	X	13.53	10.98	3.98	12.57	4.46	
	R	0.02	0.02	0.01	0.01	0.10	
ELECTRICAL & REQUIREMENTS	ITEM	L(μH)	DCR (mΩ)	I sat(A)	DC BIAS		SHAPE:
	SPEC	0.68±20%	2.5MAX	50A TYP LOA*70%			
	1	0.63	1.63	0.47	-25.4%		
	2	0.63	1.62	0.46	-27.0%		
	3	0.63	1.63	0.47	-25.4%		
	4	0.65	1.62	0.48	-26.2%		
	5	0.63	1.63	0.47	-25.4%		
	X	0.63	1.63	0.47	-25.9%		
R	0.02	0.01	0.02	1.6%			



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FILE NO.		PART NO.		DATE	2023.05.10
12.可靠性Reliability					
12.1 机械性Mechanical					
项目Item	规格与需求 Specification and Requirement	测试方法Test Method			
可焊性 Solder a bility test	沾锡面积不得小于95%上锡面 Terminals area must have 95% min solder coverage	上锡升温曲线Solder heat proof: (1) 预热: 160±10℃持续90s Preheating: 160±10℃ for 90 seconds (2) 恒温时段: 245±5℃持续2±0.5s Retention time: 245±5℃ for 2±0.5 seconds			
振动测试 Vibration test	感值变化: 不超过±5% 且无破裂等机械损伤产生 Inductance change: Within±5% Without mechanical damage such as break	(1) 振动频率(10Hz 55Hz 10Hz)60s为一个周期 Vibration frequency: (10Hz to 55Hz to 10Hz) in 60 seconds as a period (2) 振动时间 Vibration time: 三维正交坐标系每个方向振动(周期) 循环2小时 Period cycled for 2 hours in each of 3 mutual perpendicular directions (3) 振幅 Amplitude: 1.5 mm Max			
冲击测试 Shock test	感值变化: 不超过±5% 且无破裂等机械损伤产生 Inductance change: Within±5% Without mechanical damage such as break	(1) 最大振幅 Peak value: 100G (2) 脉冲波长 Duration of pulse: 11ms (3) 三维正交坐标系每个方向正负方向冲击3次 Times in each positive and negative direction of 3 mutual perpendicular directions			

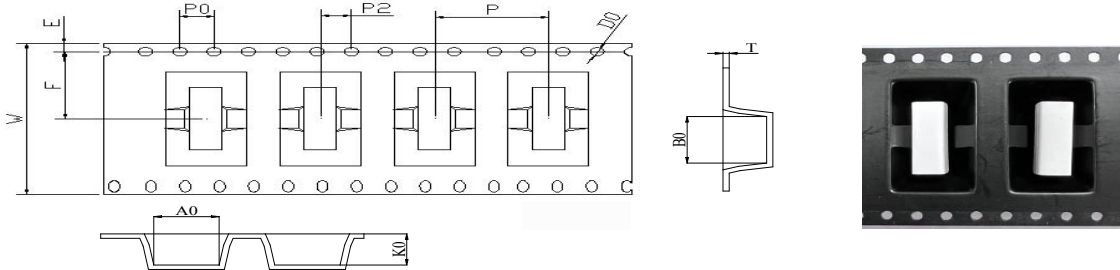
CUSTOMER		MODEL NO.	MTF1342-R68M-A	REVISION	A/0
FILE NO.		PART NO.		DATE	2023.05.10
12.2 耐久性 Endurance					
项目 Item	规格与需求 Specification and Requirement			测试方法 Test Method	
冷热冲击 Thermal shock	感值变化: 不超过±5% 且无破裂等机械损伤产生  Inductance change: Within±5% Without mechanical damage such as break			(1)重复以上100个循环Repeat 100 cycle as follow (-55±2℃,30±3分钟) 室温5分钟 (-55±2℃,30±3 minutes) Room temperature,5 minutes (+125±2℃,30±3分钟) 室温5分钟 (+125±2℃,30±3 minutes) Room temperature,5 minutes (2)恢复: 测试于标准条件下恢复48+4/-0小时 (参考注释1) Recovery:48+4/-0 hours of recovery under the standard condition after the test. (see Note1)	
耐高温测试 High temperature life test	感值变化: 不超过±5% 且无破裂等机械损伤产生 Inductance change: Within±5% Without mechanical damage such as break			(1)环境条件: 85±2℃ Environment condition : 85±2℃ 应用电流: 额定电流 Applied current: Rated current (2)持续时间: 1000+4/-0 小时 (参考注释1) Duration:1000+4/-0 hours (see Note1)	
耐湿测试 Humidity Resistance	感值变化: 不超过±5% 且无破裂等机械损伤产生 Inductance change: Within±5% Without mechanical damage such as break			(1)环境条件: 60±2℃ Environment condition : 60±2℃ 湿度: 90~95% Humidity:90~95% 应用电流: 额定电流 Applied current: Rated current (2)持续时间: 1000+4/-0 小时 (参考注释1) Duration:1000+4/-0 hours (see Note1)	
低温存放测试Low temperature life test	感值变化: 不超过±5% 且无破裂等机械损伤产生 Inductance change: Within±5% Without mechanical damage such as break			(1)存储温度 Store temperature -55±2℃下存放 1000+4/-0 小时 -55±2℃for total 1000+4/-0 hours	
高温存放测试High temperature life test	感值变化: 不超过±5% 且无破裂等机械损伤产生 Inductance change: Within±5% Without mechanical damage such as break			(1)存储温度 Store temperature +125±2℃下存放 1000+4/-0 小时 +125±2℃for total 1000+4/-0 hours	

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13、包装 Packaging

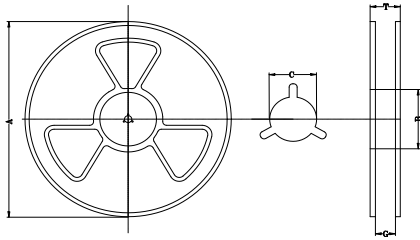
13.1、尺寸 Dimensions

13.1.1 包装料带尺寸 Tape packaging dimensions



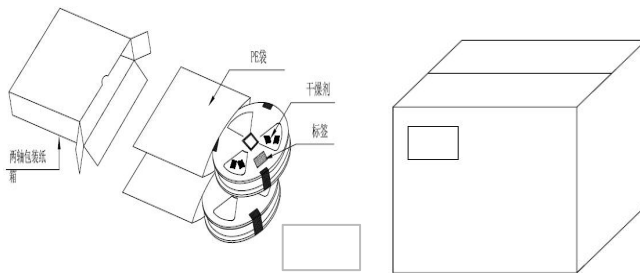
ITEM	W	A0	B0	K0	P	F	E	D0	P0	P2	T
DIM	32.00 ±0.30	4.00 ±0.10	13.50 ±0.10	14.00 ±0.10	16.00 ±0.10	13.5 ±0.10	1.75 ±0.10	1.50 ±0.10	4.00 ±0.10	2.00 ±0.10	0.40 ±0.10

13.1.2 卷轴尺寸 Reel dimensions



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

13.1.3 外箱尺寸 Carton dimensions



项目	数量(PCS)
1卷轴	300
1内箱	600
1外箱	1200

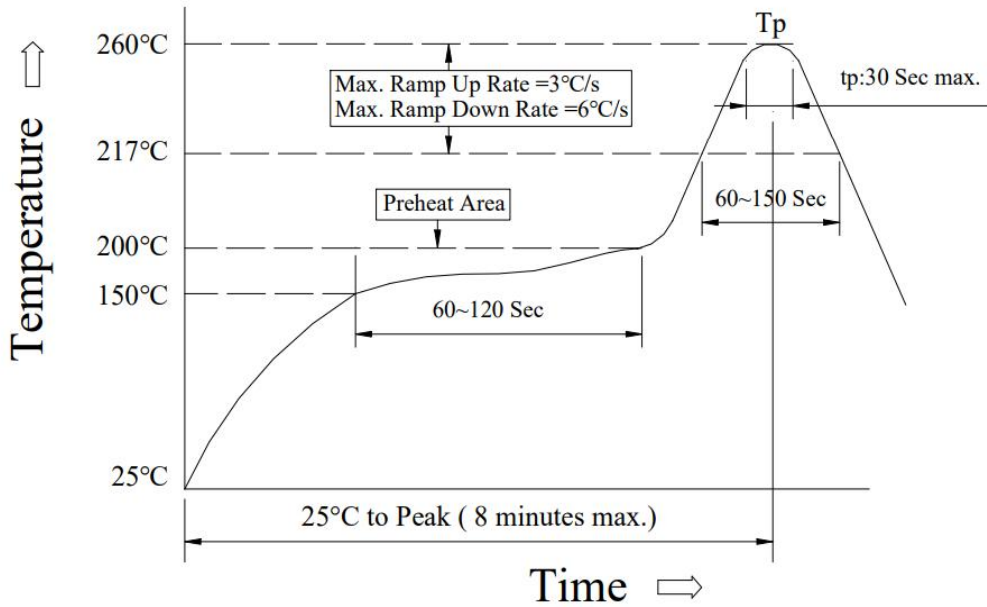


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Reflow curve

※ Reflow Profile

Power Choke Coil Type



1. Reflow Soldering Method

Reflow Soldering	Tp:255~260°C	Max.30 seconds ( tp )
	217°C	60~150 seconds
Pre-Heat	150 ~ 200°C	60~120 seconds
Time 25°C to peak temperature	8 minutes max.	

2. Soldering iron method : 350±5°C Max.3 seconds.

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