



SPECIFICATION FOR APPROVAL

产品规格承认书

High Current Power Inductor

大电流功率电感

CUSTOMER.

MODEL NO.

MTM1480-1R8M

CUSTOMER'S PART NO.

LILE NO.

DATE.

2022.05.13

REVISION.

A/0

CUSTOMER APPROVE

DATE:

DRAWING

DRAWN BY

CHECK BY

APPROVAL BY

DATE: 2022.05.13



sira
CERTIFICATION



IATF16949 / ISO9001 / ISO14000

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COILMX

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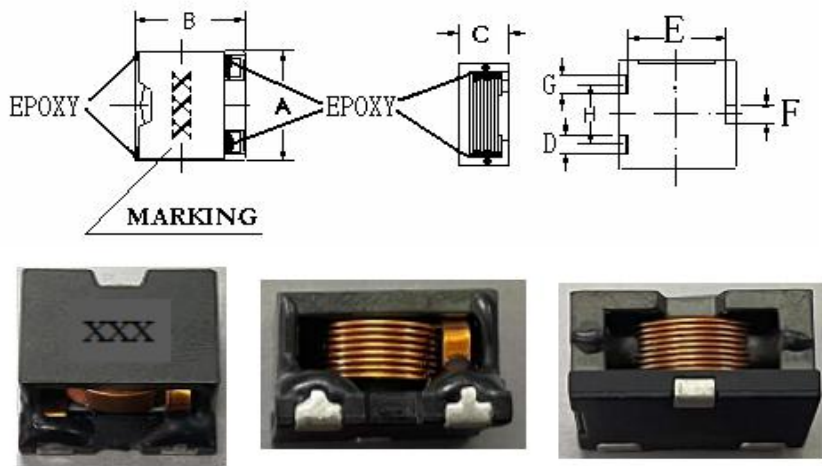
REVISIONS

REW

PROJECT CHANGE

DESCRIPTION

Date

CUSTOMER		MODEL NO.	MTM1480-1R8M	REVISION	A/0
FILE NO.		PART NO.		DATE	2022.05.13
1.PRODUCT DIMENSION				UNIT:mm	
				A	14.9MAX
				B	15MAX
				C	8.1MAX
				D	2.8+0.2
				E	10.5TYP
				F	2.3+0.2
				G	2.8+0.2
				H	9.0+0.5
2.ELECTRICAL REQUIREMENTS					
PARAMETER	SPECIFICATION	CONDITION	TEST INSTRUMENTS		
L(uH)	1.8± 20%	100KHz/0.25V	MICROTEST 6377		
DCR(mΩ)	3.9MAX	At 25℃	TH2512A		
I sat(A)	30A TYP L0A*80%	100KHz/0.25V	MICROTEST 6377+6220		
I rms(A)	19A TYP ΔT≤40℃	100KHz/0.25V	MICROTEST 6377+6220		
WIRE	0.6mmT*1.8mmW*7.2*4.75TS(扁线耐温等级: ≥220℃)				
3.CHARACTERISTICS					
(1). All test data is based on 25℃ ambient.					
(2). DC current(A)that will cause an approximate ΔT40℃					
(3). DC current(A)that will cause L0 to drop approximately 20%Typ					
(4). Operating temperature range: -40℃~+125℃					
(5).The part temperature (ambient + temp rise)should not exceed 125℃ under worst case operating conditions. circuit design, component.PWB trace size and thickness,airflow and other cooling provision all affect the part temperature. Part temperature should be verified in the den application					
4.SPECIAL REQUEST					
(1)Lettering1R8on top of the body.					

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5.PRODUCT IDENTIFICATION

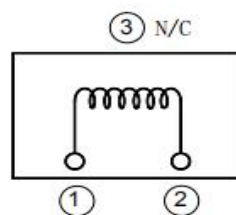
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① ② ③ ④ ⑤

①、Product Symbol ②、Dimensions ③、Inductance

④、Tolerance: M±20%, N±30%. ⑤、Material

6.ELECTRICAL SCHEMATICS



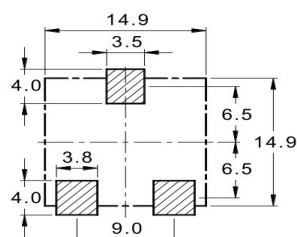
7.APPLICATION

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

8.FEATURES

- (1)Assemblage design, sturdy structure.
- (2)High inductance, high current, low magnetic loss,low ESR, small parasitic capacitance.
- (3)Flat wire winding, achieve a low D.C. Resistance.
- (4)Temperature rise current and saturation current is less influenced by environment.

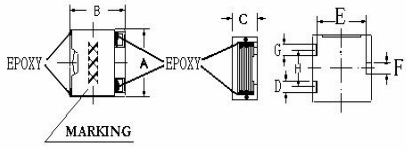
9.RECOMMENDED PCB LAYOUT



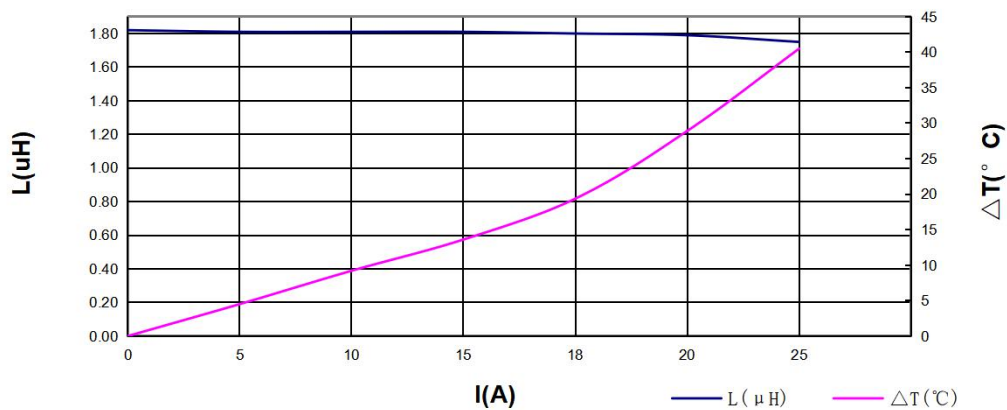
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M

CUSTOMER			MODEL NO.		MTM1480-1R8M		REVISION		A/0	
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SORT	ITEM	A	B	C	D	E	F	H		
PRODUCT & DIMENSION	SPEC	14.9MAX	15MAX	8.1MAX	2.8+0.2	10.5TYP	2.3+0.2	9.0+0.5		
	1	14.56	14.85	8.02	2.81	10.45	2.35	9.03		
	2	14.58	14.88	8.02	2.82	10.45	2.35	9.01		
	3	14.60	14.87	8.04	2.82	10.45	2.34	9.02		
	4	14.53	14.86	8.03	2.81	10.50	2.36	9.06		
	5	14.62	14.83	8.07	2.83	10.46	2.32	9.05		
	X	14.58	14.86	8.04	2.82	10.46	2.34	9.03		
	R	0.09	0.05	0.05	0.02	0.05	0.04	0.05		
ELECTRICAL & REQUIREMENTS	ITEM	L(μH)	DCR (mΩ)	I sat(A)	DC BIAS	I _{rms}	SHAPE:			
	SPEC	1.8±20%	3.9MAX	30A TYP L0A*80%		19A TYP Δ T≤40℃				
	1	1.71	3.29	1.640	-4.1%	OK				
	2	1.69	3.25	1.620	-4.1%	OK				
	3	1.75	3.35	1.630	-6.9%	OK				
	4	1.70	3.21	1.630	-4.1%	OK				
	5	1.68	3.42	1.620	-3.6%	OK				
	X	1.71	3.30	1.63	-4.6%					
	R	0.07	0.21	0.02	3.3%					

CURRENT CHARACTERISTIC

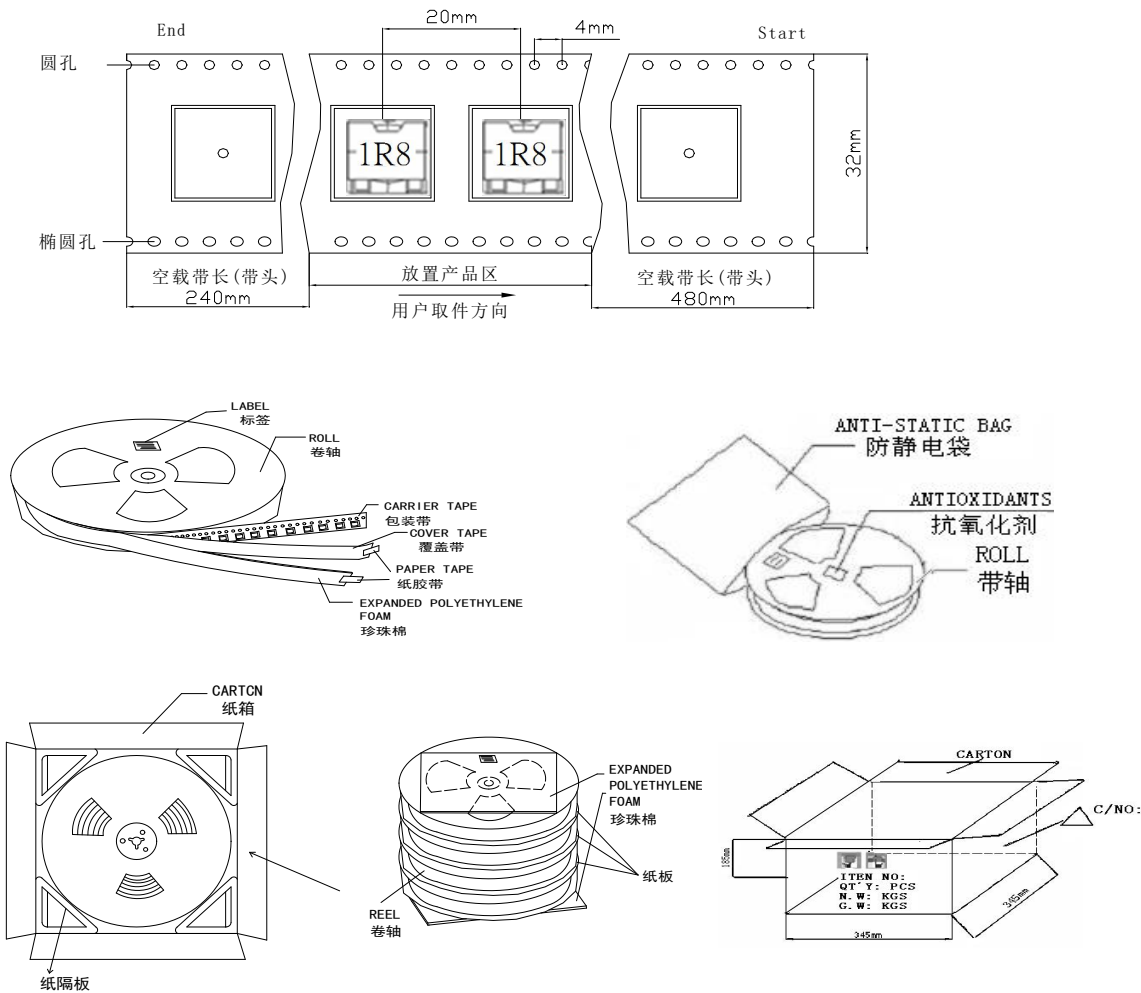


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11.可靠性Reliability					
项目Item	规格与需求 Specification and Requirement		测试方法Test Method		
可焊性 Solder ability test	沾锡面积不得小于95%上锡面 Terminals area must have 95% min solder coverage		上锡升温曲线Solder heat proof: (1) 预热: 160±10℃持续90s Preheating: 160±10℃ for 90 seconds (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		
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 (-40±2℃,30±3分钟) 室温5分钟 (-40±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 -40±2℃下存放 1000+4/-0 小时 -40±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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12、包装 Packaging

12.1 包装料带尺寸 Tape packaging dimensions

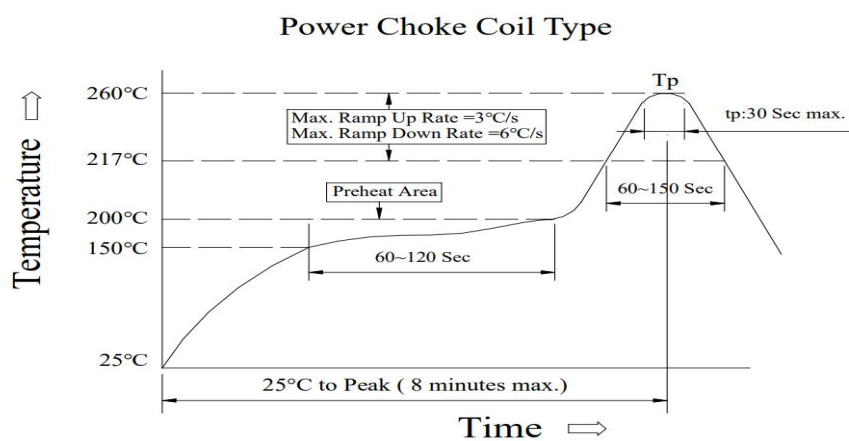


内包装 (INNER)	REEL(卷轴+载带+自粘带+标签+美纹胶带)	300 PCS/ROLL (300个/卷)
外包装 (OUTER)	4 ROLLS/CARTON (4卷/外箱)	4 ROLLS/CARTON (4卷/外箱)

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Reflow curve

※ Reflow Profile



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.