



## SPECIFICATION FOR APPROVAL

产品规格承认书

### High Current Power Inductor

大电流功率电感

CUSTOMER.

MODEL NO.

MTM1480-220M

CUSTOMER'S PART NO.

LILE NO.

DATE.

2021.12.08

REVISION.

A/0

CUSTOMER APPROVE		
DATE:		
DRAWING		
DRAWN BY	CHECK BY	APPROVAL BY
DATE:2021.12.08		



**sira**  
CERTIFICATION



IATF16949 / ISO9001 / ISO14000

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<b>CUSTOMER</b>		<b>MODEL NO.</b>	<b>MTM1480-220M</b>	<b>REVISION</b>	<b>A/0</b>
<b>FILE NO.</b>		<b>PART NO.</b>		<b>DATE</b>	<b>2021.12.08</b>

<b>1.PRODUCT DIMENSION</b>		<b>UNIT:mm</b>	
		<b>A</b>	14.9MAX
		<b>B</b>	15MAX
		<b>C</b>	8.1MAX
		<b>D</b>	2.8+0.2
		<b>E</b>	10.5TYP
		<b>F</b>	2.3+0.2
		<b>G</b>	2.8+0.2
		<b>H</b>	9.0+0.5



<b>2.ELECTRICAL REQUIREMENTS</b>			
<b>PARAMETER</b>	<b>SPECIFICATION</b>	<b>CONDITION</b>	<b>TEST INSTRUMENTS</b>
L(uH)	22± 20%	100KHz/0.25V	MICROTEST 6377
DCR(mΩ)	24MAX	At 25℃	TH16502
I sat(A)	6A TYP LOA*75%	100KHz/0.25V	MICROTEST 6377+6220
I rms(A)	6A TYP ΔT≤40℃	100KHz/0.25V	MICROTEST 6377+6220
WIRE	0.2mmT*1.8mmW*12.75TS(扁线耐温等级: ≥220℃)		

<p><b>3.CHARACTERISTICS</b></p> <p>(1). All test data is based on 25℃ ambient.</p> <p>(2). DC current(A)that will cause an approximate ΔT40℃</p> <p>(3). DC current(A)that will cause L0 to drop approximately 25%Typ</p> <p>(4). Operating temperature range: -40℃~+125℃</p> <p>(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</p>
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<p><b>4.SPECIAL REQUEST</b></p> <p>(1)Lettering 220 on top of the body.</p>
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**5.PRODUCT IDENTIFICATION**

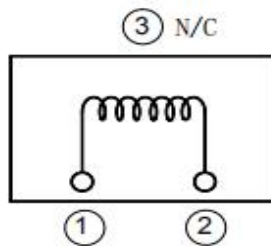
XX XXXX - XXX X X

① ② ③ ④ ⑤

①、 Product Symbol ②、 Dimensions ③、 Inductance

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

**6.ELECTRICAL SCHEMATICS**



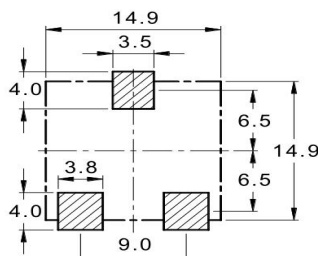
**7.APPLICATION**

- (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**

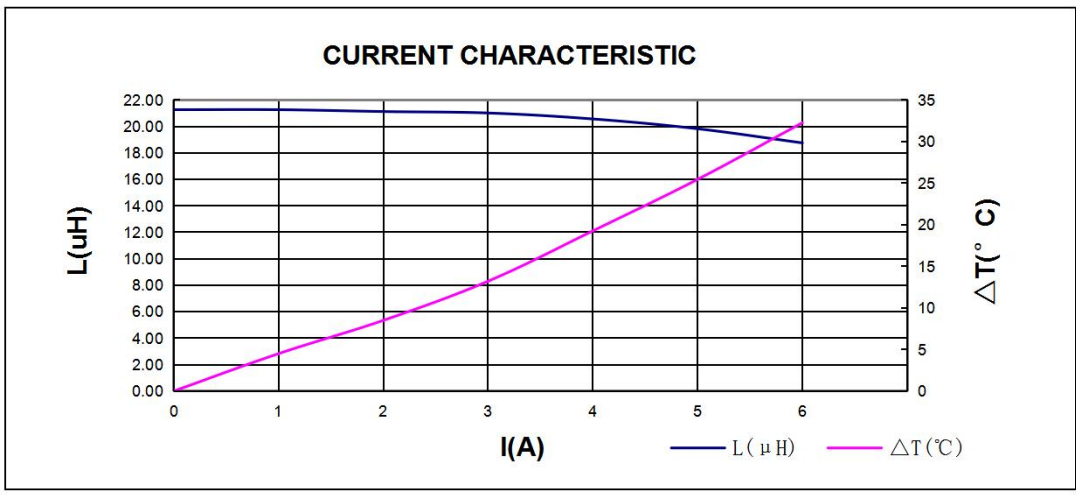
- (1)Assemblage design, sturdy structure.
- (2)High inductance, high current, low magnetic loss,low ESR, small parasitic capacitance.
- (3)Flat wire winding, achieve a low D.C. Resistance.
- (4)Temperature rise current and saturation current is less influenced by environment.

**9.RECOMMENDED PCB LAYOUT**



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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 <sub>rms</sub>	SHAPE:			
	SPEC	22± 20%	24MAX	6A TYP LOA*75%		6A TYP Δ T≤40℃				
	1	20.05	21.25	18.650	-7.0%	OK				
	2	21.26	21.23	19.540	-8.1%	OK				
	3	21.15	21.45	19.320	-8.7%	OK				
	4	21.36	21.62	19.600	-8.2%	OK				
	5	21.56	21.62	19.890	-7.7%	OK				
	X	21.08	21.43	19.40	-7.9%					
	R	1.51	0.39	1.24	1.7%					

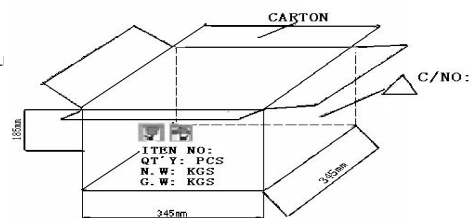
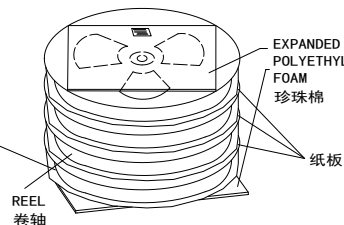
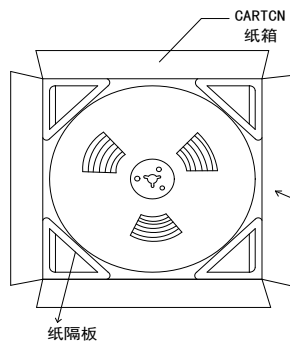
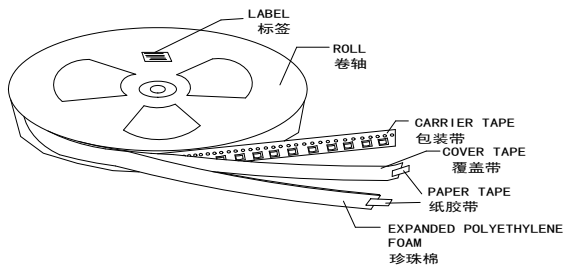
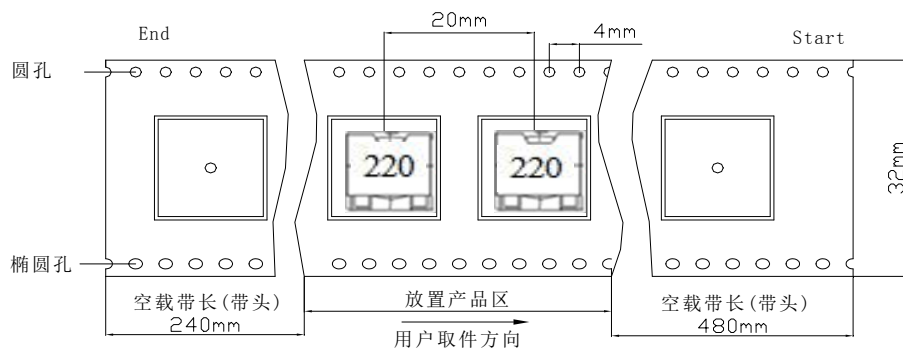


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<b>11.可靠性Reliability</b>					
项目Item	规格与需求 Specification and Requirement	测试方法Test Method			
可焊性 Solderability test	沾锡面积不得小于95%上锡面 Terminals area must have 95% min solder coverage	上锡升温曲线Solder heat proof: (1) 预热: 160±10℃持续90s Preheating: 160±10℃ for 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



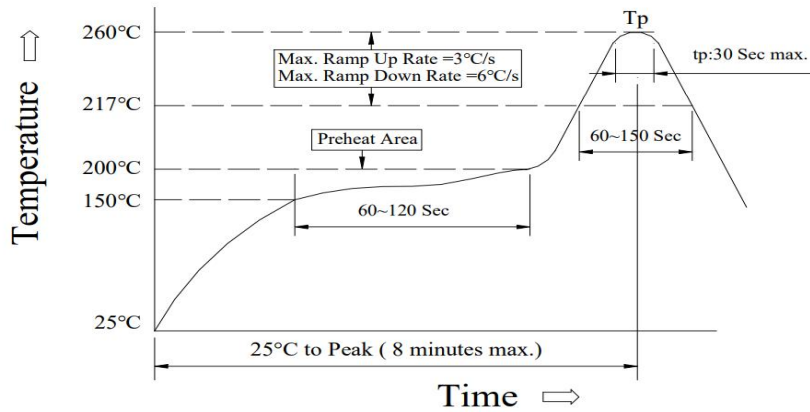
内包装 (INNER)	REEL(卷轴+载带+自粘带+标签+美纹胶带)	300 PCS/ROLL ( 300个/卷)
外包装 (OUTER)	4 ROLLS/CARTON ( 4卷/外箱 )	4 ROLLS/CARTON ( 4卷/外箱 )

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Reflow curve

※ Reflow Profile

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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