



SPECIFICATION FOR APPROVAL

产品规格承认书

SMD POWER INDUCTOR

功率电感

CUSTOMER.

MODEL NO.

MPA4030S100M

CUSTOMER'S PART NO.

LILE NO.

DATE.

2019.7.1

REVISION.

A/0

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



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

Motto Technology park, niu e ling village no#214 xintian, nghua Town,
Guanlan Street, Longhua District, Shenzhen

TEL: +86 0755-8948751~2 89487610 Fax: +86 0755-61624574

[Http://www.coilmx.com](http://www.coilmx.com) E-mail: sales@mottotech.com

CUSTOMER		MODEL NO.	MPA4030S100M	REVISION	A/0
FILE NO.		PART NO.		DATE	2019.7.1

1.PRODUCT DIMENSION		UNIT:mm	
		A	4.0±0.2
		B	4.0±0.2
		C	3.0MAX
		D	2.1±0.2

2.ELECTRICAL REQUIREMENTS			
PARAMETER	SPECIFICATION	CONDITION	TEST INSTRUMENTS
L(uH)	10±20%	100KHz/1.0V	MICROTEST 6377
DCR(mΩ)	125MAX	At 25℃	TH2512A
I sat(A)	1.8A TYP L0A* 70%	100KHz/1.0V	MICROTEST 6377+6220
I rms(A)	1.52A TYP ΔT ≤ 40℃	100KHz/1.0V	MICROTEST 6377+6220

<p>3.CHARACTERISTICS</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 10%Typ</p> <p>(4). Operating temperature range: -55℃~+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>4.SPECIAL REQUEST</p> <p>(1)Lettering 100 on top of the body.</p>
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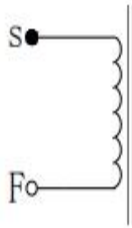
5.PRODUCT IDENTIFICATION

XX XXXX S XXX X

① ② ③ ④ ⑤

- ①、 Product Symbol ②、 Dimensions ③、 material class number
 ④、 Inductance ⑤ 、 Tolerance: M±20%, N±30%.

6.ELECTRICAL SCHEMATICS



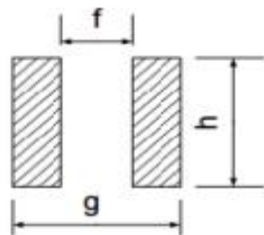
7.APPLICATION

- (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.

8.FEATURES

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

9.RECOMMENDED PCB LAYOUT



g	3.1typ
f	1.5typ
h	2.7typ

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SORT		ITEM	A	B	C	D					
PRODUCT & DIMENSION	SPEC	4.0±0.2	4.0±0.2	3.0MAX	2.1±0.2						
	1	3.96	3.97	2.78	2.13						
	2	4.08	4.05	2.82	2.12						
	3	3.99	4.05	2.82	2.11						
	4	3.97	4.03	2.84	2.13						
	5	3.99	4.03	2.80	2.13						
	X	4.00	4.03	2.81	2.12						
	R	0.12	0.08	0.06	0.02						
ELECTRICAL & REQUIREMENTS	ITEM	L(uH)	DCR (mΩ)	I sat(A)	Irms(A)	SHAPE:					
	SPEC	10±20%	125MAX	1.8A TYP LOA* 70%	1.52A TYP ΔT≤40℃						
	1	9.79	123.90	82.00	OK						
	2	9.70	122.30	81.00	OK						
	3	9.46	124.40	86.00	OK						
	4	9.15	122.00	86.00	OK						
	5	10.01	121.20	82.00	OK						
	X	9.62	122.76	83.40							
	R	0.86	3.20	5.00							

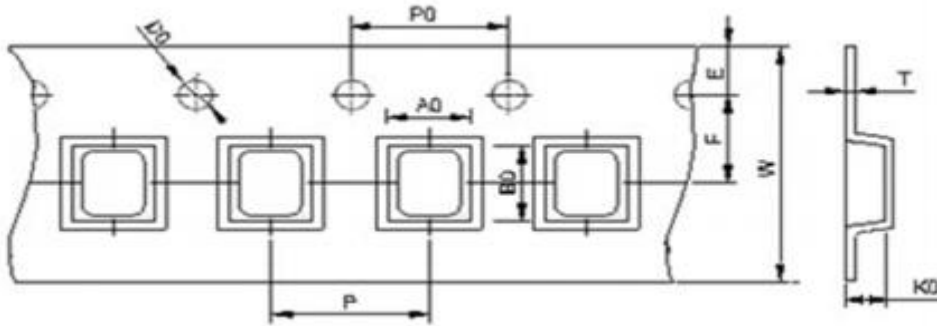
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3				
项目Item	规格与需求 Specification and Requirement	测试方法Test Method		
可焊性 Solderability test	沾锡面积不得小于95%上锡面 Terminals area must have 95% min solder coverage	上锡升温曲线Solder heat proof: (1) 预热: 160±10℃持续90s Preheating: 160±10℃ for 90 seconds (2) 恒温时段: 245±5℃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 (-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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12、包装 Packaging

12.1、尺寸 Dimensions

12.1.1 包装料带尺寸 Tape packaging dimensions



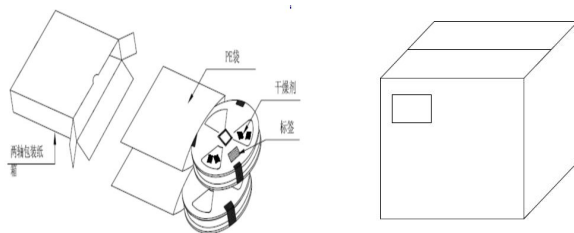
W	A0	B0	K0	E	F	P	D0	P0	T
8.00 ±0.30	1.9 ±0.10	2.3 ±0.10	1.2 ±0.10	1.75 ±0.10	3.5 ±0.05	4.0 ±0.10	1.5 ±0.10	4.0 ±0.10	0.18 ±0.03

12.1.2 卷轴尺寸 Reel dimensions



项目	尺寸(mm)
A	178 ± 2.0
B	58 ± 1.0
C	13.5 ± 0.2
D	9.0 ± 1.5

12.1.3 外箱尺寸 Carton dimensions



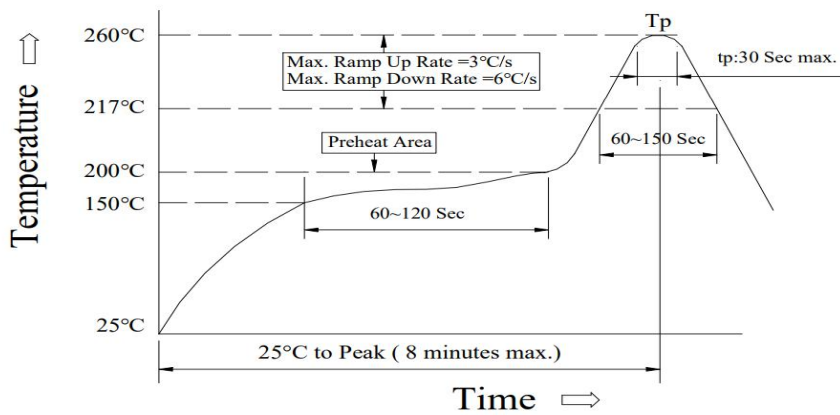
项目	数量 (PCS)
1 卷轴	2000
1 内箱	
1 外箱	

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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.