

# COILMX

## SPECIFICATION FOR APPROVAL

产品规格承认书

**Unibody Inductor**

一体成型功率电感

CUSTOMER.

\_\_\_\_\_

MODEL NO.

MS252010-SERIES

\_\_\_\_\_

CUSTOMER'S PART NO.

\_\_\_\_\_

LILE NO.

\_\_\_\_\_

DATE.

2021-7-6

\_\_\_\_\_

REVISION.

A/0

\_\_\_\_\_

CUSTOMER APPROVE

DATE:

DRAWING

DRAWN BY

CHECK BY

APPROVAL BY

DATE:



IATF16949 / ISO9001 / ISO14000

深圳市迈翔科技有限公司

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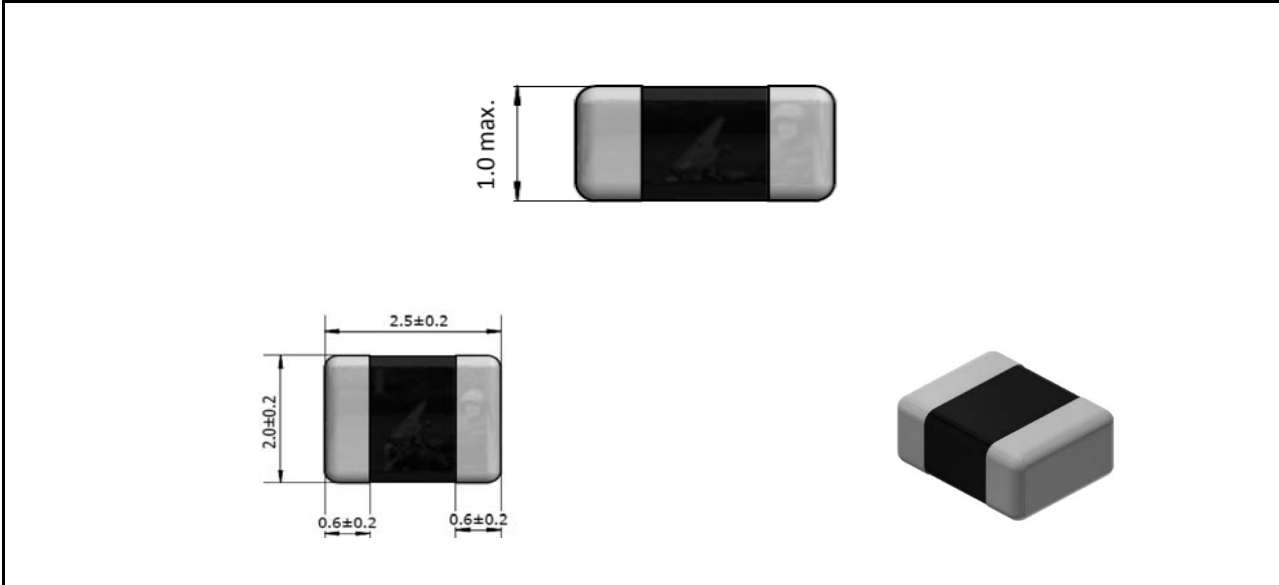
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CUSTOMER		MODEL NO.	MS252010-SERIES	REVISION	A/0
FILE NO.		PART NO.		DATE	2021-7-6

**1.PRODUCT DIMENSION** UNIT:mm



**2.ELECTRICAL REQUIREMENTS**

PARAMETER	L0 (Mh) inductance@(0A)	DCR (mΩ)		Isat (A)	Idc (A)
	1MHz, 0.1V	TYP.	MAX.	MAX.	MAX.
MS252010-R47M-W	0.47±20 %	35	46	3.5	3.1
MS252010-1R0M-W	1.0±20 %	60	78	2.7	2.5
MS252010-1R5M-W	1.5±20 %	90	108	2.1	1.9
MS252010-2R2M-W	2.2±20 %	130	156	1.9	1.5
MS252010-3R3M-W	3.3±20 %	195	228	1.5	1.2
MS252010-4R7M-W	4.7±20 %	250	300	1.3	1.0
MS252010-6R8M-W	6.8±20 %	415	516	1.1	0.76
MS252010-100N-W	10±30 %	590	689	1.00	0.68

**3.CHARACTERISTICS**

- (1). All test data is based on 25°C ambient.
- (2). Idc current(A)that will cause an approximate ΔT40°C
- (3). Isat current(A)that will cause L0 to drop approximately 30%Typ
- (4). Operating temperature range: -55°C~+125°C
- (5).The part temperature (ambient + temp rise)should not exceed 125°C 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)NO Marking on top of the body.

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**5.PRODUCT IDENTIFICATION**

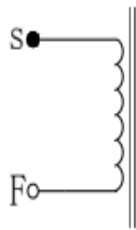
XX XXXXXX - XXX X X

①            ②            ③    ④    ⑤

①、 Product Symbol    ②、 Dimensions    ③、 Inductance

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

**6.ELECTRICAL SCHEMATICS**



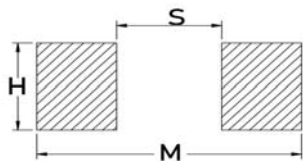
**7.APPLICATION**

- (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**

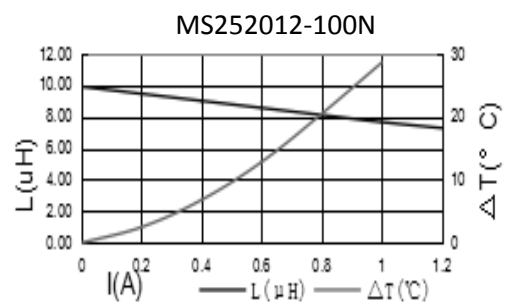
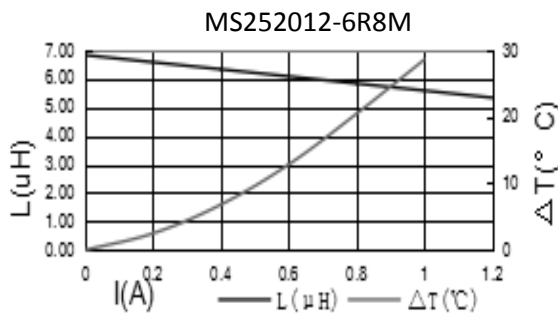
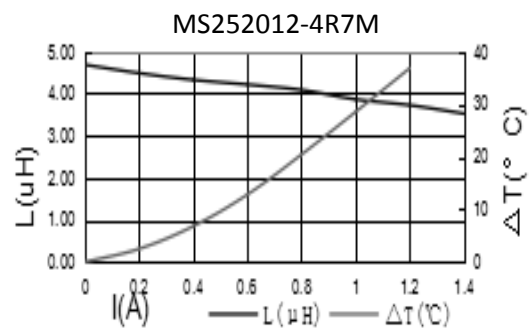
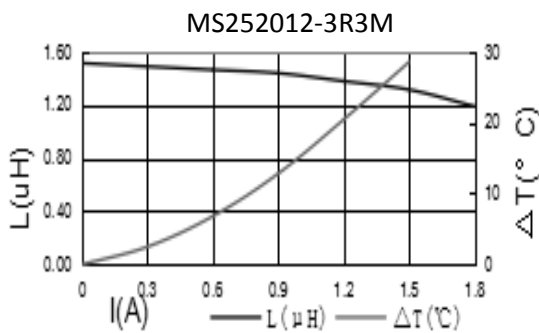
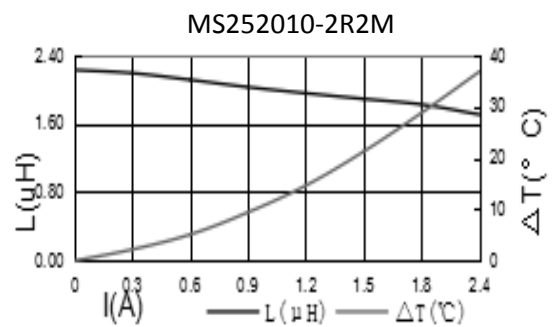
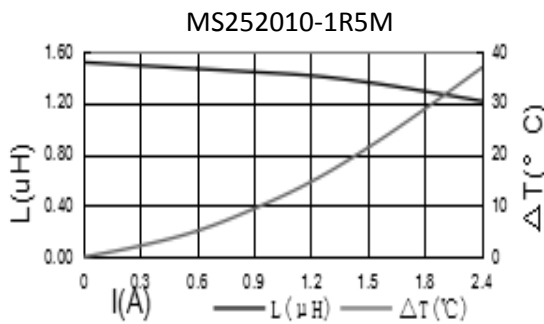
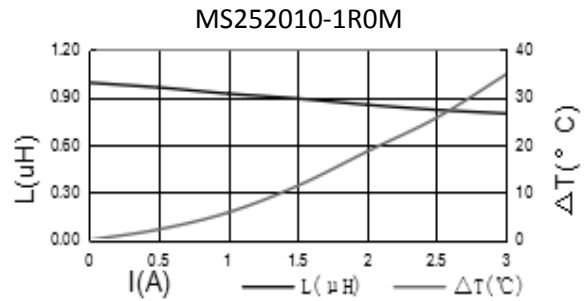
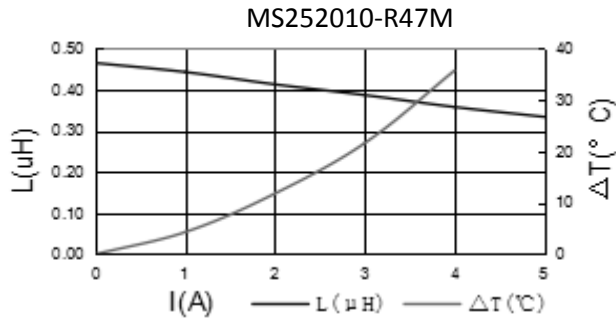
- (1)ROHS compliant.
- (2)Super low resistance,ultra high current rating.
- (3)high performance(I sat)realized by metal dust core.
- (4)Frequency Range:up to 1MHZ.

**9.RECOMMENDED PCB LAYOUT**



<b>H</b>	2
<b>S</b>	1.2
<b>M</b>	2.8

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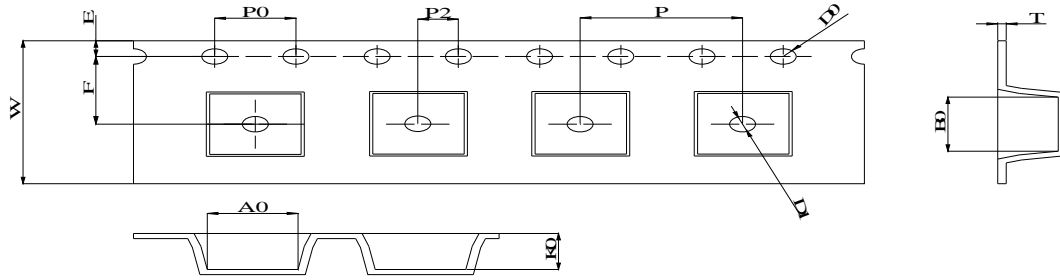
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FILE NO.	PART NO.	DATE	2021-7-6	
<b>11.可靠性Reliability</b>				
项目Item	规格与需求 Specification and Requirement	测试方法Test Method		
可焊性 Solder a bility test	沾锡面积不得小于95%上锡面 Terminals area must have 95% min solder coverage	上锡升温曲线Solder heat proof: (1) 预热: 160±10℃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		
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**

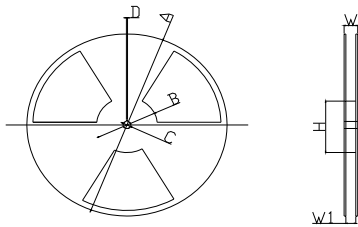
**12.1、尺寸 Dimensions**

**12.1.1 包装料带尺寸 Tape packaging dimensions**



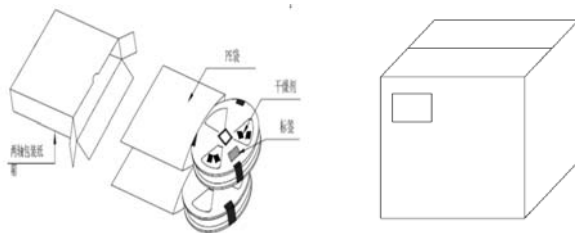
W	A0	B0	K0	P	F	E	D0	P0	T
8.0 ±0.10	2.8 ±0.05	2.35 ±0.05	1.35 ±0.05	4.0 ±0.10	3.5 ±0.1	1.75 ±0.10	1.50 ±0.10	4.0 ±0.10	0.25 ±0.05

**12.1.2 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

**12.1.3 外箱尺寸 Carton dimensions**



项目	数量(PCS)
1 卷轴	3000
1 内箱	12000
1 外箱	36000

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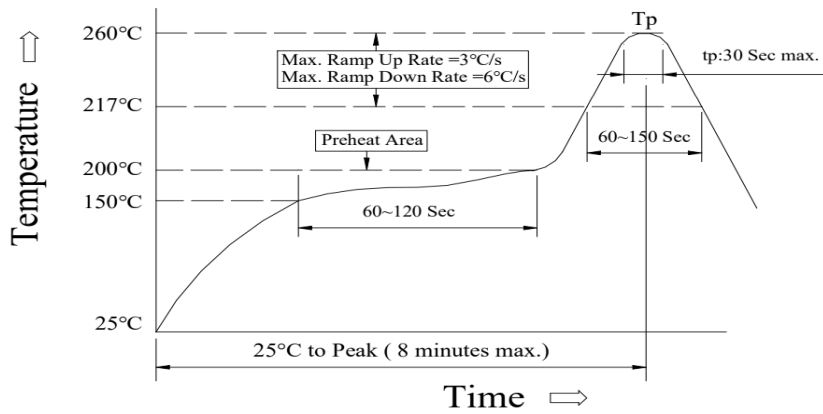
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Reflow curve

※ 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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