



**SPECIFICATION FOR APPROVAL**  
产品规格承认书  
**CHIP COMMON MODE INDUCTOR**  
贴片共模电感

CUSTOMER.

MODEL NO.

MACM4520-102

CUSTOMER'S PART NO.

LILE NO.

DATE.

2022.05.19

REVISION.

A/0

NUMBER.

CUSTOMER APPROVE

DATE:

DRAWING

DRAWN BY

CHECK BY

APPROVAL BY

林思思

陈健波

曾伟

DATE: 2022.05.19



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| CUSTOMER  |        | MODEL NO.       | MACM4520-102 | REVISION       | A/0                        |               |                         |         |
|---|--------|-----------------|--------------|----------------|----------------------------|---------------|-------------------------|---------|
| FILE NO.  |        | PART NO.        |              | DATE           | 2022.05.19                 |               |                         |         |
| <b>1.PRODUCT DIMENSION</b>  |        |                 |              | UNIT:mm        |                            |               |                         |         |
|   |        |                 |              | A              | 4.70±0.50                  |               |                         |         |
|   |        |                 |              | B              | 4.50±0.50                  |               |                         |         |
|   |        |                 |              | C              | 2.20Max                    |               |                         |         |
|   |        |                 |              | D              | 2.70Typ                    |               |                         |         |
|   |        |                 |              | E              | 0.80Typ                    |               |                         |         |
|   |        |                 |              | F              | 1.25Typ                    |               |                         |         |
|   |        |                 |              | G              | 1.00Typ                    |               |                         |         |
| <b>2.ELECTRICAL REQUIREMENTS</b>  |        |                 |              |                |                            |               |                         |         |
| Product NO  |        | Z(Ω)100MHZ/0.1V |              | DCR<br>(mΩ)max | Rated<br>Current(A)<br>max | IR<br>(MΩ)MIN | Rated<br>Voltage(<br>V) | MARKING |
|   |        | MIN             | TYP          |                |                            |               |                         |         |
| MACM4520-102  |        | 800             | 1000         | 68             | 2.1                        | 10            | 50                      | 102     |
| <b>3.MATERIAL LIST</b>  |        |                 |              |                |                            |               |                         |         |
| NO.   | ITEM   | DESCRIPTION     |              |                | SUPPLIER                   |               |                         |         |
| 1   | CORE   | FERRITE         |              |                | SINCORES OR EQ             |               |                         |         |
| 2   | WIRE   | 2UEW P180       |              |                | PACIFIC OR EQ              |               |                         |         |
| 3   | 膠帶     | DM膠帶            |              |                | HENGRENXIN OR EQ           |               |                         |         |
| 4   | SOLDER | Sn99.3 :Cu0.7   |              |                | SHENMAO OR EQ              |               |                         |         |
| 5   | INK    | WHITE           |              |                | BON MARK                   |               |                         |         |
| <b>4.CHARACTERISTICS</b>  |        |                 |              |                |                            |               |                         |         |
| (1). All test data is based on 25°C ambient.  |        |                 |              |                |                            |               |                         |         |
| (2). DC current(A)that will cause an approximate ΔT40°C   |        |                 |              |                |                            |               |                         |         |
| (3). Operating temperature range: -40°C~+125°C  |        |                 |              |                |                            |               |                         |         |
| (4).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 |        |                 |              |                |                            |               |                         |         |
| <b>5.SPECIAL REQUEST</b>  |        |                 |              |                |                            |               |                         |         |
| (1)Lettering 102 on top of the body.  |        |                 |              |                |                            |               |                         |         |

|          |  |           |              |          |            |
|----------|--|-----------|--------------|----------|------------|
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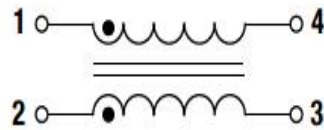
**6.PRODUCT IDENTIFICATION**

XXXX XXXX - XXX

①      ②      ③

①、Coilmx Series Name    ②、Dimensions    ③、Impedance

**7.CIRCUIT DIAGRAM**



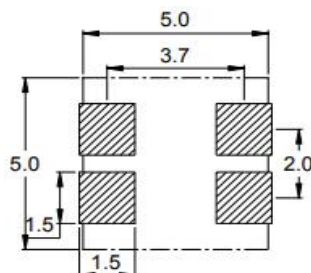
**8.APPLICATION**

- (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.

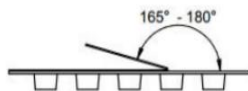
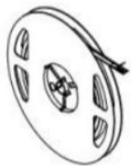
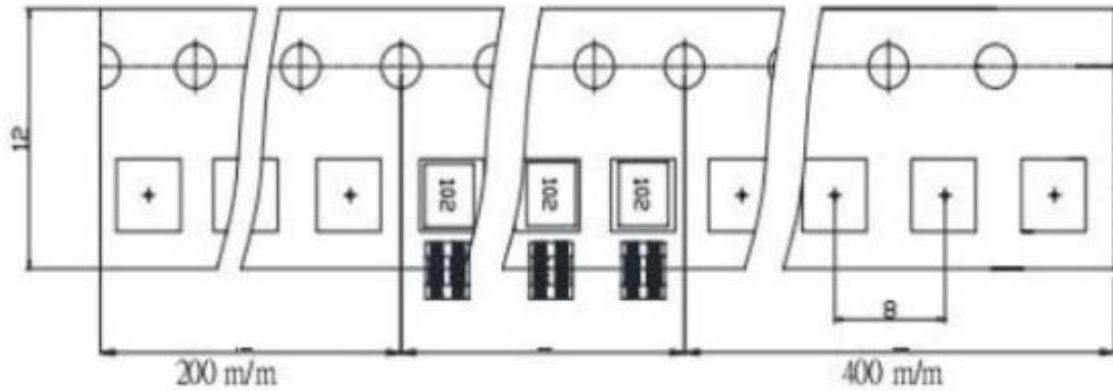
**10.RECOMMENDED PCB LAYOUT**



|                                     |   |   |              |          |            |
|-------------------------------------|---|---|--------------|----------|------------|
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| FILE NO.                            |   | PART NO.  |              | DATE     | 2022.05.19 |
| 项目Item                              | 规格与需求<br>Specification and Requirement  | 测试方法Test Method   |              |          |            |
| 可焊性<br>Solderability test           | 沾锡面积不得小于95%上锡面<br>Terminals area must have 95% min solder coverage                                  | 上锡升温曲线Solder heat proof:<br>(1) 预热: 160±10°C持续90s<br>Preheating: 160±10°C for 90 seconds<br>(2) 恒温时段: 245±5°C持续2±0.5s<br>Retention time: 245±5°C for 2±0.5 seconds  |              |          |            |
| 振动测试<br>Vibration test              | 感值变化: 不超过±5%<br>且无破裂等机械损伤产生<br>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<br>(2) 振动时间 Vibration time:<br>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<br>(3) 振幅 Amplitude: 1.5 mm Max   |              |          |            |
| 冲击测试<br>Shock test                  | 感值变化: 不超过±5%<br>且无破裂等机械损伤产生<br>Inductance change: Within±5% Without mechanical damage such as break | (1) 最大振幅 Peak value: 100G<br>(2) 脉冲波长 Duration of pulse: 11ms<br>(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<br>Thermal shock               | 感值变化: 不超过±5%<br>且无破裂等机械损伤产生<br>Inductance change: Within±5% Without mechanical damage such as break | (1)重复以上100个循环Repeat 100 cycle as follow<br>(-40±2°C,30±3分钟) 室温5分钟<br>(-40±2°C,30±3 minutes)<br>Room temperature,5 minutes<br>(+125±2°C,30±3分钟) 室温5分钟<br>(+125±2°C,30±3 minutes)<br>Room temperature,5 minutes<br>(2)恢复: 测试于标准条件下恢复48+4/-0小时(参考注释1)<br>Recovery:48+4/-0 hours of recovery under the standard condition after the test. (see Note1) |              |          |            |
| 耐高温测试<br>High temperature life test | 感值变化: 不超过±5%<br>且无破裂等机械损伤产生<br>Inductance change: Within±5% Without mechanical damage such as break | (1)环境条件: 85±2°C<br>Environment condition : 85±2°C<br>应用电流: 额定电流<br>Applied current: Rated current<br>(2)持续时间: 1000+4/-0 小时(参考注释1)<br>Duration:1000+4/-0 hours (see Note1)   |              |          |            |
| 耐湿测试<br>Humidity Resistance         | 感值变化: 不超过±5%<br>且无破裂等机械损伤产生<br>Inductance change: Within±5% Without mechanical damage such as break | (1)环境条件: 60±2°C<br>Environment condition : 60±2°C<br>湿度: 90~95%<br>Humidity:90~95%<br>应用电流: 额定电流<br>Applied current: Rated current<br>(2)持续时间: 1000+4/-0 小时(参考注释1)<br>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%<br>且无破裂等机械损伤产生<br>Inductance change: Within±5% Without mechanical damage such as break | (1)存储温度 Store temperature<br>-40±2°C下存放 1000+4/-0 小时<br>-40±2°C for total 1000+4/-0 hours   |              |          |            |
| 高温存放测试High temperature life test    | 感值变化: 不超过±5%<br>且无破裂等机械损伤产生<br>Inductance change: Within±5% Without mechanical damage such as break | (1)存储温度 Store temperature<br>+125±2°C下存放 1000+4/-0 小时<br>+125±2°C for total 1000+4/-0 hours   |              |          |            |

|          |  |           |              |          |            |
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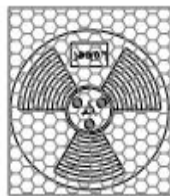
11、包装 Packaging



| Tape width | Distance | Pull-of force |
|------------|----------|---------------|
| 12mm       | 8mm      | 20-120g       |



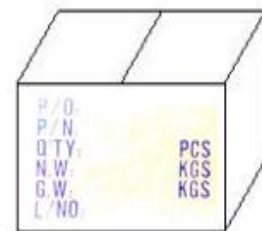
轮盘7 (直径178mm)  
数量: 1000PCS/盘



PE袋:  
数量: 4000PCS/袋



内盒:  
数量: 4000PCS/盒

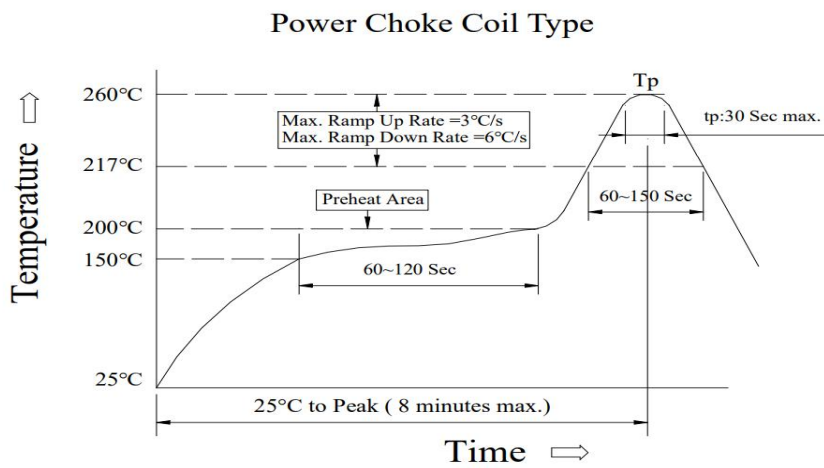


外箱, 数量;20000PCS/箱  
不足整箱用内盒或填充物装满

|          |  |           |              |          |            |
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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.

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[WTCF2012Z0M751PB](#) [PH9408.814NLT](#) [PAC6006.364NLT](#) [PAC6006.444NLT](#) [PAC6006.204NLT](#) [PH9407.204NLT](#) [PAC6006.264NLT](#)  
[PH9408.105NLT](#) [PH9408.494NLT](#) [PAC6006.104NLT](#)