



SPECIFICATION FOR APPROVAL

产品规格承认书

High Current Power Inductor

大电流功率电感

CUSTOMER.

MODEL NO.

MTP2915S-3R3L-F

CUSTOMER'S PART NO.

LILE NO.

DATE.

2023.03.04

REVISION.

A/0

CUSTOMER APPROVE

DATE:

DRAWING

DRAWN BY

CHECK BY

APPROVAL BY

DATE: 2023.03.04



IATF16949 / ISO9001 / ISO14000

深圳市迈翔科技有限公司

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COILMX

深圳市迈翔科技有限公司

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|----------|--|-----------|-----------------|----------|------------|
| CUSTOMER | | MODEL NO. | MTP2915S-3R3L-F | REVISION | A/0 |
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REVISIONS

| REW | PROJECT CHANGE | DESCRIPTION | Date |
|-----|----------------|-------------|------|
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| 1.PRODUCT DIMENSION | | UNIT:mm | |
|---------------------|----|---------|--|
| | A | 27.9MAX | |
| | B | 19.7MAX | |
| | C | 15.4MAX | |
| | D | 27MAX | |
| | E | 4.0±0.3 | |
| | F | 6.5±0.5 | |
| | 备注 | 点胶按图示 | |
| | | | |
| | | | |
| | | | |

| 2.ELECTRICAL REQUIREMENTS | | | |
|---------------------------|-----------------|--------------|---------------------|
| PARAMETER | SPECIFICATION | CONDITION | TEST INSTRUMENTS |
| L(uH) | 3.3± 15% | 100KHz/0.25V | MICROTEST 6377 |
| DCR(mΩ) | 1.41MAX | At 25℃ | TH2512A |
| I sat(A) | 55A TYP L0A*80% | 100KHz/0.25V | MICROTEST 6377+6220 |
| I rms(A) | 36A TYP ΔT≤40℃ | 100KHz/0.25V | MICROTEST 6377+6220 |

| 3.MATERIAL LIST | | |
|-----------------|-----------------------|--------------------------------|
| ITEM | MATERIAL | SUPPLIER |
| CORE | DR:(P95)27*19*7.5*B12 | YUEFENG/DONGYANGGUANG/TIANTONG |
| WIRE | >220℃(1.0*4.0*4.75) | JIATENG-SONGYE |
| SOLDER | TIN-Sn99.95 | QIANDAO/HONGXINGWEI |

| 4.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 |

| 5.SPECIAL REQUEST |
|--------------------------------------|
| (1)Lettering 3R3 on top of the body. |

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

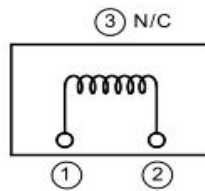
XX XXXX - XXX X X

① ② ③ ④ ⑤

①、 Product Symbol ②、 Dimensions ③、 Inductance

④、 Tolerance: M±20%, L±15%. ⑤、 Material

7.ELECTRICAL SCHEMATICS



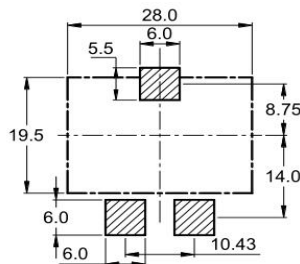
8.APPLICATION

- (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.

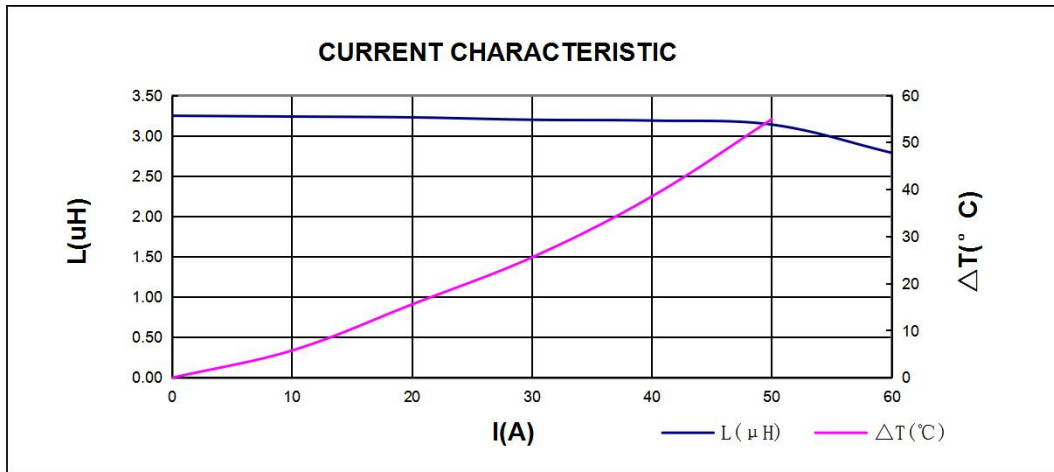
9.FEATURES

- (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.

10.RECOMMENDED PCB LAYOUT



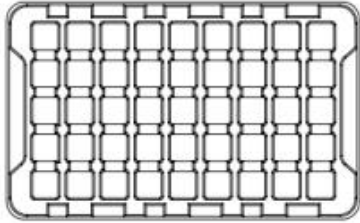
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|---------------------------|------|----------|-----------|--------------------|---------|-------------------|------------|---|---|---|
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| FILE NO. | | | PART NO. | | | DATE | 2023.03.04 | | | |
| SORT | ITEM | A | B | C | D | E | F | G | H | K |
| PRODUCT & DIMENSION | SPEC | 27.9MAX | 19.7MAX | 15.4MAX | 27MAX | 4.0±0.3 | 6.5±0.5 | | | |
| | 1 | 27.56 | 19.21 | 15.38 | 25.86 | 4.01 | 5.98 | | | |
| | 2 | 27.56 | 19.22 | 15.36 | 25.87 | 4.00 | 5.99 | | | |
| | 3 | 27.60 | 19.20 | 15.37 | 25.88 | 4.01 | 5.92 | | | |
| | 4 | 27.56 | 19.21 | 15.39 | 25.88 | 4.02 | 5.9 | | | |
| | 5 | 27.65 | 19.20 | 15.34 | 25.98 | 4.00 | 5.9 | | | |
| | X | 27.59 | 19.21 | 15.37 | 25.89 | 4.01 | 5.94 | | | |
| | R | 0.09 | 0.02 | 0.05 | 0.12 | 0.02 | 0.09 | | | |
| ELECTRICAL & REQUIREMENTS | ITEM | L(μH) | DCR (mΩ) | I sat(A) | DC BIAS | Irms | SHAPE: | | | |
| | SPEC | 3.3± 15% | 1.41MAX | 55A TYP LOA*80% | 降幅 % | 36A TYP ΔT≤40℃ | | | | |
| | 1 | 3.25 | 1.29 | 3.010 | -7.4% | OK | | | | |
| | 2 | 3.18 | 1.30 | 2.990 | -6.0% | OK | | | | |
| | 3 | 3.24 | 1.29 | 3.040 | -6.2% | OK | | | | |
| | 4 | 3.29 | 1.28 | 3.080 | -6.4% | OK | | | | |
| | 5 | 3.25 | 1.29 | 3.070 | -5.5% | OK | | | | |
| | X | 3.24 | 1.29 | 3.04 | -6.3% | | | | | |
| | R | 0.11 | 0.02 | 0.09 | 1.8% | | | | | |



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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 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 | | | |

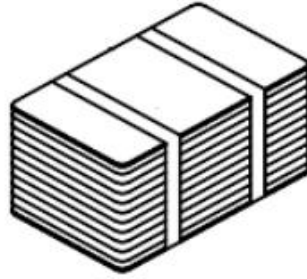
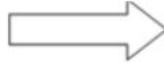
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12、包装 Packaging

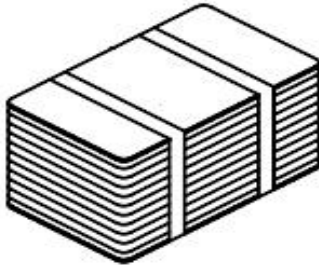


Quantity/Tray:50PCS

Trayx 6

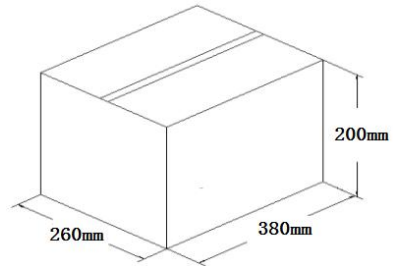
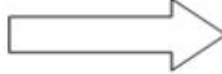


Quantity/Bundle:300PCS



Quantity/Bundle:300PCS

Bundle × 1



Quantity/Carton:300PCS

包装数量 packing quantity

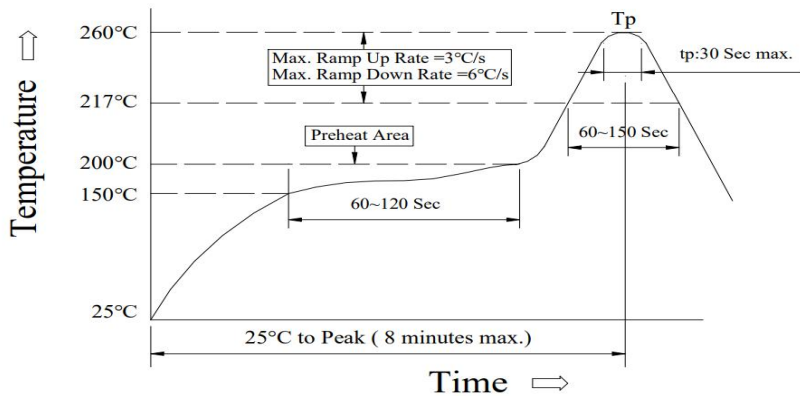
| Product Series 产品系列 | Quantity/Tray 数量/盘 | Quantity/Bundle 数量/捆 | Quantity/Carton 数量/箱 |
|------------------------|-----------------------|-------------------------|-------------------------|
| MTP2915S | 50PCS | 300PCS | 300PCS |

| | | | | | |
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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.