



**SPECIFICATION FOR APPROVAL**

产品规格承认书

**High Current Power Inductor**

大电流功率电感

CUSTOMER.

MODEL NO.

MTF1810系列

CUSTOMER'S PART NO.

LILE NO.

DATE.

2022.08.22

REVISION.

A/0

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



IATF16949 / ISO9001 / ISO14000

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|                 |  |                  |           |                 |            |
|-----------------|--|------------------|-----------|-----------------|------------|
| <b>CUSTOMER</b> |  | <b>MODEL NO.</b> | MTF1810系列 | <b>REVISION</b> | A/0        |
| <b>FILE NO.</b> |  | <b>PART NO.</b>  |           | <b>DATE</b>     | 2022.08.22 |

**5.PRODUCT IDENTIFICATION**

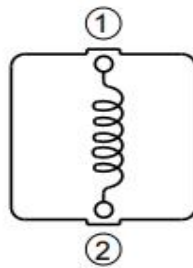
MTF 1810 - XXX M

①      ②      ③      ④

①、 Series name    ②、 Product dimensions    ③、 Inductance

④、 Tolerance: M±20%, N±30%.

**6.ELECTRICAL SCHEMATICS**



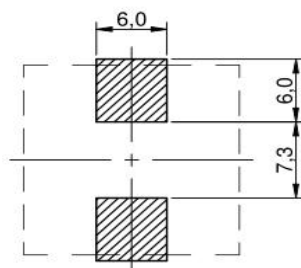
**7.APPLICATION**

- (1)Low profile,high current power supplies.
- (2)Battery powered devices.
- (3)DC/DC converters in distributed power systems.
- (4)DC/DC converters for field programmable gate array.

**8.FEATURES**

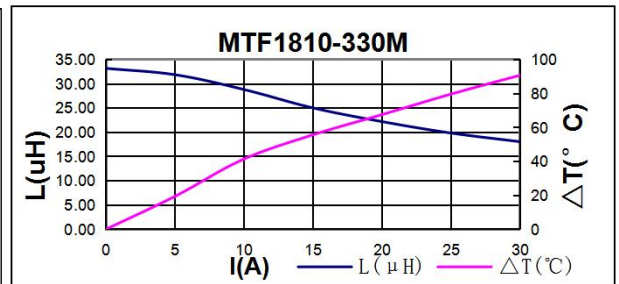
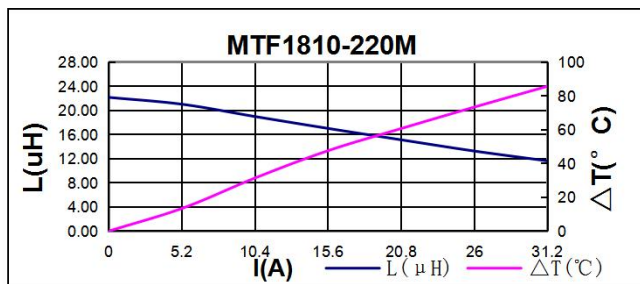
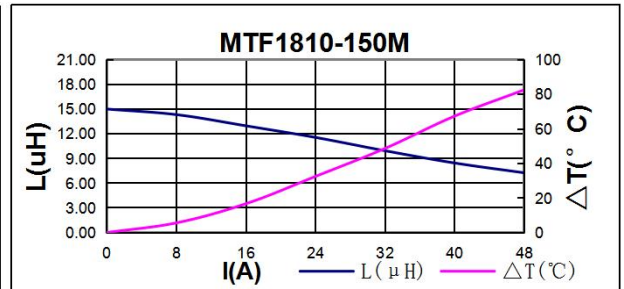
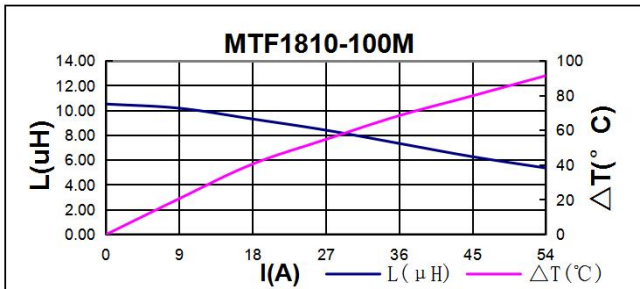
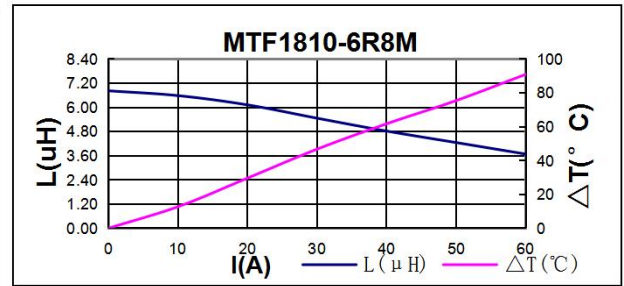
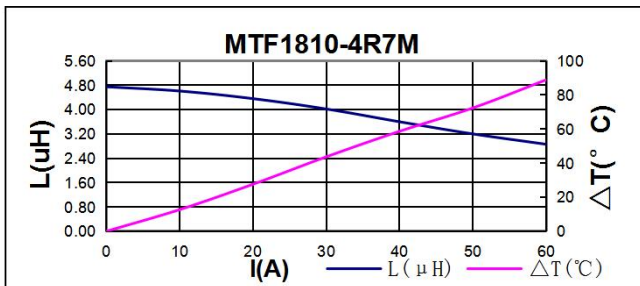
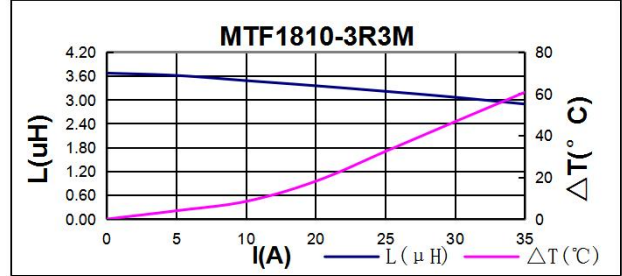
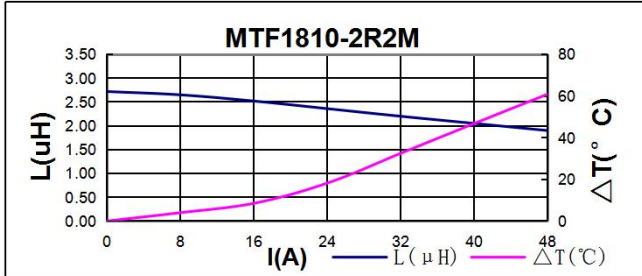
- (1)Assemblage design, sturdy structure.
- (2)High inductance, high current, low magnetic loss,low ESR, small parasitic capacitance.
- (3)Flat wire winding, achieve a low D.C. Resistance.
- (4)Temperature rise current and saturation current is less influenced by environment.

**9.RECOMMENDED PCB LAYOUT**



|          |  |           |           |          |            |
|----------|--|-----------|-----------|----------|------------|
| CUSTOMER |  | MODEL NO. | MTF1810系列 | REVISION | A/0        |
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10.Saturation current VS temperature rise current curve



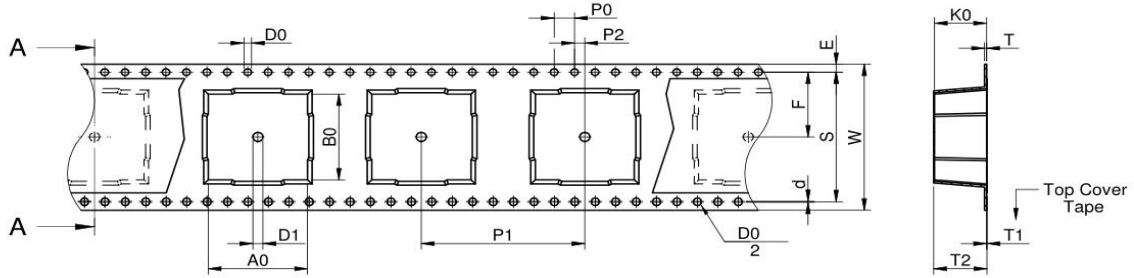
| CUSTOMER                             |   | MODEL NO. | MTF1810系列  | REVISION | A/0        |
|--------------------------------------|---|-----------|--|----------|------------|
| FILE NO.                             |   | PART NO.  |  | DATE     | 2022.08.22 |
| <b>11.可靠性Reliability</b>             |   |           |  |          |            |
| 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℃持续90s<br>Preheating: 160±10℃ for 90 seconds<br>(2) 恒温时段: 245±5℃持续2±0.5s<br>Retention time: 245±5℃ 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>(-55±2℃,30±3分钟) 室温5分钟<br>(-55±2℃,30±3 minutes)<br>Room temperature,5 minutes<br>(+125±2℃,30±3分钟) 室温5分钟<br>(+125±2℃,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℃<br>Environment condition : 85±2℃<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℃<br>Environment condition : 60±2℃<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<br>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>-55±2℃下存放 1000+4/-0 小时<br>-55±2℃for total 1000+4/-0 hours   |          |            |
| 高温存放测试<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)存储温度 Store temperature<br>+125±2℃下存放 1000+4/-0 小时<br>+125±2℃for total 1000+4/-0 hours   |          |            |

|          |  |           |           |          |            |
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11、包装 Packaging

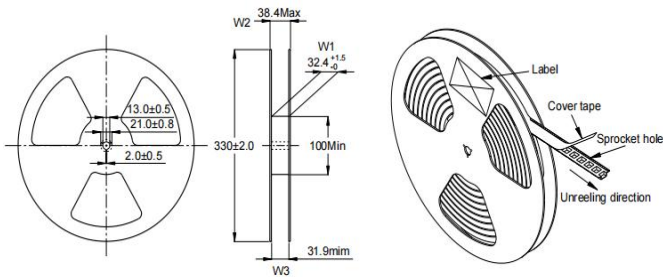
11.1、尺寸 Dimensions

11.1.1 包装料带尺寸 Tape packaging dimensions



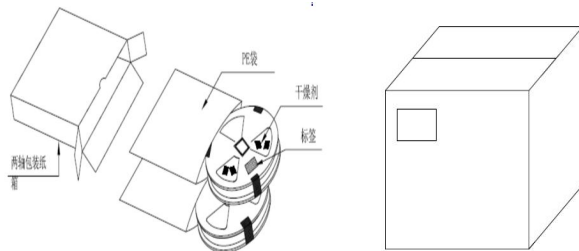
| W              | A0             | B0             | K0            | P             | F             | E             | D0            | P0           | T             |
|----------------|----------------|----------------|---------------|---------------|---------------|---------------|---------------|--------------|---------------|
| 32.00<br>±0.30 | 19.40<br>±0.10 | 18.80<br>±0.10 | 9.50<br>±0.10 | 0.20<br>±0.05 | 14.2<br>±0.10 | 1.75<br>±0.10 | 1.50<br>±0.10 | 4.00<br>±0.1 | 0.50<br>±0.05 |

11.1.2 卷轴尺寸 Reel dimensions



| 项目 | 尺寸(mm)      |
|----|-------------|
| A  | 330.0 ± 0.5 |
| B  | 100.0 ± 0.5 |
| C  | 38.4MAX     |
| G  | 100MAX      |

11.1.3 外箱尺寸 Carton dimensions



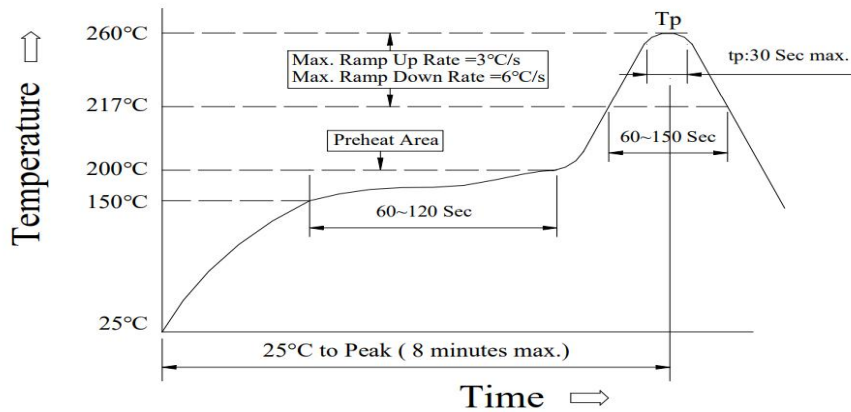
| 项目  | 数量(PCS) |
|-----|---------|
| 1卷轴 | 250     |
| 1内箱 | 250     |
| 1外箱 | 750     |

|          |  |           |           |          |            |
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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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