



# 产品承认书

## SPECIFICATION FOR APPROVAL

客户名称:

CUSTOMER

我司料号:

OUR PART NO.

XRFWHP1510A-5R6M

我司品名:

OUR PART NAME

Molding Power Inductors

送样日期:

DATE SAMPLES

数量:

QUANTITY

### 制造确认 MANUFACTURER APPROVE

| 拟制 DRAWN   | 审核 CHECKED | 确认 APPROVED |
|------------|------------|-------------|
| HuFangting | RaoPin     | Zhongcuilan |

### 客户确认 CUSTOMER APPROVE

客户名称 CUSTOMER NAME:

客户料号 CUSTOMER P/N:

规格型号 DESCRIPTION:

XRFWHP1510A 5.6uH  $\pm 20\%$  38A

检查结果: ☐ 合格 ☐ 不合格

签名及盖章:

INSPECT RESULT ACCEPT REJECT

SIGNATURE AND STAMP

说明 REMARK:

如对本承认书内容有异议请提出或标记发送至我司, 本承认书在未收到异议回复时于本承认书提供一周后生效。

If you have any objection to the contents of this acknowledgement, please put forward or mark it and send it to our company. This acknowledgement will take effect one week after it is provided if you do not receive an objection reply.

东莞市祥如电子有限公司

Dongguan xiangru electronics co., ltd

Tel: 0769-86346548 Fax: 0769-86346358

Email: dgxiangru@126.com



|                        |                  |                       |                               |
|------------------------|------------------|-----------------------|-------------------------------|
| 客户名称<br>CUSTOMER       |                  | 日期<br>DATE            | 2025/9/10                     |
| 客户物料编号<br>CUSTOMER P/N |                  | 客户规格型号<br>DESCRIPTION | XRFWHP1510A 5.6uH ±20%<br>38A |
| 我司物料编号<br>OUR PART NO  | XRFWHP1510A-5R6M | 我司品名<br>OUR PART NAME | Molding Power Inductors       |

## 修订记录 Revision record

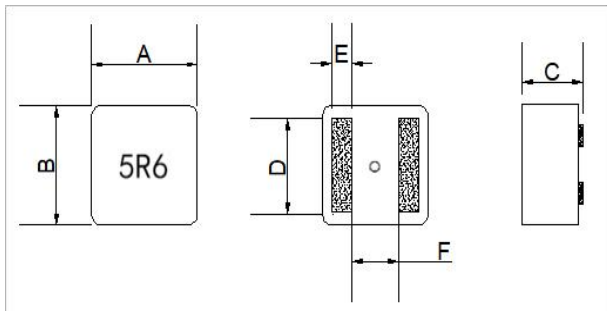
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外观尺寸 Appearance of size

单位 Unit: mm



|                  |          |   |          |   |         |  |  |
|------------------|----------|---|----------|---|---------|--|--|
| A                | 15.5±0.3 | C | 9.8±0.3  | E | 3.2±0.3 |  |  |
| B                | 16.5±0.3 | D | 13.2±0.5 | F | 7.4 TYP |  |  |
| 标识Identification |          |   |          |   |         |  |  |

ELECTRICAL CHARACTERISTIC:

| Part No.         | L0(uH) ±20% | DCR (mΩ)<br>MAX | Lsat (A) |     | Irms (A) Typ |             |
|------------------|-------------|-----------------|----------|-----|--------------|-------------|
|                  |             |                 | Max      | Typ | 20℃<br>rise  | 40℃<br>rise |
| XRFWHP1510A-5R6M | 5.6         | 4.2             | 34       | 38  | 21           | 28          |
|                  |             |                 |          |     |              |             |

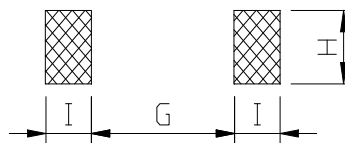
Operating Temperature Range: -55℃ ~+125℃

SCHEMATIC DRAWING :



Equivaient Circuit

PCB PATTERN :



G : 6.0 m/m (REF)  
H : 15.0 m/m (REF)  
I : 4.5 m/m (REF)

MATERIAL LIST:

| NO | ITEM    | MATERIAL | SUPPLIER OF THE MATERIAL |
|----|---------|----------|--------------------------|
| 1  | CORE    |          |                          |
| 2  | BLAK    |          |                          |
| 3  | COPPER  |          |                          |
| 4  | COATING |          |                          |
| 5  | MARKING |          |                          |



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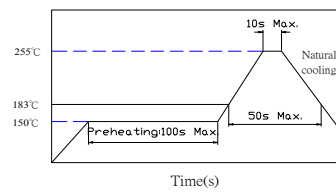
|                        |                  |                       |                            |
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TEST DATA

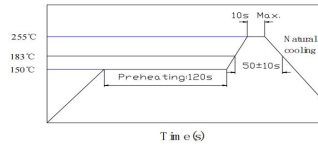
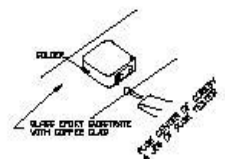
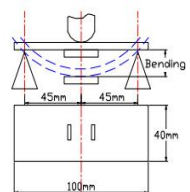
| ELECTRICAL CHARACTERISTICS |             |            |         |          |          |         |          |         |        |
|----------------------------|-------------|------------|---------|----------|----------|---------|----------|---------|--------|
| MEAS. ITEM                 | L ( μ H)    | DCR (m Ω ) | Isat(A) | A        | B        | C       | D        | E       | F      |
| TEST FREQ.                 | 100KHZ/1.0V | Max        | Typ.    | m/m      | m/m      | m/m     | m/m      | m/m     | m/m    |
| YOUR                       |             |            |         |          |          |         |          |         |        |
| SPEC.                      | 5.6±20%     | 4.2        | 38A≈70% | 15.5±0.3 | 16.5±0.3 | 9.8±0.3 | 13.2±0.5 | 3.2±0.2 | 7.4TYP |
| 1                          | 4.96        | 3.89       | 70.60%  | 15.42    | 16.4     | 9.68    | 13.47    | 3.36    | 7.25   |
| 2                          | 4.56        | 3.64       | 71.50%  | 15.42    | 16.41    | 9.69    | 13.48    | 3.35    | 7.3    |
| 3                          | 4.55        | 3.59       | 72.90%  | 15.47    | 16.42    | 9.72    | 13.45    | 3.34    | 7.28   |
| 4                          | 4.87        | 3.97       | 71.80%  | 15.42    | 16.41    | 9.7     | 13.47    | 3.36    | 7.32   |
| 5                          | 4.36        | 3.29       | 70.80%  | 15.43    | 16.4     | 9.68    | 13.48    | 3.37    | 7.33   |
| 6                          | 5.12        | 3.87       | 71.90%  | 15.45    | 16.42    | 9.73    | 13.46    | 3.38    | 7.32   |
| 7                          | 5.79        | 4.02       | 70.80%  | 15.43    | 16.41    | 9.72    | 13.48    | 3.37    | 7.29   |
| 8                          | 5.22        | 4.03       | 72.50%  | 15.41    | 16.42    | 9.68    | 13.49    | 3.35    | 7.28   |
| 9                          | 5.34        | 3.99       | 70.50%  | 15.42    | 16.43    | 9.71    | 13.48    | 3.36    | 7.33   |
| 10                         | 5.16        | 3.82       | 71.90%  | 15.43    | 16.41    | 9.73    | 13.45    | 3.34    | 7.27   |
|                            |             |            |         |          |          |         |          |         |        |
|                            |             |            |         |          |          |         |          |         |        |
|                            |             |            |         |          |          |         |          |         |        |
|                            |             |            |         |          |          |         |          |         |        |
|                            |             |            |         |          |          |         |          |         |        |
|                            |             |            |         |          |          |         |          |         |        |
| X                          | 5.26        | 3.812      | 72.09%  | 15.43    | 16.413   | 9.704   | 13.471   | 3.358   | 7.297  |
| R                          | 0.641       | 0.316      | 1.56%   | 0.06     | 0.03     | 0.05    | 0.04     | 0.04    | 0.08   |

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| 客户物料编号<br>CUSTOMER P/N         |                                                                                                                               | 客户规格型号<br>DESCRIPTION                                                                                                                                                         | XRFWHP1510A 5.6uH ±20% 38A |
| 我司物料编号<br>OUR PART NO          | XRFWHP1510A-5R6M                                                                                                              | 我司品名<br>OUR PART NAME                                                                                                                                                         | Molding Power Inductors    |
| TEST ITEMS                     | SPECIFICATIONS                                                                                                                | TEST CONDITIONS / TEST METHODS                                                                                                                                                |                            |
| ELECTRICAL PERFORMANCE TEST    |                                                                                                                               |                                                                                                                                                                               |                            |
| L                              | REFER TO STANDARD ELEC-TRICAL CHARACTERISTIC LIST.                                                                            | MICROTEST6377                                                                                                                                                                 |                            |
| DCR                            |                                                                                                                               | TH2511                                                                                                                                                                        |                            |
| RATED CURRENT                  |                                                                                                                               | APPLIED THE CURRENT TO COILS THE IDUCTANCE CHANGE SHOULD BE LESS THAN 30% TO INITIAL VALUE AND TEMPERATURE RISE SHOULD NOT BE 40℃ TYPICAL                                     |                            |
| TEMPERATURERISE TEST           | 40℃ MAX (Δt)                                                                                                                  | 1. APPLIED THE ALLOWED DC CURRENT FOR 4 HOURS.<br>2. TEMPERATURE MEASURE BY DIGITAL SURFACE THERMOMETER.                                                                      |                            |
| OVER LOAD TEST                 | NO EVIDENCE OF ELECTRICALDAMAGE                                                                                               | APPLIED 1.5 TIMES OF RATED ALLOWED DC CURRENT TO INDUCTORS FOR A PERIOD OF 5 MINUTES.                                                                                         |                            |
| MECHANICAL PERFORMANCE TEST    |                                                                                                                               |                                                                                                                                                                               |                            |
| SOLDER HEAT RESISTANCE         | 1. INDUCTORS SHOULD HAVE NO EVIDENCE OF ELEC- TRICAL AND MICHANICAL DAMAGE<br><br>2.INDUCTANCE SHOULD NOT HANGE MORE THAN±10% | PREHEAT:150℃ 100s Max.<br><br>SOLDER TEMPERATURE:<br>255±5℃<br><br>DIP TIME:10s Max.<br> |                            |
| VIBRATION TEST (LOW FREQUENCY) |                                                                                                                               | 1.AMPLITUDE: 1.5 mm<br>2.FREQUENCY: 10-55-10HZ / 1 MIN<br>3.DIRECTION: X, Y, Z<br>4.DURATION: 2 HRS/X, Y, Z                                                                   |                            |
| SHOCK TEST                     |                                                                                                                               | INDUCTORS SHOULD BE DROPPED 10 TIMES FROM AHEIGHT OF 1m ONTO 3cm WOODEN BOARD.                                                                                                |                            |
|                                |                                                                                                                               |                                                                                                                                                                               |                            |

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|                                     |                                                                                   |                                                                                                                                                                                                                                                               |                                                                                       |
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| TEST ITEMS                          | SPECIFICATIONS                                                                    | TEST CONDITIONS / TEST METHODS                                                                                                                                                                                                                                |                                                                                       |
| MECHANICAL PERFORMANCE TEST         |                                                                                   |                                                                                                                                                                                                                                                               |                                                                                       |
| SOLDERABILITY TEST                  | MORE THAN 90% OF TERMINAL ELECTRODE SHOULD BE COVERED WITH SOLDER.                | PREHEAT:150℃ 120x<br>SOLDER BATH AT 255±5℃<br>DIP TIME:10s Max.                                                                                                                                                                                               |    |
| COMPONENT ADHESION<br>( PUSH TEST ) | 1.5Kg Min                                                                         | THE DEVICE SHOULD BE REFLOW SOLDERED ( 255±5℃ FOR 10 SECONDS ) TO A TINNED COPPER SUBSTRATE. A DYNOMETER FORCE GAUGE SHOULD BE APPLIED TO THE SIDE OF THE COMPONENT. THE DEVICE MUST WITH- STAND A MINIMUM FORCE OF 1.5Kg WITHOUT AILURE OF THE TERMINATION . |    |
| COMPONENT ADHESION<br>( PULL TEST ) | 1.5Kg Min                                                                         | 1.INSERT 10cm WIRE INTO THE REMAINING OPEN EYE BEND THE ENDS OF EVEN WIRE LENGTHS UPWARD AND WIND TOGETHER<br>2. TERMINAL SHALL NOT BEREMARKABLY DAMAGED                                                                                                      |  |
| FLEXTURE STRENGTH                   | THE FORCES APPLIED SHOULD NOT DAMAGE THE DIELECTRIC.                              | SOLDER A CHIP ON A TEST SUBSTRATE, BEND THE SUBSTRATE BY 2mm AND RETURN.                                                                                                                                                                                      |  |
| RESISTANCE TO SOLVENT TEST          | THERE SHOULD BE NO CASEDEFORMATION, CHANGE IN APPEARANCE OR BITERATION OF MARKING | INDUCTERS SHALL WITHSTAND 6 MINTES OF ALCOHOL                                                                                                                                                                                                                 |                                                                                       |
|                                     |                                                                                   |                                                                                                                                                                                                                                                               |                                                                                       |

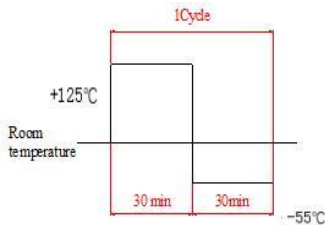


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|            |                |                                |
|------------|----------------|--------------------------------|
| TEST ITEMS | SPECIFICATIONS | TEST CONDITIONS / TEST METHODS |
|------------|----------------|--------------------------------|

CLIMATIC TEST

|                               |                                                                            |                                                                                                                                                                   |
|-------------------------------|----------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TEMPERATURE<br>CHARACTERISTIC | 1.APPEARANCE:NO DAMAGE<br><br>2.INDUCTANCE:WITHIN±10% OF<br>INITIAL VALUE. | (-55℃ ~ +125℃)                                                                                                                                                    |
| HUMIDITY TEST                 |                                                                            | 60℃±2℃ / 96±2 HOURS<br>R.H:90-95%RH                                                                                                                               |
| LOW TEMPERATURE<br>STORAGE    |                                                                            | 1.TEMPERATURE:-55℃±2℃<br>2.TIME: 96±2 HOURS                                                                                                                       |
| THERMAL SHOCK<br>TEST         |                                                                            | 1.-55±5℃ FOR 30 MINUTES.<br>+125±5℃ FOR 30 MINUTES.<br>2.TOTAL: 10 CYCLES<br> |
| HIGH TEMPERATURE<br>STORAGE   |                                                                            | 1.APPLIED CURRENT: MAX RATED CURRENT<br>2.TEMPERATURE:120℃±2℃                                                                                                     |

NOTE: INDUCTORS ARE TO BE TESTED AFTER 2 HOUR AT ROOM TEMPERATURE.

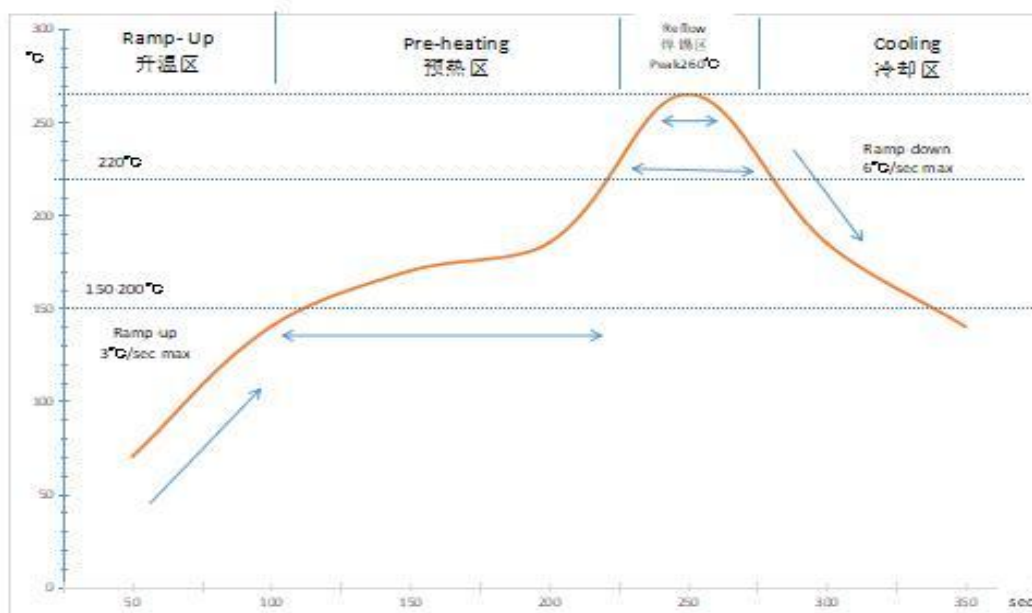
LIFE TEST

|                                    |                                                                |                                                                                                 |
|------------------------------------|----------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| HIGH TEMPERATURE<br>LOAD LIFE TEST | INDUCTORS SHOULD BE NO<br>EVIDENCE<br>OF SHORT OR OPEN CIRCUIT | 1. TEMPERATURE: 125±2℃<br>2. TIME: 500±12 HOURS<br>3. LOAD: ALLOWED DC CURREN                   |
| HUMIDITY LOAD LIFE<br>TEST         |                                                                | 1. TEMPERATURE: 60±2℃<br>2. R.H.: 90-95%<br>3. TIME: 500±12 HOURS<br>4. LOAD: ALLOWED DC CURREN |

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REFLOW PROFILE



Lead-Free(LF)标准温度分析范围

| 项目<br>Item         | 升温区<br>Ramp-up | 预热区<br>Pre-heating | 焊接区<br>Reflow | PeakTemp  | 冷却区<br>Cooling |
|--------------------|----------------|--------------------|---------------|-----------|----------------|
| 温度范围<br>Temp Scope | R.T. -150°C    | 150-200°C          | 220°C         | 260±5°C   | 6°C/sec Max    |
| 标准时间<br>Time spec  | -              | 60-180 sec         | 60-150 sec    | 20-40 sec | -              |

Note:

1. Re-flow possible times: within 2 time
2. Nitrogen adopted is recommended while in re-flow

### Iron Soldering Profile

Iron soldering power: Max. 30W

Pre-heating: 150°C/60sec

Soldering time: 3sec. Max. Solder paste: Sn/3.0Ag/0.5Cu

Max. 1 times for iron soldering

