

### 》 特征 Features

|                                    |   |
|------------------------------------|---|
| 阻值范围 Resistance value              | 0.5~56mΩ  |
| 精度 Tolerance                       | ±0.5%、±1%、±2%                                   |
| 功率 Power                           | 2W、3W   |
| 温度系数 Temperature coefficient       | ±50ppm/°C、±100ppm/°C<br>、±150ppm/°C             |
| 合金材质 Alloy material                | M:Manganin、F:FeCrAl                             |
| 工作温度范围 Operating temperature range | -55°C~170°C                                     |
| 低电感 Low inductance                 | Manganin: < 5nH (1MHz)、<br>FeCrAl: < 20nH(1MHz) |
| 绝缘阻抗 Insulation resistance         | ≥220MΩ (DC 500V 1min )                          |
| 耐压值 Withstand voltage              | 500V  |
| 符合RoHS要求                           | RoHS compliant                                  |



### 》 应用范围 Applications

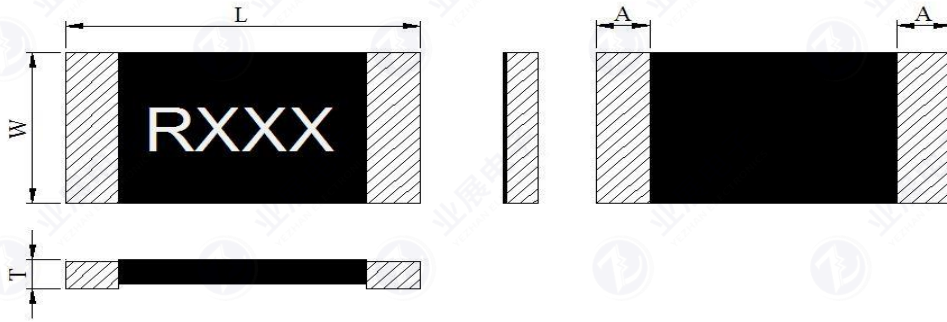
|                  |   |
|------------------|---|
| 电流采样             | Current sensing   |
| 过流保护             | Over current protection                                     |
| 伺服电机控制电路         | Servo motor control circuits                                |
| 智能功率模块           | Intelligent power modules                                   |
| 工业电脑模块及精密测量系统    | Industrial PC modules and<br>precision measurement system   |
| 高速CPU外围设备中电流检测电路 | Current detection circuits<br>in high-speed CPU peripherals |

### 》 订购信息 Ordering Information

|            |            |                 |                     |                              |
|------------|------------|-----------------|---------------------|------------------------------|
| ZLR        | 12         | -3              | -5                  | F                            |
| 类型<br>Type | 尺寸<br>Size | 功率<br>Power     | 阻值<br>Resistance    | 精度<br>Tolerance              |
| ZLR        | 12:2512    | Unit: W<br>3:3W | Unit: mΩ<br>5: 5 mΩ | G: ±2%<br>F: ±1%<br>D: ±0.5% |

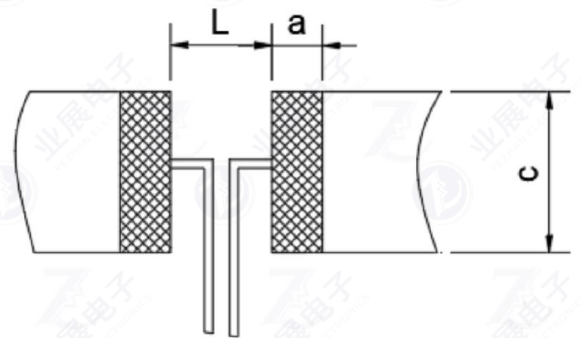
### 产品尺寸 Products Dimensions

| Type        | Power/W | Resistance/mΩ | Material | L/mm    | W/mm    | T/mm     | A/mm     |
|-------------|---------|---------------|----------|---------|---------|----------|----------|
| ZLR<br>2512 | 3       | 0.5/0.75      | M        | 6.4±0.3 | 3.2±0.3 | 1.05±0.2 | 1.9±0.25 |
|             |         | 1~3           | M        | 6.4±0.3 | 3.2±0.3 | 1.1±0.2  | 0.8±0.25 |
|             |         | 4             | F        |         |         |          |          |
|             |         | 5~56          | F        | 6.4±0.3 | 3.2±0.3 | 0.9±0.2  | 0.8±0.25 |
|             | 2       | 0.5/0.75      | M        | 6.4±0.3 | 3.2±0.3 | 1.05±0.2 | 1.9±0.25 |
|             |         | 1.5/1         | M        | 6.4±0.3 | 3.2±0.3 | 0.9±0.2  | 1.9±0.25 |
|             |         | 2~4           | M        | 6.4±0.3 | 3.2±0.3 | 0.9±0.2  | 0.8±0.25 |
| 5~56        | F       |               |          |         |         |          |          |



### 推荐焊接尺寸 Recommend Solder Pad Dimensions

| Resistance/mΩ | Power/W | L/mm | c/mm | a/mm |
|---------------|---------|------|------|------|
| 0.5/0.75      | 3       | 1.50 | 3.57 | 2.95 |
| 1~3           |         | 3.18 | 3.57 | 2.11 |
| 4             |         |      |      |      |
| 5~56          |         |      |      |      |
| 1.5/1         | 2       | 1.50 | 3.57 | 2.95 |
| 0.5/0.75      |         | 3.18 | 3.57 | 2.11 |
| 2~4           |         |      |      |      |
| 5~56          |         |      |      |      |



### 标准电气规范 Standard Electrical Specifications

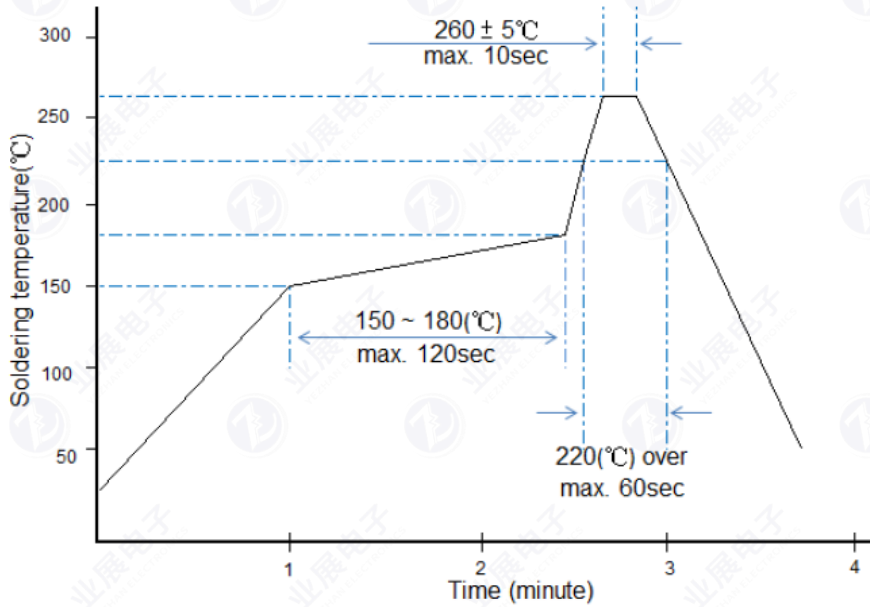
| Type     | Power (W) | Material | Resistance (mΩ) | TCR (ppm/°C) | Resistance Tolerance (%) |
|----------|-----------|----------|-----------------|--------------|--------------------------|
| ZLR 2512 | 3         | M        | 0.5/0.75        | ±150         | ±1%                      |
|          |           | M        | 1               | ±100         | ±1%、±0.5%                |
|          |           | M        | 2~3             | ±50          | ±1%、±0.5%                |
|          |           | F        | 4               | ±50          | ±1%、±0.5%                |
|          | 2         | F        | 5~50            | ±50          | ±1%、±0.5%                |
|          |           | M        | 0.5/0.75        | ±150         | ±1%                      |
|          |           | M        | 1/1.5           | ±100         | ±1%、±0.5%                |
|          |           | M        | 2~4             | ±50          | ±1%、±0.5%                |
|          |           | F        | 5~50            | ±50          | ±1%、±0.5%                |

TCR (ppm/°C) : Test conditions at 20°C~120°C.

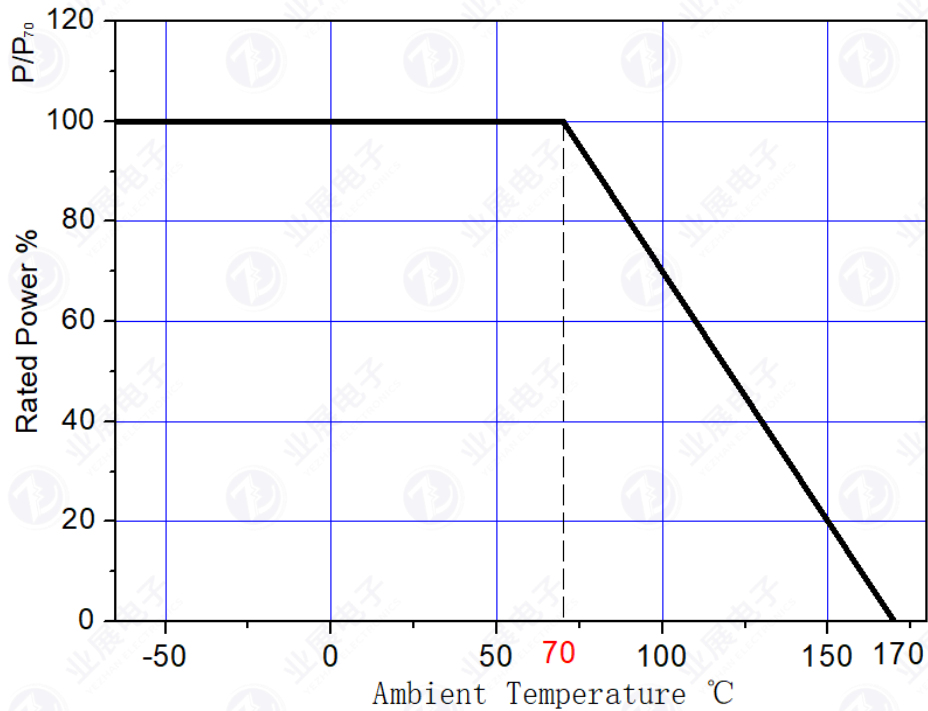
### 工作特性 Performance Characteristics

| Items                        | Additional Requirements  | Reference                 | Limits                     |
|------------------------------|--|---------------------------|----------------------------|
| Temperature Cycling          | 1000 Cycles(-55°C to +125°C)<br>Measurement at 24±2hours after test conclusion   | JESD22<br>Method JA-104   | ±1%                        |
| High Temperature Exposure    | 1000hrs.@T=125°C.Unpowered.<br>Measurement at 24±2hours after test conclusion  | MIL-STD-202<br>Method 108 | ±1%                        |
| Moisture Resistance          | t=24hrs/cycle.Note:Steps 7a & 7b not required.<br>Unpowered.<br>Measurement at 24±2hours after test conclusion             | MIL-STD-202<br>Method 106 | ±1%                        |
| Biased Humidity              | 1000hrs 85°C/85%RH. Note:Specified conditions:10%<br>of operating power.<br>Measurement at 24±2hours after test conclusion | MIL-STD-202<br>Method 103 | ±1%                        |
| Operational Life             | Condition D Steady State TA=125°C at rated power.<br>Measurement at 24±2hours after test conclusion                        | MIL-STD-202<br>Method 108 | ±1%                        |
| Solderability                | 235°C±5°C,2s±0.5s  | J-STD-202                 | 95%<br>Coverage<br>Minimum |
| Resistance to Soldering Heat | 260°C±5°C, 10s±1s<br>Measurement at 24±2hours after test conclusion  | MIL-STD-202<br>Method 210 | ±1%                        |
| Short Time Overload          | 5×Rated power for 5 s<br>Measurement at 24±2hours after test conclusion  | MIL-STD-202<br>Method 201 | ±1%                        |

» 回流焊温度曲线 / Solder reflow Temperature condition



» 降功率曲线 Power Derating



# 低阻值合金电流采样贴片电阻-ZLR2512系列

## Low Resistance Metal Strip Chip Resistors-ZLR 2512series

### >> 印字标识 Marking

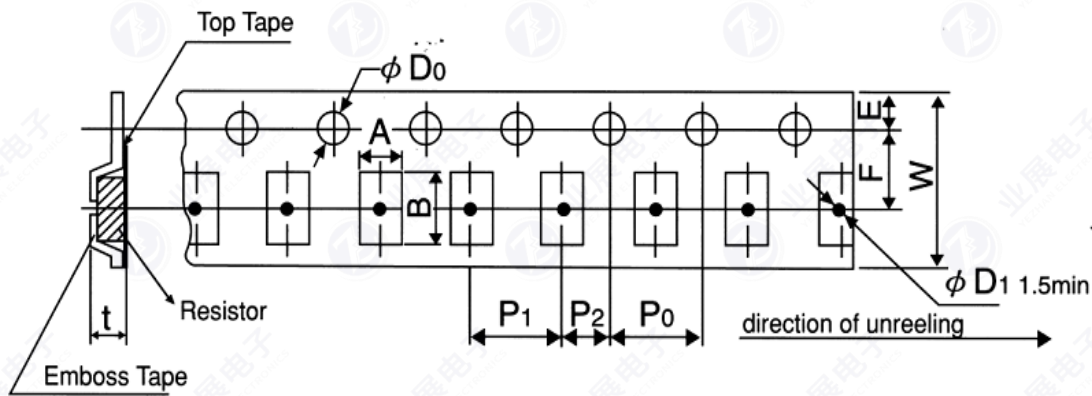
R015=15mΩ 1M50=1.5 mΩ

### >> 包装 Packaging

存储条件 Storage Conditions: Temperature:5°C~35°C, Humidity:40%~75%;

包装数量 Number of Package;

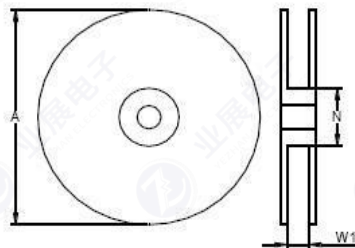
3000个/盘 3000 Pieces / Package.



Unit/mm

| Type     | Power /W | Resistance /mΩ | t±0.2 | A±0.2 | B±0.2 | W±0.3 | F±0.1 | E±0.1 | P <sub>1</sub> ±0.1 | P <sub>2</sub> ±0.1 | P <sub>0</sub> ±0.1 | D <sub>0</sub> ±0.1 |
|----------|----------|----------------|-------|-------|-------|-------|-------|-------|---------------------|---------------------|---------------------|---------------------|
| ZLR 2512 | 2        | 0.5/0.75       | 1.3   | 3.4   | 6.75  | 12    | 5.5   | 1.75  | 4.0                 | 2.0                 | 4.0                 | 1.55                |
|          | 3        | 0.5/0.75       |       |       |       |       |       |       |                     |                     |                     |                     |
|          |          | 1~4            |       |       |       |       |       |       |                     |                     |                     |                     |
|          | 2        | 1~56           | 1.0   |       |       |       |       |       |                     |                     |                     |                     |
| 3        | 5~56     |                |       |       |       |       |       |       |                     |                     |                     |                     |

### >> 料盘规格 Reel & Tape specifications



Unit/mm

| Type    | A±5 | N±2 | W1±1 |
|---------|-----|-----|------|
| ZLR2512 | 178 | 60  | 13   |

# 低阻值合金电流采样贴片电阻-ZLR2512系列

Low Resistance Metal Strip Chip Resistors-ZLR 2512series



业展电子  
YEZHAN ELECTRONICS

## 版本信息 Version History

| Version | Date        | Description of amendment                   | Remarks |
|---------|-------------|--|---------|
| A1.1    | 21-Jul-2022 | First issue                                |         |
| A1.2    | 09-Set-2022 | Add Reel & Tape specifications description |         |

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[RL7520WT-R002-F](#) [RL7520WT-R005-F](#) [KRL1632E-C-R200-F-T5](#) [KRL1632E-C-R200-F-T1](#) [Y14880R02000B9R](#) [RLP73M2AR075FTDF](#)

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[JW104X5X4](#)