

低阻值合金电流采样贴片电阻-YLRY系列

Low Resistance Metal Strip Chip Resistors-YLRY series



业展电子
YEZHAN ELECTRONICS

特征 Features

| | |
|------------------------------------|-------------------------|
| 阻值范围 Resistance value | 0~500mΩ |
| 精度 Tolerance | ±1%、±2%、±5% |
| 功率 Power | 0.5W、1W、2W、3W |
| 温度系数 Temperature coefficient | ±350ppm/°C、±50ppm/°C |
| 工作温度范围 Operating temperature range | -55°C~170°C |
| 低电感 Low inductance | Low inductance design |
| 绝缘阻抗 Insulation resistance | ≥100MΩ |
| 符合RoHS要求 | RoHS compliant |
| 符合ACE-Q200测试 | ACE-Q200 TEST COMPLIANT |



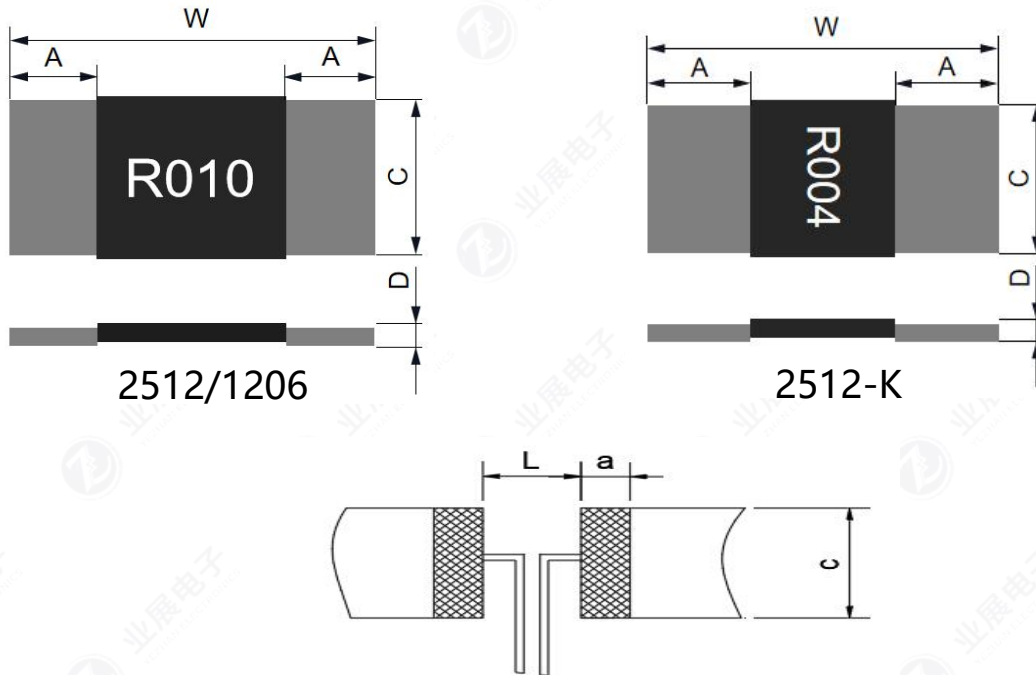
应用范围 Applications

| | |
|----------|------------------------------|
| 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 |
| 变频电源 | Inverter power |
| 电子控制系统 | Electric control system |
| 锂电池控制板 | Li-battery management system |

订购信息 Ordering Information

| YLRY | 12 | -3 | -10 | F | -K |
|------------|----------------------------------|--|--------------------------------|--------------------------------------|--|
| 类型 Type | 尺寸 Size | 功率 Power | 阻值 Resistance | 精度 Tolerance | 电极尺寸 Terminal Size |
| YLRY | 05: 0805 06: 1206 12: 2512 | Unit: W W2: 0.5W 1: 1W 2: 2W 3: 3W | Unit: mΩ 10: 10 mΩ 0:0mΩ | F: ±1% G: ±2% J: ±5% Z: 0mΩ | (Blank) : Standard Terminal K: Big Terminal |

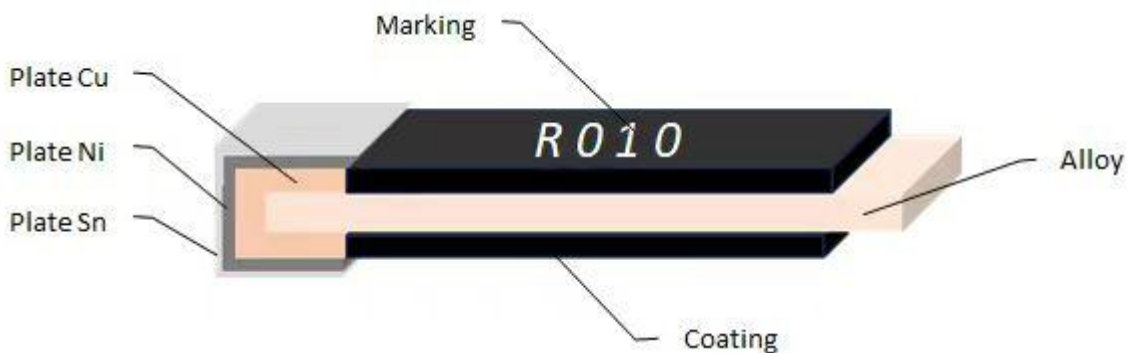
产品尺寸和推荐焊盘尺寸 Products & Recommend Pad Dimension



Unit: mm

| Type | Resistance | W±0.2 | C±0.2 | A±0.2 | D±0.2 | L | a | c |
|----------|------------|-------|-------|-------|-------|-----|-----|-----|
| YLRY05 | 0 & 5~15 | 2.0 | 1.25 | 0.35 | 0.5 | 1 | 1 | 1.5 |
| YLRY06 | 0~6 | 3.2 | 1.6 | 0.6 | 0.7 | 1.6 | 1.7 | 1.8 |
| | 6.5~100 | | | | 0.55 | | | |
| YLRY12 | 0.5~500 | 6.4 | 3.2 | 1.0 | 0.8 | 4.1 | 2.1 | 4 |
| YLRY12-K | 0~4 | 6.4 | 3.2 | 2.2 | 0.8 | 1.3 | 3.1 | 4 |

产品剖面图 Section



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标准电气规范 Standard Electrical Specifications

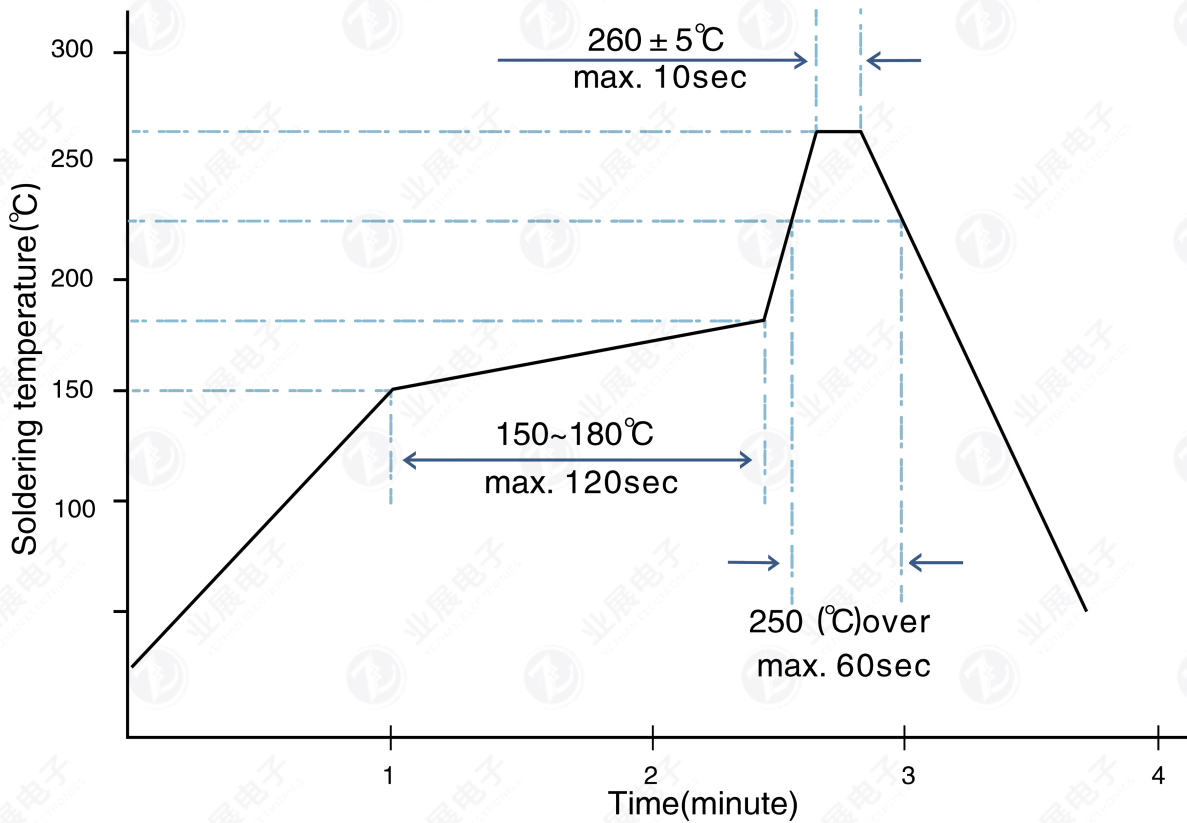
| 系列 Type | 功率 Rated Power(W) | 阻值 Resistance /mΩ | 温漂 TCR [®] (ppm/°C) | 精度 Resistance Tolerance (%) | 工作温度 Operating Temperature (°C) |
|------------|----------------------|-------------------------|------------------------------------|-----------------------------------|---------------------------------------|
| | P70°C | | | | |
| YLRY05 | 0.5 | 5~15 | ±50 | F: ±1% G: ±2% J: ±5% | -55°C~170°C |
| YLRY06 | 1 | 1~3.5 | ±350 | | |
| | | 4~100 | ±50 | | |
| YLRY12 | 2、3 | 0.5~1.5 | ±350 | | |
| | | 2~500 | ±50 | | |
| YLRY12-K | 2、3 | 0.5~0.9 | ±350 | | |
| | | 1~4 | ±50 | | |

| 跳线系列 Jumper | 功率 Rated Power(W) | 阻值 Resistance /mΩ | 最大额定电流 Max Rated Current (A) | 精度 Resistance Tolerance (%) | 工作温度 Operating Temperature (°C) |
|----------------|----------------------|-------------------------|------------------------------------|-----------------------------------|---------------------------------------|
| | P70°C | | | | |
| YLRY05 | 0.5 | ≤0.2mΩ | 35 | Z: 0mΩ Jumper | -55°C~170°C |
| YLRY06 | 1 | ≤0.2mΩ | 70 | | |
| YLRY12-K | 3 | ≤0.45mΩ | 80 | | |

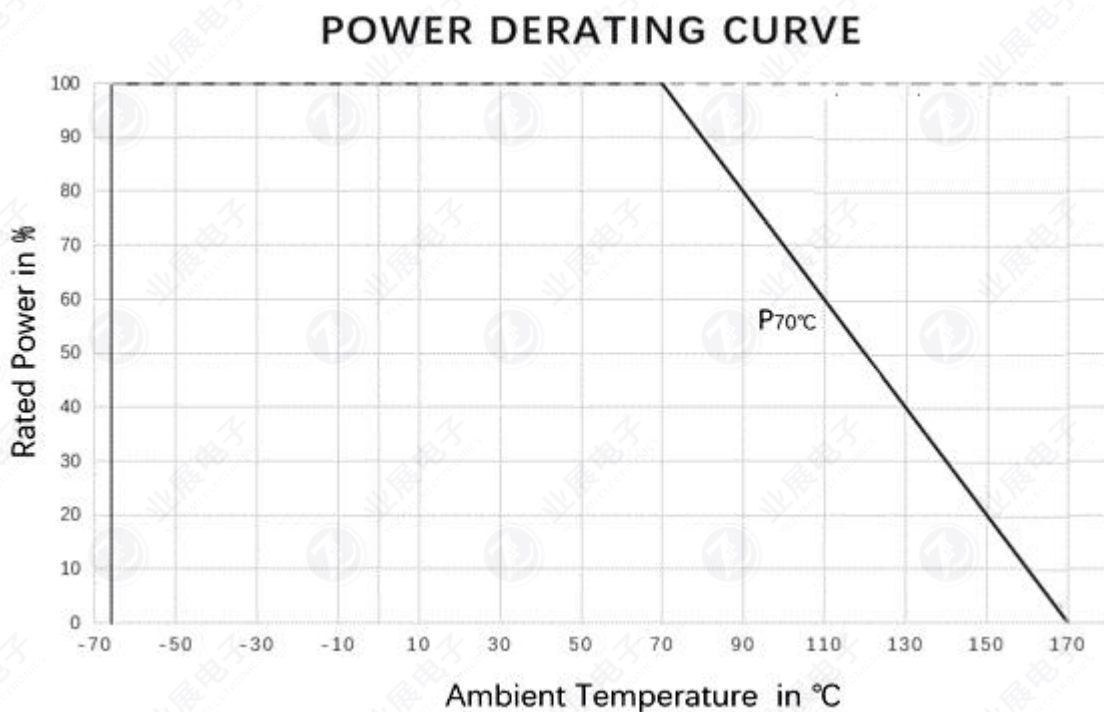
耐久性测试 Endurance Test

| Items | Additional Requirements | Reference | Limits |
|------------------------------|--|------------------------|----------------------|
| Temperature Cycling | 1000 Cycles (-55°C to +150°C) | JESD22 Method JA-104 | ±0.5% |
| ESD Test | 1) Direct Contact (DC): ±6kV; 2) Air Discharge (AD): ±12kV, ±16kV, ±25kV; | AEC-Q200 REV D June 1 | ±1.0% |
| High Temperature Exposure | 1000hrs.@T=170°C.Unpowered. | MIL-STD-202 Method 108 | ±1.0% |
| Moisture Resistance | t=24hrs/cycle. Note: Steps 7a & 7b not required. Unpowered. | MIL-STD-202 Method 106 | ±1.0% |
| Biased Humidity | 1000hrs 85°C/85%RH. Note: Specified conditions:10% of operating power. | MIL-STD-202 Method 103 | ±1.0% |
| Operational Life | Condition D Steady State TA=70°C at rated power. | MIL-STD-202 Method 108 | ±1.0% |
| Solderability | 245°C±5°C,2s±0.5s | J-STD-202 | 95% Coverage Minimum |
| Resistance to Soldering Heat | 260°C±5°C, 10s±1s | MIL-STD-202 Method 210 | ±0.5% |
| Short Time Overload | 5×Rated power for 5 s | MIL-STD-202 Method 201 | ±1.0% |
| Shock | 100g , 6ms , Orientation & Shock time: ±X, ±Y, ±Z; 3 times each orientation, total 18 times. | MIL-STD-202 Method 213 | ±1.0% |
| Vibration | 5 g's for 20 min, 12 cycles each of 3 orientations. Note: Use 8"X5" PCB .031" thick 7 secure points on one long side and 2 secure points at corners of opposite sides. Parts mounted within 2" from any secure point. Test from 10-2000 Hz. | MIL-STD-202Method204 | ±1.0% |

回流焊温度曲线 Solder Reflow Temperature Condition



降功率曲线 Power Derating Curve



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印字标识 Marking

白色字码: White Printed Marking

All the products marking are 3 or 4 digits. 'R' designates the decimal location in ohms

E.g., :

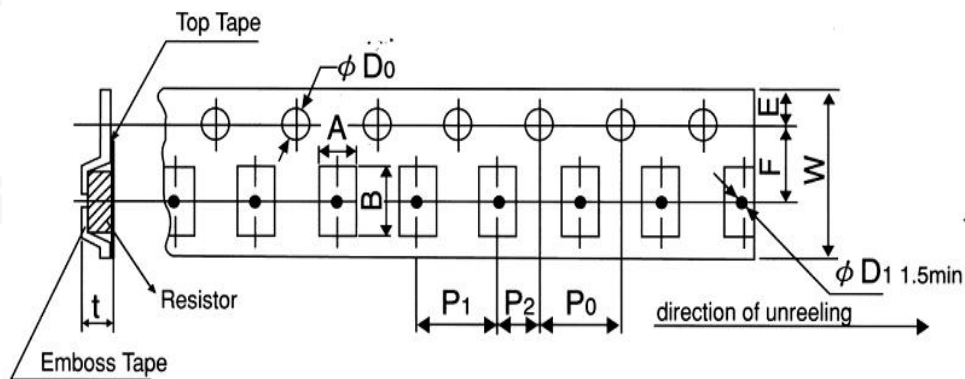
0= 0mΩ jumper; 5mΩ=R005; 50mΩ=R050

包装 Packing

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

存储周期: 1年; Storage life: 1 year;

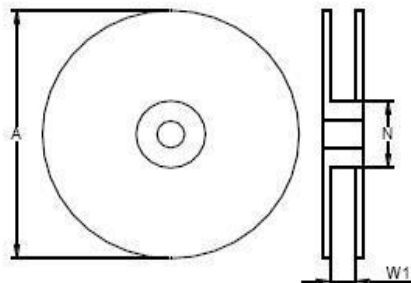
编带盘装: Embossed Plastic Tape



Unit/mm

| Type | A±0.15 | B±0.1 | W±0.2 | F±0.05 | E±0.1 | P ₁ ±0.1 | P ₂ ±0.05 | P ₀ ±0.05 | D ₀ ±0.1 | t±0.1 | Qty/reel |
|----------|--------|-------|-------|--------|-------|---------------------|----------------------|----------------------|---------------------|-------|----------|
| YLRY05 | 1.65 | 2.4 | 8.0 | 3.5 | 1.75 | 4.0 | 2.0 | 4.0 | Φ1.5 | 0.8 | 5000 |
| YLRY06 | 2.0 | 3.6 | 8.0 | 3.5 | 1.75 | 4.0 | 2.0 | 4.0 | Φ1.5 | 0.8 | 5000 |
| YLRY12 | 3.5 | 6.8 | 12.0 | 5.5 | 1.75 | 4.0 | 2.0 | 4.0 | Φ1.5 | 1.0 | 4000 |
| YLRY12-K | 3.5 | 6.8 | 12.0 | 5.5 | 1.75 | 4.0 | 2.0 | 4.0 | Φ1.5 | 1.0 | 4000 |

料盘规格 Reel & Tape Specifications



Unit/mm

| Type | A | N | W1 |
|----------|---------|--------|----------|
| YLRY05 | 178±2.0 | 60±1.0 | 9±0.3 |
| YLRY06 | 178±2.0 | 60±1.0 | 9±0.3 |
| YLRY12 | 178±2.0 | 60±1.0 | 13.3±0.5 |
| YLRY12-K | 178±2.0 | 60±1.0 | 13.3±0.5 |

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2024.05.24

受控文件

版本信息 Version History

| 版本 Version | 日期 Date | 修订描述 Description of amendment | 拟定 Draft | 审核 Checked |
|---------------|-------------|--|-------------|---------------|
| A1.0 | 05-Jun-2023 | 首版发行 | 罗国涛 | 胡紫阳 |
| A1.1 | 07-Oct-2023 | 增加0欧姆的规格 | 罗国涛 | 胡紫阳 |
| A1.2 | 18-JAN-2024 | 更新阻值区间和对应温漂参数, 增加0805封装产品 | 蒋林帆 | 胡紫阳 |
| A1.3 | 29-Apr-2024 | 增加存储周期说明 增加印字方式说明和产品剖面图 增加ACE-Q200测试符合说明 | 蒋林帆 | 胡紫阳 |

YZ-WP-EN-323

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[JW104X5X4](#)