

》 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、±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)、 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

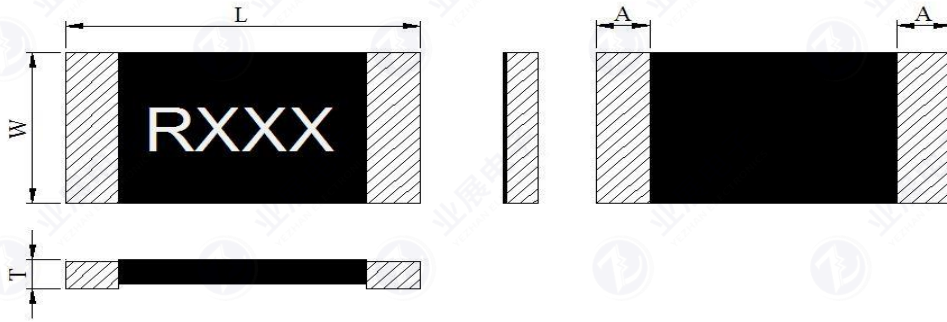
| | |
|------------------|--|
| 电流采样 | Current sensing |
| 过流保护 | Over current protection |
| 伺服电机控制电路 | Servo motor control circuits |
| 智能功率模块 | Intelligent power modules |
| 工业电脑模块及精密测量系统 | Industrial PC modules and precision measurement system |
| 高速CPU外围设备中电流检测电路 | Current detection circuits in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

》 订购信息 Ordering Information

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

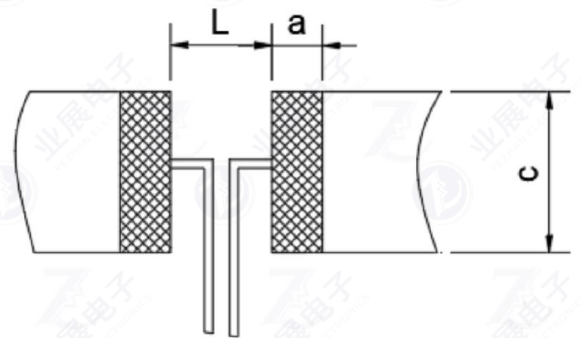
产品尺寸 Products Dimensions

| Type | Power/W | Resistance/mΩ | Material | L/mm | W/mm | T/mm | A/mm |
|-------------|---------|---------------|----------|---------|---------|----------|----------|
| ZLR 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

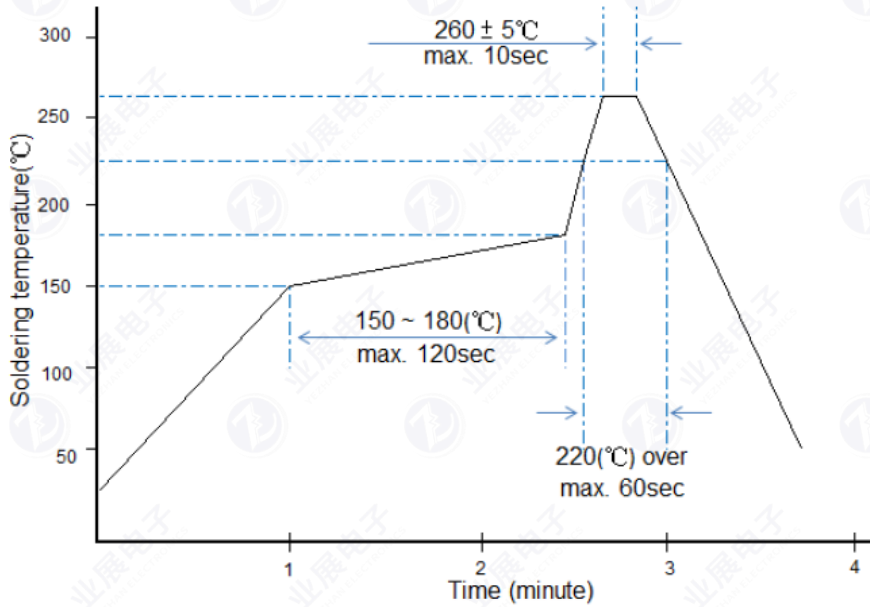
| Type | Power (W) | Material | Resistance (mΩ) | TCR (ppm/°C) | Resistance Tolerance (%) |
|----------|-----------|----------|-----------------|--------------|--------------------------|
| ZLR 2512 | 3 | M | 0.5/0.75 | ±150 | ±1% |
| | | M | 1 | ±100 | ±1%、±0.5% |
| | | M | 2~3 | ±50 | ±1%、±0.5% |
|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

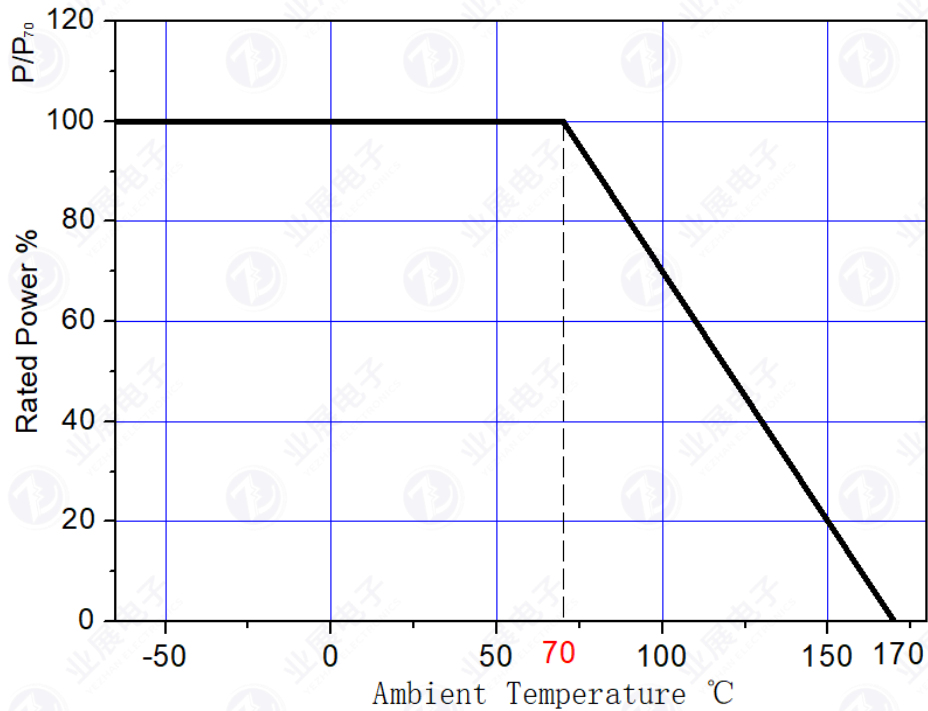
工作特性 Performance Characteristics

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

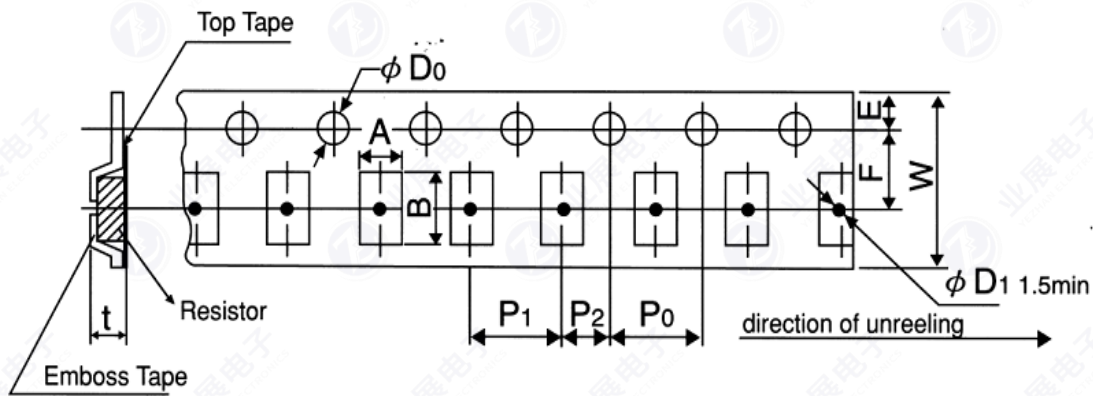
Low Resistance Metal Strip Chip Resistors-ZLR 2512series

>> 印字标识 Marking

R015=15mΩ 1M50=1.5 mΩ

>> 包装 Packaging

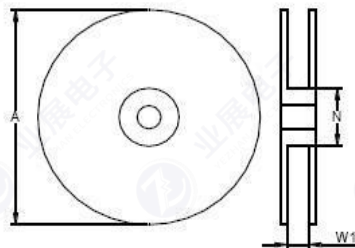
存储条件 Storage Conditions: Temperature:5°C~35°C, Humidity:40%~75%;
包装数量 Number of Package;
3000个/盘 3000 Pieces / Package.



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 ₁ ±0.1 | P ₂ ±0.1 | P ₀ ±0.1 | D ₀ ±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 | |