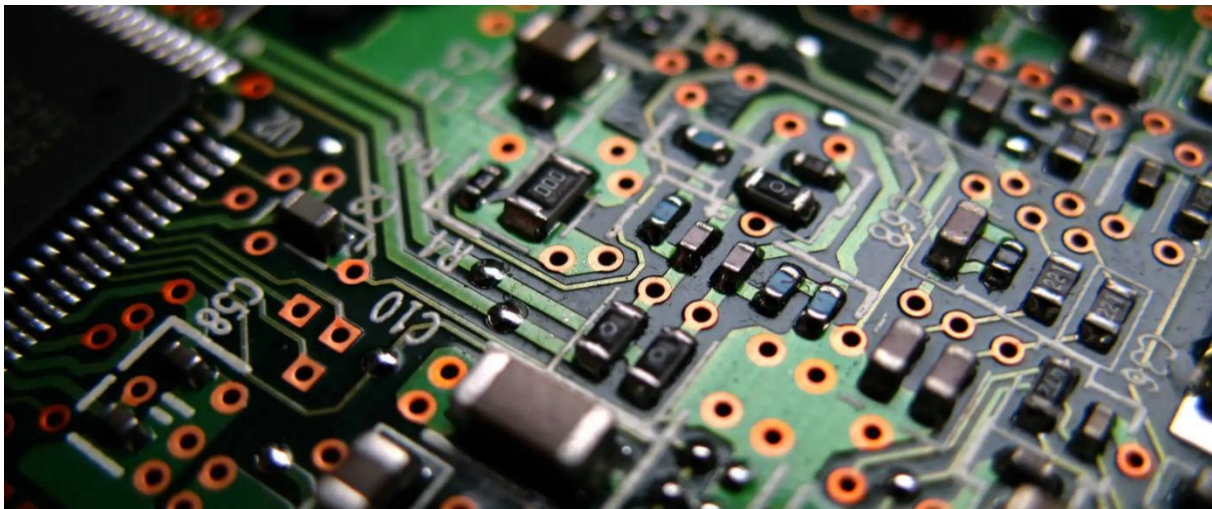


## 合金电阻规格书-2728

### Alloy resistance specification

#### 适用范围Scope

- 合金电阻2728系列 Metal Alloy Resistance 2728 Series.
- 符合ROHS 要求 Complies With ROHS Requirements
- 符合车规AEC-Q200 测试 Conforms To Vehicle-specific AEC-200 Tests



#### 型号规格Type Designation :

| 电阻尺寸<br>Product Type | 产品类型<br>Resistor Size | 功率<br>Power | 阻值精度<br>Resistance tolerance | 阻值范围<br>Resistance |
|----------------------|-----------------------|-------------|------------------------------|--------------------|
| 2728                 | LE(大电极)               | 4W          | F: 1%<br>J: 5%               | 4mΩ~50mΩ           |

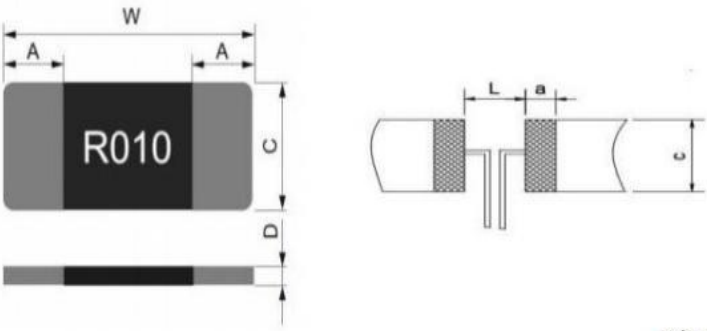
#### 编码原则Coding principle:

| 制造商/产品<br>manufacturer | 尺寸<br>size | 类型<br>type | 功率<br>power | 阻值<br>resistance      | 精度<br>accuracy | 包装数量<br>quantity |
|------------------------|------------|------------|-------------|-----------------------|----------------|------------------|
| YHR                    | 2728       | 大电极 LE     | 4W          | R001<br>R002<br>..... | 1%=F<br>5%=J   | 1 (1K)           |

示例/ Example: YHR2728LE4WR001F1

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## 结构尺寸Construction and Dimension :

| <br>Unit: mm |     |      |         |         |         |        |      |      |      |
|------------------------------------------------------------------------------------------------|-----|------|---------|---------|---------|--------|------|------|------|
| 型号                                                                                             | P/w | R/mΩ | W       | C       | A       | D      | L    | a    | c    |
| 2728                                                                                           | 4W  | 4~50 | 6.8±0.2 | 7.2±0.2 | 1.1±0.2 | 1±0.15 | 3.51 | 2.75 | 7.82 |

## 电气规格Electrical Specifications :

| 类型<br>type | 功率<br>power | 阻值范围<br>Resistance range | 温度系数<br>TCR | 工作温度范围<br>Operating<br>temperature<br>range | 阻值精度<br>Resistance<br>tolerance | 绝缘阻抗<br>Insulation<br>resistance | 材料<br>Material              |
|------------|-------------|--------------------------|-------------|---------------------------------------------|---------------------------------|----------------------------------|-----------------------------|
| 2725       | 4W          | 4mΩ~50mΩ                 | ±75         | -55℃ ~ +170℃                                | F: 1%<br>J: 5%                  | Over 100M<br>Ω                   | FeCrAl<br>Manganin<br>Karma |

① TCR (ppm/℃) : Test was conducted from 20℃ to 120℃ while 20℃ worked as the reference.

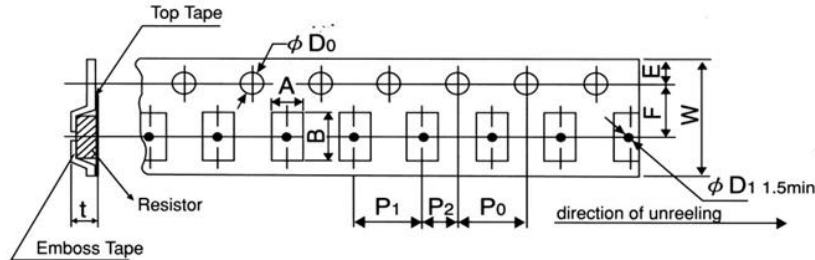
| 文件编码<br>Document No | 版本<br>REV | 日期<br>Date | 编写<br>Drawn | 审核<br>Checked | 批准<br>Approved |
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## 可靠性验证 Reliability Tests

| items                        | Additional Requirements                                                           | Reference                        | Limits                  |
|------------------------------|-----------------------------------------------------------------------------------|----------------------------------|-------------------------|
| Temperature of Resistance    | +20 ~ 120°C                                                                       | IEC60115-1 4.8                   | -                       |
| Temperature Cycling          | 1000 Cycles (-55°C to +155°C)                                                     | JESD22<br>Method JA-104          | ±1.0%                   |
| High Temperature Exposure    | 1000hrs.@T =170°C .Unpowered.                                                     | MIL-STD-202<br>Method 108        | ±1.0%                   |
| Biased Humidity              | 1000hrs 85°C/85%RH 。 Note:<br>Specified conditions:10% of<br>operating power.     | MIL-STD-202<br>Method 103        | ±1.0%                   |
| Operational Life             | Condition D Steady State TA =125<br>°C at rated power.                            | MIL-STD202<br>Method 108         | ±1.0%                   |
| Solderability                | 245°C ±, 3s                                                                       | J-STD-202                        | 95% Coverage<br>Minimum |
| Resistance to Soldering Heat | 260°C , 10s                                                                       | MIL-STD 202<br>Method 210        | ±0.5%                   |
| Short Time Overload          | 5 × Rated power for 5 s                                                           | MIL-STD-202<br>Method 201        | ±1.0%                   |
| Flammability                 | V-0 or V-1are acceptable,<br>Electrical test not required                         | AEC-Q200 REV D-<br>Test 20 UL-94 | V-0 or V1               |
| Resistance to Solvents       | Isopropyl alcohol (IPA), solvent<br>temperature: 23±5°C , duration: 5 ±0.5<br>min | JIS-C5201 -1<br>4.29             | No Visible<br>Damage    |

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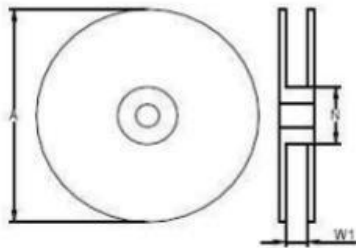
载带尺寸Tape Packing Dimensions:



| Type        | A<br>±0.1 | B<br>±0.1 | W<br>±0.1 | F<br>±0.1 | E<br>±0.1 | P <sub>1</sub><br>±0.1 | P <sub>2</sub><br>±0.1 | P <sub>0</sub><br>±0.1 | D <sub>0</sub><br>±0.1 | t±0.2 | Qty<br>reel |
|-------------|-----------|-----------|-----------|-----------|-----------|------------------------|------------------------|------------------------|------------------------|-------|-------------|
| YHR2<br>8-W | 7.2       | 7.7       | 16        | 5.5       | 1.75      | 8                      | 2.0                    | 4.0                    | Φ1.5                   | 1.2   | 1000        |

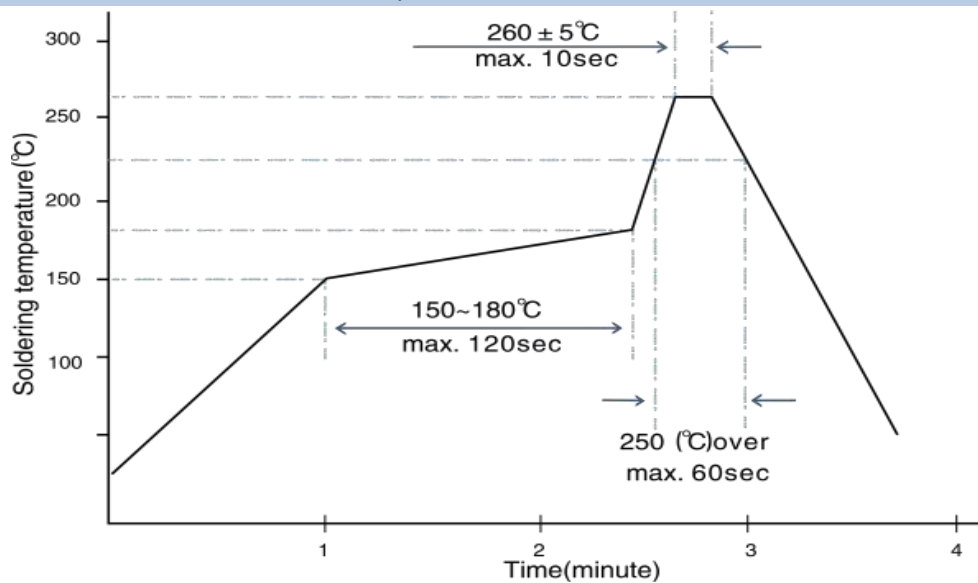
存储条件 Storage Conditions: Temperature:5℃ ~35℃, Humidity:40%~75%

卷盘尺寸Reel Dimensions:



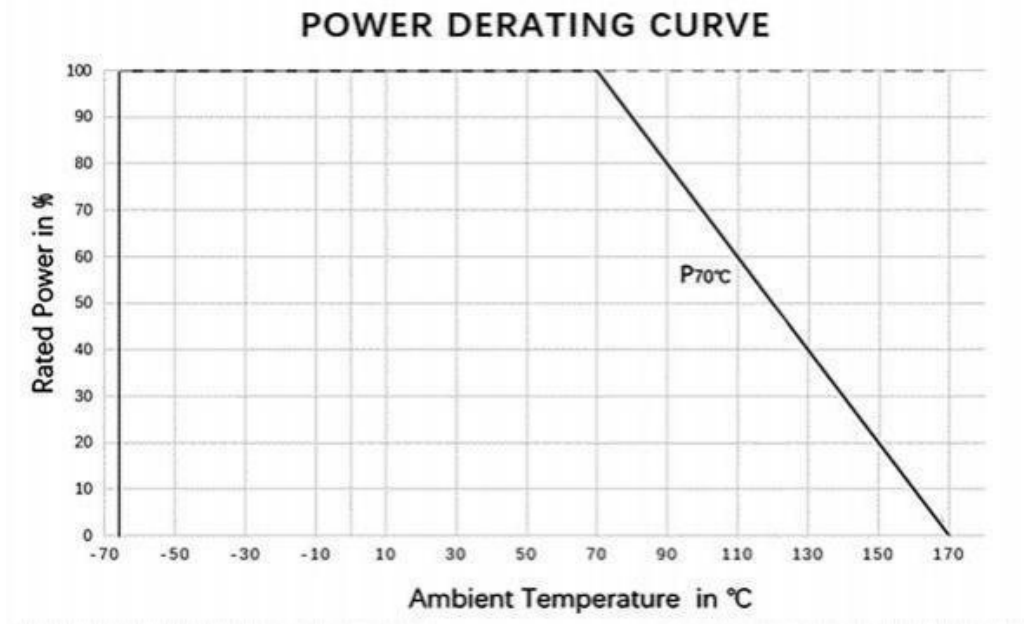
| Type  | A±2 | N±1 | W1±1 |
|-------|-----|-----|------|
| YHR28 | 178 | 60  | 12   |

回流焊温度曲线 Solder Reflow Temperature Condition :



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功率衰减曲线图 / Derating Curve:



|                                    |                                    |
|------------------------------------|------------------------------------|
| 阻值范围 Resistance value              | 4~50mΩ                             |
| 精度 Tolerance                       | ±1%、±5%                            |
| 功率 Power                           | 4W                                 |
| 温度系数 Temperature coefficient       | ±75ppm/°C                          |
| 合金材质 Alloy material                | M: Manganin、K: Karma、F:FeCrAl      |
| 工作温度范围 Operating temperature range | -55°C ~170°C                       |
| 低电感 Low inductance                 | K/M: < 5nH (1MHz) F: < 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                     |

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## 注意事项：Matters Needing Attention

- 1, 储存时应注意温度和湿度 (温度 25°C, 相对湿度 60% RH). 湿度尽可能保持在范围内;  
Chip resistor shall be stored in a room where temperature and humidity must be controlled.  
(temperature 25°C, humidity 60% RH) However, a humidity keep it low, as it is possible.
- 2, 不能阳光长时间直接照射产品; Chip resistor shall be stored as direct sunshine doesn't hit on it.
- 3, 不能存储在潮湿, 灰尘及导致焊接性能变差的有害气体环境中(氯化氢气体、亚硫酸气体、硫化氢气体); Chip resistor shall be stored with no moisture, dust, a material that will make solder ability inferior, and a harmful gas (Hydrogen chloride, sulfurous acid gas, and Hydrogen sulfide)
- 4, 保存期限: 2 年; Storage life: 2 year;

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