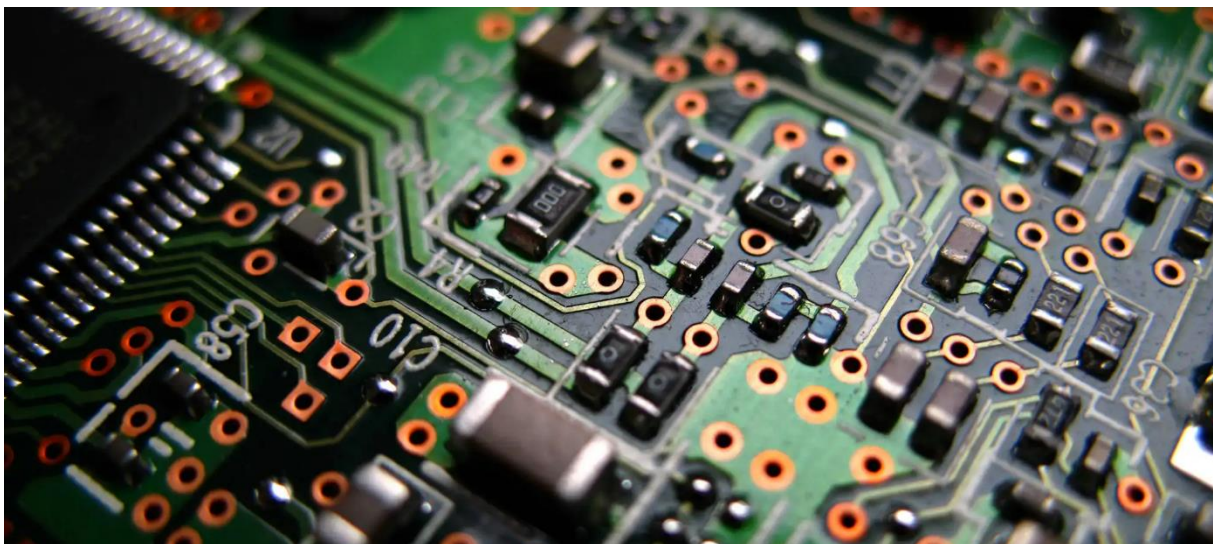


合金电阻规格书-2512 Alloy resistance specification

适用范围 Scope

- 合金电阻2512系列 Metal Alloy Resistance 2512 Series.



型号规格Type Designation :

电阻尺寸 Product Type	产品类型 Resistor Size	功率 Power	阻值精度 Resistance tolerance	阻值范围 Resistance
2512	LE(大电极)	3W	F: 1% G: 2% J: 5%	R001-R004
	SE(小电极)	3W		R0005-R500
		2W		R0005-R500

编码原则Coding principle:

制造商/产品 manufacturer	尺寸 size	类型 type	功率 power	阻值 resistance	精度 accuracy	包装数量 quantity
YHR	2512	大电极 LE 小电极 SE	3W 2W	R001 R002	1%=F 2%=G 5%=J	2512 (4)

示例/ Example: YHR2512LE3WR001F4

文件编码 Document No	版本 REV	日期 Date	编写 Drawn	审核 Checked	批准 Approved
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结构尺寸 Construction and Dimension :

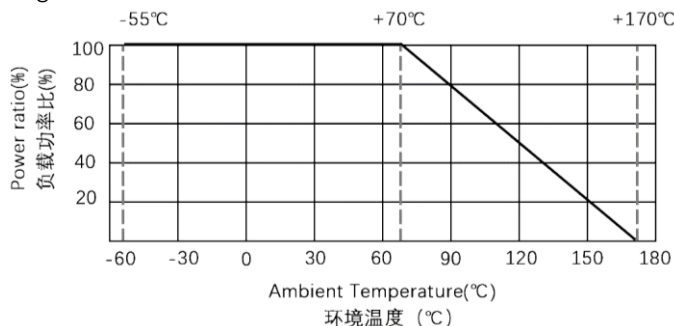
产品尺寸 Product	类型 type	图示 Illustration	尺寸 Size	图例 legend
2512	LE	L	6.4±0.2	
		W	3.2±0.2	
		E	2.2±0.2	
		H	0.8±0.2	
2512	SE	L	6.4±0.2	
		W	3.2±0.2	
		E	1.0±0.2	
		H	0.8±0.2	
			0.65±0.2	

$R \leq R004, H = 0.8 \pm 0.2 \text{mm}$, $R > R004, H = 0.65 \pm 0.2 \text{mm}$,

电气规格 Electrical Specifications :

类型 type	功率 power	阻值范围 Resistance range	温度系数 TCR	工作温度范围 Operating temperature range	阻值精度 Resistance tolerance	绝缘阻抗 Insulation resistance	最大工作电压 Maximum operating voltage (V)
LE/SE (2512)	3W	$0.5 \text{m}\Omega \leq R < 1 \text{m}\Omega$	$\pm 350 \text{ppm}/^\circ\text{C}$	$-55^\circ\text{C} \sim +170^\circ\text{C}$	F: 1% G: 2% J: 5%	Over 100M Ω	$(P \cdot R)^{1/2}$
		$1 \text{m}\Omega \leq R < 2 \text{m}\Omega$	$\pm 100 \text{ppm}/^\circ\text{C}$				
		$2 \text{m}\Omega \leq R \leq 500 \text{m}\Omega$	$\pm 50 \text{ppm}/^\circ\text{C}$				
SE (2512)	2W	$0.5 \text{m}\Omega \leq R < 1 \text{m}\Omega$	$\pm 350 \text{ppm}/^\circ\text{C}$				
		$1 \text{m}\Omega \leq R < 2 \text{m}\Omega$	$\pm 100 \text{ppm}/^\circ\text{C}$				
		$2 \text{m}\Omega \leq R \leq 500 \text{m}\Omega$	$\pm 50 \text{ppm}/^\circ\text{C}$				

功率衰减曲线图 / Derating Curve



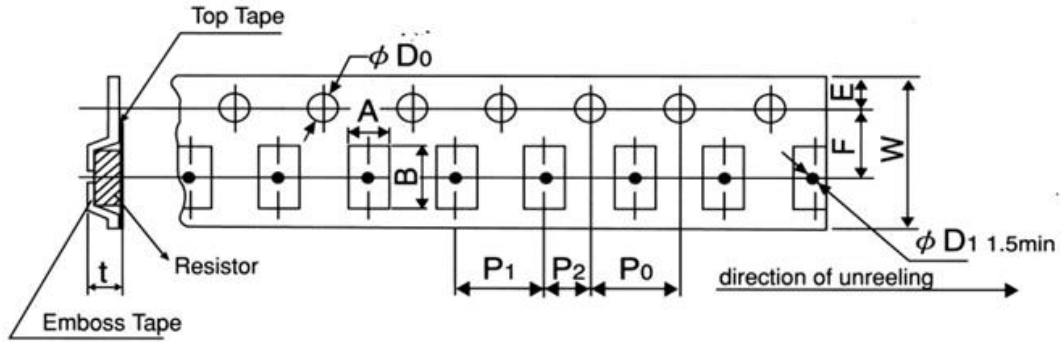
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可靠性验证 Reliability Tests

项目 Project	检测方法 Test Method (依据标准 Refer to IEC 60115, 60068; JIS-C 5201-1)	规格和要求 Specifications and Requirements
温度系数 Temperature coefficient (TCR)	25°C (T1、R1)、125°C (T2、R2) 条件下分别测量阻值, 计算 $TCR = (R2 - R1) / (R1 (T2 - T1)) * 10^6$ Resistance values were measured at 25°C (T1, R1) and 125°C (T2, R2), and TCR was calculated as $(R2 - R1) / (R1 (T2 - T1)) * 10^6$	参考物理特性 TCR 规格 Refer to TCR specifications for physical features
短时间过载 Short Time Overload	5倍额定功率, 保持5s 5 times rated power, maintain 5s	$\Delta R \leq \pm (1\% + 0.05m\Omega)$
绝缘电阻 Insulation resistance	在电极与基片间施加100V±15V直流电压, 保持60s, 然后测绝缘电阻 Apply 100V±15V DC voltage between electrode and substrate, hold for 60 seconds, then measure insulation resistance	> 100 mΩ
耐电压 Withstand voltage	在电极与基片之间以大约100V/S的速率施加有效值为最大过负荷电压的交流电, 保持60±5s An alternating current with an effective value of the maximum overload voltage is applied between the electrode and the substrate at a rate of approximately 100V/S, maintaining 60±5s	无击穿或飞弧 No breakdown or arc
焊锡性 solderability	245°C±5°C 锡槽, 保持2s±0.5s 245°C±5°C tin tank, hold 2s±0.5s	电极上锡面积>95% At least 95% of surface area of electrode shall be covered with new solder
耐热性 Resistance to Soldering Heat	270°C±5°C 锡槽, 保持10s±1s 270°C±5°C tin tank, hold for 10s±1s	$\Delta R \leq \pm (0.5\% + 0.05m\Omega)$, 无可见损伤 no visible damage
弯曲测试 Bending test	弯曲距离2mm, 保持时间60s±5s Bending distance 2mm, hold time 60s±5s	$\Delta R \leq \pm (0.5\% + 0.05m\Omega)$ 无机械损伤 no mechanical damage
耐溶测试 Solvent resistance	异丙醇(IPA), 23°C±5°C, 浸10小时 Isopropanol (IPA) at 23°C±5°C for 10 hours	外观无明显损伤 No obvious damage to appearance
长期高温 High Temperature Exposure	高温170°C放置1000H 170°C±2°C, 1000H, stand for 1H, test the resistance value	$\Delta R \leq \pm (1.0\% + 0.05m\Omega)$
长期低温 Low Temperature Exposure	低温-55°C放置1000H -55°C±2°C, 1000H, stand for 1H, test the resistance value	$\Delta R \leq \pm (0.5\% + 0.05m\Omega)$
温度循环 Rapid change of Temperature	-55°C 30分钟~常温 5分钟~155°C 30分钟, 1000个循环 -55°C 30 minutes ~ normal temperature 5 minutes ~ 155°C 30 minutes, 1000 cycles	$\Delta R \leq \pm (0.5\% + 0.05m\Omega)$
长期耐久 Load Life	70°C±2°C, 1000小时, 额定功率, 通1.5小时/断0.5小时 70°C±2°C, 1000 hours, rated power, 1.5 hours on / 0.5 hours off	$\Delta R \leq \pm (1.0\% + 0.05m\Omega)$
长期耐湿 Moisture with Load	85°C±2°C, 85%±3%RH, 持续 1000 小时, 额定功率, 通1.5小时/断0.5小时 85°C±2°C, 85%±3%RH, 1000 hours, rated power, 1.5 hours on / 0.5 hours off	$\Delta R \leq \pm (1.0\% + 0.05m\Omega)$

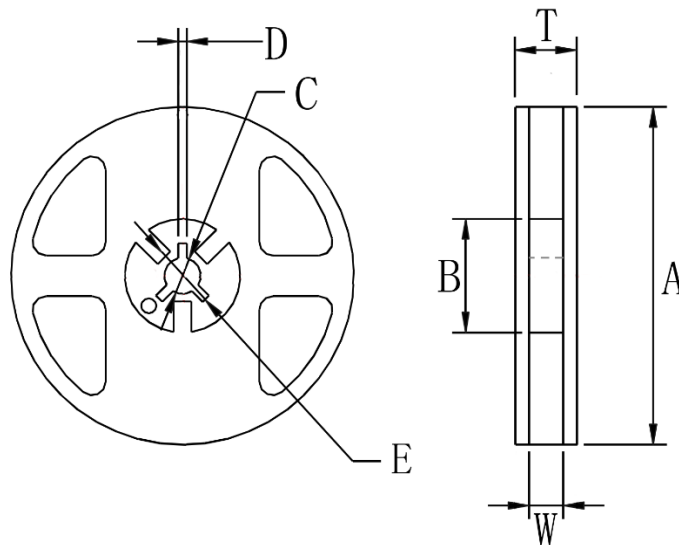
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载带尺寸TAPE PACKAGING DIMENSIONS:



A	B	W	F	E	P ₁	P ₂	P ₀	D ₀	t
3.5±0.15	6.8±0.1	12.0±0.2	5.5±0.05	1.75±0.1	4.0±0.1	2.0±0.05	4.0±0.05	1.5~1.6	1.0±0.1

卷盘尺寸Reel Dimensions:

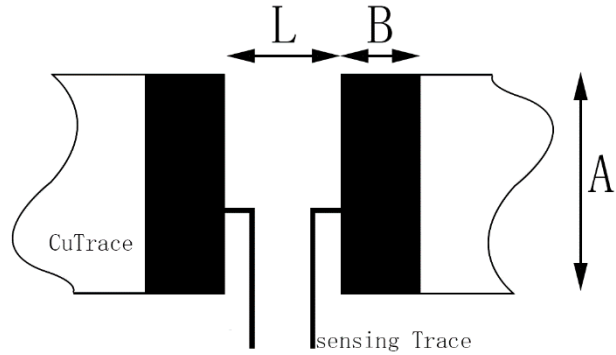


型号 Type	A	B	C	D	E	T	W
Reel	178±2.0	60±1.0	13±1.0	2.0±0.5	>22	15.4±0.5	13.3±0.5

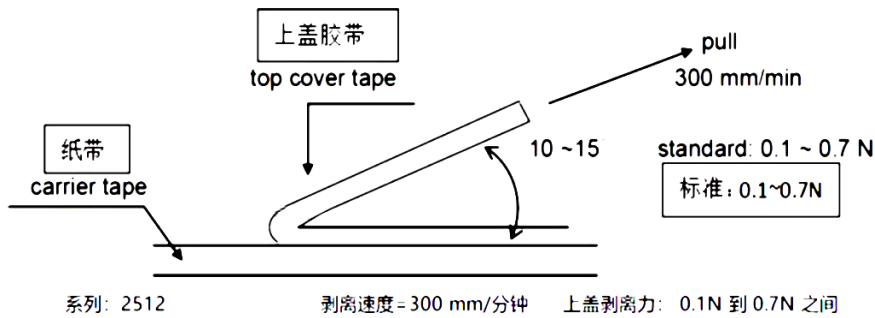
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焊盘尺寸 : Pad size

焊盘 Pattern	尺寸Size	
	SE(短电极)	LE(长电极)
A	4.0	
B	2.1	3.1
L	4.1	1.3



载带拉力 : Pad size



注意事项 : matters needing attention

- 1, 储存时应注意温度和湿度 (温度 5 ~ 35°C, 相对湿度 45 ~ 75% 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 5 to 35°C, humidity 45 to 75% 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: 1 年; Storage life: 1 year;

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