

系列号	HoYLR
修订日期	2022-12-12
版本号	Ho-A0

# 规格书 Specification

制造商:深圳市毫欧电子有限公司

HoYLR2512E


适用:本规格书适用于深圳市毫欧电子有限公司封体合金电阻 HoYLR2512E系列产品选型。

## ■ 产品型号Product number

例: HoYLR2512E-3W-4mR-1%

Ho	YLR	2512E	3W	4mR	1%
↓	↓	↓		↓	↓
制造商	产品类别	封装	功率	阻值	精度
毫欧电子	封体合金	2512 (大电极)	3W	0.5mR~4mR	F=±1% G=±2% J=±5%


## ■ 产品结构及尺寸 Product structure and size (Unit:mm)



封装	阻值	L	W	E	H
2512E (大电极)	0.5mR~4mR	6.4±0.2	3.2±0.2	2.2±0.2	0.8±0.2



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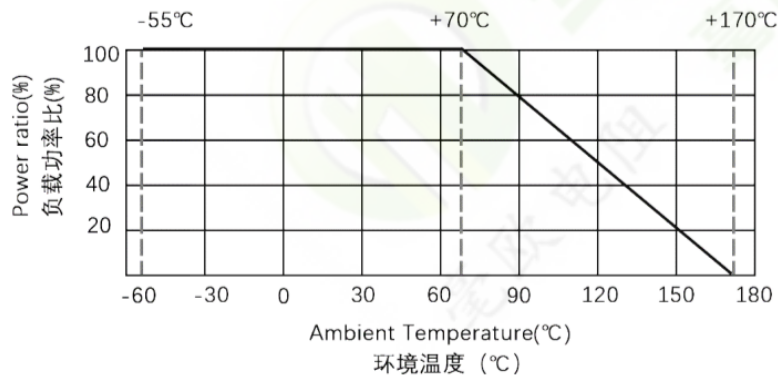
 毫欧电阻 毫欧制造	HoYLR2512E封体合金系列规格书	系列号	HoYLR
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## ■ 电气规格 Electrical Specifications :

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)
2512E (大电极)	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 $\Omega$	$(P \cdot R)^{1/2}$
		$1\text{m}\Omega \leq R < 2\text{m}\Omega$	$\pm 100\text{ppm}/^\circ\text{C}$				
		$2\text{m}\Omega \leq R \leq 4\text{m}\Omega$	$\pm 50\text{ppm}/^\circ\text{C}$				

## ■ 功率曲线 Power curve

操作温度范围 - 50 ~ +170 °C 电阻温度达到 70°C 时降功率 示意图



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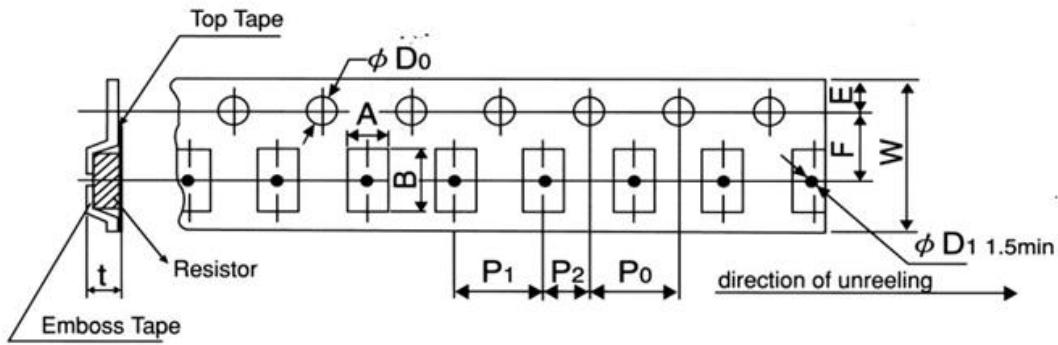
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## ■ 可靠性测试 Reliability Tests

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 ShortTimeOverload	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 <sub>1</sub>	P <sub>2</sub>	P <sub>0</sub>	D <sub>0</sub>	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
2512	178±2.0	60±1.0	13±1.0	2.0±0.5	>22	15.4±0.5	13.3±0.5

■ 包装方式 Packing

编带盘装：4000PCS/盘

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■ 焊盘尺寸 : Pad size

焊盘 Pattern	尺寸Size 大电极
A	4.0
B	3.1
L	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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