

规格书

SPECIFICATION FOR APPROVAL

产品名称： 汽车级合金贴片电阻 AMR 系列

产品规格： 全系列

制作	核准	审核
马鑫	胡梓秋	方齐炜

供应商：深圳市美隆电子有限公司

地址：深圳市福田区华强北路华强广场 A 座 16 楼

规格如有更改，恕不另行通知

2025/A

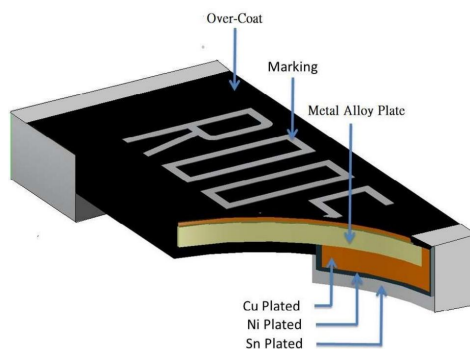
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摘要 Resume >>>

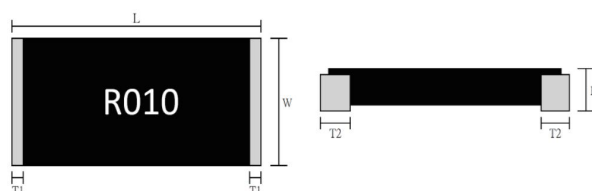
- High power rating up to 5Watts
- Low TCR down to 50PPM
- Resistance values form 0.2mΩ to 500mΩ
- Customized resistance available
- Comply with AEC-Q200 standard

额定功率高达 5W
低温度系数 (50PPM)
阻值范围 (0.2mΩ—500mΩ)
可定制电阻
符合 AEC-Q200 标准

结构图 Construction >>>



尺寸 Dimensions >>>



Item Type 型号	Power Rating 额定功率	Resistance Range 阻值范围	L (mm)	W (mm)	H (mm)	T1 (mm)	T2 (mm)
1206	0.5W 0.75W	1mΩ	3.200±0.254	1.650±0.254	0.820±0.254	0.508±0.254	0.508±0.254
		2mΩ	3.200±0.254	1.650±0.254	0.700±0.254	0.508±0.254	0.508±0.254
		3mΩ	3.200±0.254	1.650±0.254	0.600±0.254	0.508±0.254	0.508±0.254
		4~20mΩ	3.200±0.254	1.650±0.254	0.550±0.254	0.508±0.254	0.508±0.254
		21~50mΩ	3.200±0.254	1.650±0.254	0.470±0.254	0.508±0.254	0.508±0.254
		51~75mΩ	3.200±0.254	1.650±0.254	0.400±0.254	0.508±0.254	0.508±0.254
	1W	1mΩ	3.200±0.254	1.650±0.254	0.820±0.254	0.508±0.254	0.508±0.254
		2mΩ	3.200±0.254	1.650±0.254	0.700±0.254	0.508±0.254	0.508±0.254
		3mΩ	3.200±0.254	1.650±0.254	0.600±0.254	0.508±0.254	0.508±0.254
		4~20mΩ	3.200±0.254	1.650±0.254	0.550±0.254	0.508±0.254	0.508±0.254
		21~50mΩ	3.200±0.254	1.650±0.254	0.470±0.254	0.508±0.254	0.508±0.254
	1.5W	1mΩ	3.200±0.254	1.650±0.254	0.820±0.254	0.508±0.254	0.508±0.254
		2mΩ	3.200±0.254	1.650±0.254	0.700±0.254	0.508±0.254	0.508±0.254
		3mΩ	3.200±0.254	1.650±0.254	0.600±0.254	0.508±0.254	0.508±0.254
		4~10mΩ	3.200±0.254	1.650±0.254	0.550±0.254	0.508±0.254	0.508±0.254
2512	1W 2W	0.5mΩ	6.350±0.254	3.050±0.254	0.820±0.254	1.980±0.254	2.000±0.254
		0.75mΩ	6.350±0.254	3.050±0.254	0.700±0.254	1.150±0.254	1.980±0.254
		0.8mΩ	6.350±0.254	3.050±0.254	0.700±0.254	1.150±0.254	1.860±0.254
		1mΩ	6.350±0.254	3.050±0.254	0.720±0.254	1.150±0.254	2.200±0.254
		1.5mΩ	6.350±0.254	3.050±0.254	0.720±0.254	1.150±0.254	1.400±0.254
		2~5mΩ	6.350±0.254	3.050±0.254	0.720±0.254	1.150±0.254	1.150±0.254
		6mΩ	6.350±0.254	3.050±0.254	0.550±0.254	1.150±0.254	1.100±0.254
		7~10mΩ	6.350±0.254	3.050±0.254	0.600±0.254	1.150±0.254	1.100±0.254
		11~75mΩ	6.350±0.254	3.050±0.254	0.600±0.254	1.050±0.254	1.100±0.254
		76~100mΩ	6.350±0.254	3.050±0.254	0.550±0.254	0.750±0.254	1.100±0.254

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Type Item 型号	Power Rating 项目 额定功率	Resistance Range 阻值范围	L (mm)	W (mm)	H (mm)	T1 (mm)	T2 (mm)
2512	1W 2W	101 ~ 135mΩ	6.350±0.254	3.050±0.254	0.470±0.254	0.750±0.254	1.100±0.254
		136 ~ 200mΩ	6.350±0.254	3.050±0.254	0.400±0.254	0.750±0.254	1.100±0.254
		201 ~ 450mΩ	6.350±0.254	3.050±0.254	0.400±0.254	0.750±0.254	0.850±0.254
	3W	0.5mΩ	6.350±0.254	3.050±0.254	0.820±0.254	1.980±0.254	2.000±0.254
		0.75mΩ	6.350±0.254	3.050±0.254	0.700±0.254	1.150±0.254	1.980±0.254
		0.8mΩ	6.350±0.254	3.050±0.254	0.700±0.254	1.150±0.254	1.860±0.254
		1mΩ	6.350±0.254	3.050±0.254	0.720±0.254	1.150±0.254	2.200±0.254
		1.5mΩ	6.350±0.254	3.050±0.254	0.720±0.254	1.150±0.254	1.400±0.254
		2~5mΩ	6.350±0.254	3.050±0.254	0.720±0.254	1.150±0.254	1.150±0.254
		6mΩ	6.350±0.254	3.050±0.254	0.550±0.254	0.75±0.254	1.100±0.254
		7 ~ 10mΩ	6.350±0.254	3.050±0.254	0.600±0.254	1.150±0.254	1.100±0.254
		11~75mΩ	6.350±0.254	3.050±0.254	0.600±0.254	0.75±0.254	1.100±0.254
		76 ~ 100mΩ	6.350±0.254	3.050±0.254	0.550±0.254	0.75±0.254	1.100±0.254
2725	4W	0.2mΩ	6.900±0.254	6.350±0.254	1.100±0.254	1.20±0.254	2.150±0.254
		0.25mΩ	6.900±0.254	6.350±0.254	0.950±0.254	1.20±0.254	2.287±0.254
		0.3mΩ	6.900±0.254	6.350±0.254	0.950±0.254	1.20±0.254	1.975±0.254
		0.35mΩ	6.900±0.254	6.350±0.254	0.950±0.254	1.20±0.254	1.710±0.254
		0.4mΩ	6.900±0.254	6.350±0.254	0.950±0.254	1.20±0.254	1.440±0.254
		0.5mΩ	6.900±0.254	6.350±0.254	0.850±0.254	1.20±0.254	2.080±0.254
		0.6mΩ	6.900±0.254	6.350±0.254	0.850±0.254	1.20±0.254	1.780±0.254
		0.8mΩ	6.900±0.254	6.350±0.254	0.850±0.254	1.20±0.254	1.300±0.254
		1mΩ	6.800±0.254	6.350±0.254	0.650±0.254	1.15±0.254	1.800±0.254
		1.5~1.6mΩ	6.800±0.254	6.350±0.254	0.650±0.254	1.15±0.254	1.500±0.254
		2 ~ 3mΩ	6.800±0.254	6.350±0.254	0.550±0.254	1.15±0.254	1.500±0.254
2728	4W	4 ~ 450mΩ	6.600±0.254	6.700±0.254	0.580±0.254	0.400±0.254	1.050±0.254
4527	2W	0.5mΩ	11.30±0.500	6.600±0.500	0.770±0.254	0.900±0.254	3.000±0.254
		1mΩ	11.30±0.500	6.600±0.500	0.650±0.254	0.900±0.254	3.000±0.254
		1.5 ~ 20mΩ	11.30±0.500	6.600±0.500	0.650±0.254	0.900±0.254	2.000±0.254
		21 ~ 100mΩ	11.30±0.500	6.600±0.500	0.550±0.254	0.900±0.254	2.000±0.254
	3W	0.5mΩ	11.30±0.500	6.600±0.500	0.770±0.254	0.900±0.254	3.000±0.254
		1mΩ	11.30±0.500	6.600±0.500	0.650±0.254	0.900±0.254	3.000±0.254
		1.5 ~ 20mΩ	11.30±0.500	6.600±0.500	0.650±0.254	0.900±0.254	2.000±0.254
		21 ~ 60mΩ	11.30±0.500	6.600±0.500	0.550±0.254	0.900±0.254	2.000±0.254
	5W	0.5mΩ	11.30±0.500	6.600±0.500	0.800±0.254	0.650±0.254	3.000±0.254
		1mΩ	11.30±0.500	6.600±0.500	0.680±0.254	0.650±0.254	3.000±0.254
		1.5 ~ 20mΩ	11.30±0.500	6.600±0.500	0.680±0.254	0.650±0.254	2.000±0.254
		216 ~ 500mΩ	11.30±0.500	6.600±0.500	0.580±0.254	0.650±0.254	2.000±0.254

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型号名称 Part Numbering >>>-----

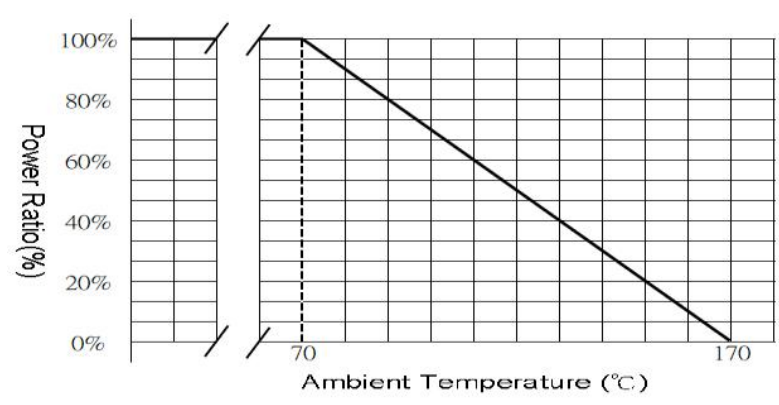
AMRM	10	6432(2512)	LR001	F	T	R
Product Type 产品型号	Production line code 产线代码	Resistor Size 电阻规格	Resistance 阻值	Resistance Tolerance 阻值公差	Packing Code 包装形式	Power 功率
AMRM : 锰铜合金 AMRMC : 锰铜锡合金 AMRF : 铁铬铝合金 AMRC : 铜金属电阻	10	3216 (1206) 6432 (2512) 2725 2728 4527	LR001:1mΩ LR010: 10mΩ	D=±0.5 % F= ±1 % G=±2 % J=±5 %	T:Taping Reel T: 编带 B:Bulk B: 散装	Z: 5 W H:4W R :3 W S :2 W A :1.5W N :1 W Q :3/4W

标准规格表 Stand Electrical Specifications>>>-----

Item Type 项目 型号	Power Rating 额定功率	Max Working Current 最大工作电 流	Resistance Range 阻值范围				TCR 温度 系数 (PPM/°C)
			±0.5%	±1%	±2%	±5%	
1206	1/2W	22.36A	5mΩ~75mΩ	1mΩ~75mΩ			±50
	3/4W	27.38A	5mΩ~75mΩ	1mΩ~75mΩ			±50
	1W	31.62A	5mΩ~50mΩ	1mΩ~50mΩ			±50
	1.5W	38.72A	5mΩ~10mΩ	1mΩ~10mΩ			±50
2512	1W	44.72A	/	0.5mΩ~0.8mΩ			±75
	1W	31.62A	5mΩ~450mΩ	1mΩ~500mΩ			±50
	2W	63.24A	/	0.5mΩ~0.8mΩ			±75
	2W	44.72A	5mΩ~450mΩ	1mΩ~450mΩ			±50
	3W	77.45A	/	0.5mΩ~0.8mΩ			±75
	3W	54.77A	5mΩ~100mΩ	1mΩ~100mΩ			±50
2725	4W	141.42A	/	0.2mΩ			±100
	4W	126.49A	/	0.25mΩ~3mΩ			±50
2728	4W	31.62A	7mΩ~450mΩ	4mΩ~450mΩ			±50
4527	2W	63.24A	/	0.5mΩ			±75
	2W	44.72A	5mΩ~100mΩ	1mΩ~100mΩ			±50
	3W	77.45A	/	0.5mΩ			±75
	3W	54.77A	5mΩ~60mΩ	1mΩ~60mΩ			±50
	5W	100A	/	0.5mΩ			±75
	5W	70.71A	5mΩ~500mΩ	1mΩ~500mΩ			±50

◆Operating Temp.Range 操作温度范围：1206~4527：-55~170°C

功率衰减曲线图 Derating Curve>>>-----



信赖性试验项目 Environmental Characteristics >>>-----

Item 项目	Requirement 条件	Test Method 测试方法
Temperature Coefficient 温度系数	As Spec. 参考规格表	At 25 / -55℃ and 25℃ /+125℃, 25℃ is the reference temperature 25℃为参考温度
Short Time Overload *短时间过负载	4527: $\Delta R/R1 \leq \pm 2.0\%$ The others (其它) : $\Delta R/R1 \leq \pm 0.5\%$	The number of rated power are as follows: 额定功率数如下： ● 1206-0.5W: 5 times of rated power 额定功率的 5 倍 ● 1206-0.75W: 5 times of rated power 额定功率的 5 倍 ● 1206-1W: 5 times of rated power 额定功率的 5 倍 ● 1206-1.5W: 5 times of rated power 额定功率的 5 倍 ● 2512-1W: 5 times of rated power 额定功率的 5 倍 ● 2512-2W: 5 times of rated power 额定功率的 5 倍 ● 2512-3W: 5 times of rated power*(Note)* ● 2512-3W：额定功率的 5 倍*（注意）* ● 2725-4W: 4 times of rated power 额定功率的 4 倍 ● 2728-4W: 4 times of rated power 额定功率的 4 倍 ● 4527-2W: 5 times of rated power 额定功率的 5 倍 ● 4527-3W: 5 times of rated power 额定功率的 5 倍 ● 4527-5W: 3 times of rated power 额定功率的 3 倍 for 5 seconds. 持续 5 秒钟。
High Temperature Exposure 高温储存	4527: $\Delta R/R1 \leq \pm 2.0\%$ The others (其它) : $\Delta R/R1 \leq \pm 1.0\%$	At 170℃ for 1000 hours. 在 170℃的条件下，持续 1000 小时。
Resistance to Soldering Heat 耐焊接热	$\Delta R/R1 \leq \pm 0.5\%$	260±5℃ for 10 seconds. 260±5℃ 浸入 10 秒
Temperature cycling 温度循环	$\Delta R/R1 \leq \pm 0.5\%$	1000Cycle (-55℃ to 155℃) , Temperature retention for 30 minutes , Measurement at 24hrs after test conclusion. -55℃&+155℃, 温度保留 30min，循环 1000 次，试验结束 24±4 小时后量测试验前后阻值变化率.

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Biased Humidity 偏置湿度	$\Delta R/R1 \leq \pm 0.5\%$	1000 hours 85°C/85%RH. Note: Specified conditions: 10% of operating power. Measurement at 24±4 hours after test conclusion. 加载 10%额定功率, 85°C/85%RH, 持续通电 1000H,试验结束 24±4 小时后进行测试
Operational Life 工作寿命	4527: $\Delta R/R1 \leq \pm 2.0\%$ - The others (其它): $\Delta R/R1 \leq \pm 1.0\%$	70±2°C, RCWV for 1000hrs with 1.5hrs"ON"and 0.5hrs"OFF" 70±2°C温度中施加额定电压, 1.5 小时"开", 0.5 小时 "关", 共 1000 小时
Solderability 焊锡性	95%min.coverage 导体爬锡面积大于 95%	245±5°C for 3 seconds 245±5°C 锡炉中, 持续 3 秒
Dielectric Withstanding Voltage 绝缘耐压	No short or burned on the appearance. 没有短路与燃烧	Applied 500VAC for 1 minute. 应用 500VAC 持续 1 分钟。
Core Body Strength 本体强度	No broken 无损坏	Central part pressurizing force : 5N , 10 seconds 中心部分施加压力: 5N , 10 秒
Terminal Strength 端头强度	No broken 无损坏	Pressurizing force 17.7N for 60 seconds 加压 17.7N 持续 60 秒
Board Flex 端子弯曲	$\Delta R/R1 \leq \pm 0.5\%$ No broken 无损坏	Bending once 2mm for 10 seconds 弯曲一次, 每次 2mm, 持续 10 秒
Moisture Resistance 耐湿性	$\Delta R/R1 \leq \pm 0.5\%$	T=24 hours / Cycle ,10Cycles . Steps 7a& 7b not required. Unpowered . T=24 小时/周期, 共 10 个周期。步骤 7a 和 7b 不需要。无电状态。

*Note:

This test is a destructive experiment. The top protective layer is prone to damage and peculiar smell during the 50mΩ~100mΩ resistance test. The resistance change rate can meet the specifications.

*注意:

此测试是一个破坏性实验。在进行 50mΩ~100mΩ电阻测试时, 顶层保护层容易损坏并散发异味。但电阻变化率可以符合规范要求。

Operating Voltage= $\sqrt{P \cdot R}$ or Max.Operating Voltage listed above,whichever is lower.

Overload Voltage= $2.5 \cdot \sqrt{P \cdot R}$ or Max.Overload Voltage listed above,whichever is lower.

RCWV(Rated Continuous Working Voltage)= $\sqrt{P \cdot R}$ or Max.Operating Voltage whichever is lower.

environmental conditions for electrical performance measurement, Temperature : 25°C±5°C Humidity: 25%~75%RH

Reference Standards:IEC 60115-1,60068-2-58 ; JIS-C 5201-1

■RCWV(额定持续工作电压)= $\sqrt{P \cdot R}$ 或者较小的最大操作电压.

操作电压= $\sqrt{P \cdot R}$,过负载电压= $2.5 \cdot \sqrt{P \cdot R}$,操作电流= $\sqrt{P/R}$

■电性能测量的环境条件: 温度: 25°C±5°C 相对湿度: 25%~75%RH

■依据标准: IEC 60115-1,60068-2-58 ; JIS-C 5201-1