

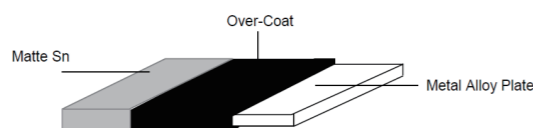
合金低阻贴片电阻(MRMF)Metal Alloy Low-Resistance Resistors

Resume 摘要

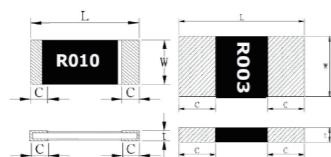
High power rating up to 3Watts/Low TCR down to 75PPM/Resistance values from 1mΩ to 60mΩ/Customized resistance available.

大功率 (3Watts), 低温度系数 (75PPM), 阻值范围 (1mΩ ~ 60mΩ), 可订做阻值

Construction 结构图



Dimensions 尺寸



Size 规格	L	W	T	C
0805	2.00 ± 0.10	1.25 ± 0.10	0.60 ± 0.20	0.40 ± 0.20
1206	3.20 ± 0.20	1.60 ± 0.20	0.75 ± 0.20 (R=1mΩ)	1.10 ± 0.30 (R=1mΩ)
			0.60 ± 0.20 (2mΩ ≤ R ≤ 30mΩ)	0.50 ± 0.30 (2mΩ ≤ R ≤ 30mΩ)
2010	5.00 ± 0.20	2.50 ± 0.20	0.60 ± 0.20	0.60 ± 0.30
2512	6.40 ± 0.20	3.20 ± 0.20	0.60 ± 0.20	2.0 ± 0.20 (R ≤ 3mΩ)
				0.9 ± 0.2 (R > 3mΩ)
*2512	6.40 ± 0.20	3.20 ± 0.20	0.70 ± 0.20	2.0 ± 0.20 (R ≤ 4mΩ)
				0.9 ± 0.2 (R > 4mΩ)

Part Numbering 型号名称

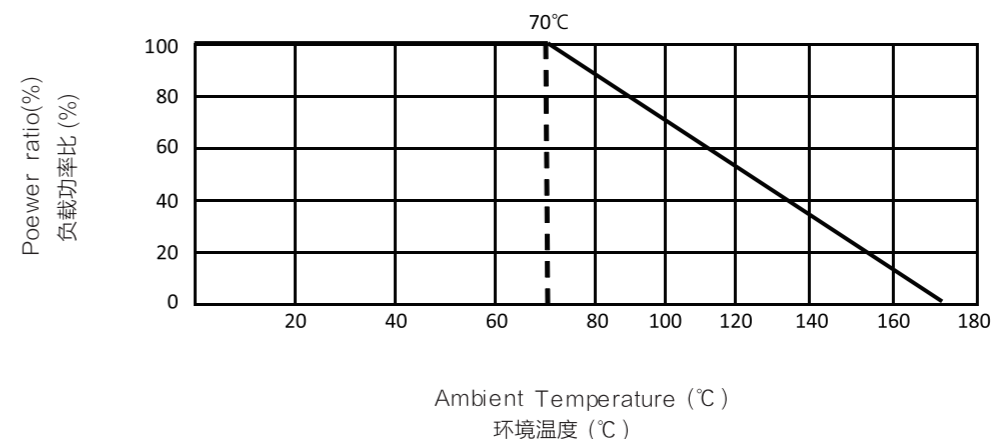
MRMF	6432 (2512)	LR002	F	T	S
Product Type 产品型号	Resistor Size 电阻规格	Resistance 阻值	Resistance Tolerance 阻值公差	Packing Code 包装形式	High Power 升功率
	2012 (0805) 3216 (1206) 5025 (2010) 6432 (2512)	5% LR001:0.001Ω LR010:0.01Ω LR3M5:0.0035Ω 1% LR002:0.002Ω LR050:0.05Ω LR3M5:0.0035Ω	F=1% G=2% J=5%	T: Taping Reel 卷装 B: Bulk 散装	R: 3W S: 2W A: 1.5W N: 1W

Standard Electrical Specifications 标准规格表

Item Type 项目 型号	Power Rating 额定功率	Operating Temp. Range 操作温度范围	Max. Operating Voltage 最大工作电压	Resistance Range 阻值范围			Insulation Resistance 绝缘阻抗	TCR 温度系数 (PPM/°C)
				1%	2%	5%		
0805	1/8W 1/4W 1/2W	-55° C~170°C	√(P*R)	5mΩ ≤ R ≤ 20mΩ			> 100MΩ	± 100ppm/°C
1206	1/4W 1/2W 1W	-55° C~170°C	√(P*R)	1mΩ ≤ R ≤ 30mΩ			> 100MΩ	± 200ppm/°C (R=1mΩ) ± 100ppm/°C (2mΩ ≤ R ≤ 10mΩ) ± 75ppm/°C (R > 10mΩ)
2010	1/2W 3/4W 1W 1.5W	-55° C~170°C	√(P*R)	5mΩ ≤ R ≤ 30mΩ			> 100MΩ	± 100ppm/°C (5mΩ ≤ R ≤ 10mΩ) ± 75ppm/°C (R > 10mΩ)
2512	1W	-55° C~170°C	√(P*R)	2mΩ ≤ R ≤ 50mΩ			> 100MΩ	± 100ppm/°C (2mΩ ≤ R ≤ 10mΩ) ± 75ppm/°C (R > 10mΩ)
	1.5W			R ≤ 15mΩ				
	2W			R ≤ 10mΩ				
*2512	1W 1.5W 2W 3W	-55° C~170°C	√(P*R)	1mΩ ≤ R ≤ 60mΩ			> 100MΩ	± 75ppm/°C

*:Ultra High Power 超大功率

Derating Curve 功率衰减曲线图



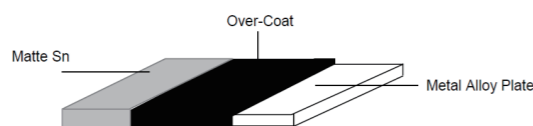
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Resume 摘要

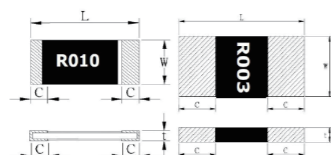
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1206	3.20 ± 0.20	1.60 ± 0.20	0.75 ± 0.20 (R=1mΩ)	1.10 ± 0.30 (R=1mΩ)
			0.60 ± 0.20 (2mΩ ≤ R ≤ 30mΩ)	0.50 ± 0.30 (2mΩ ≤ R ≤ 30mΩ)
2010	5.00 ± 0.20	2.50 ± 0.20	0.60 ± 0.20	0.60 ± 0.30
2512	6.40 ± 0.20	3.20 ± 0.20	0.60 ± 0.20	2.0 ± 0.20 (R ≤ 3mΩ)
				0.9 ± 0.2 (R > 3mΩ)
*2512	6.40 ± 0.20	3.20 ± 0.20	0.70 ± 0.20	2.0 ± 0.20 (R ≤ 4mΩ)
				0.9 ± 0.2 (R > 4mΩ)

Part Numbering 型号名称

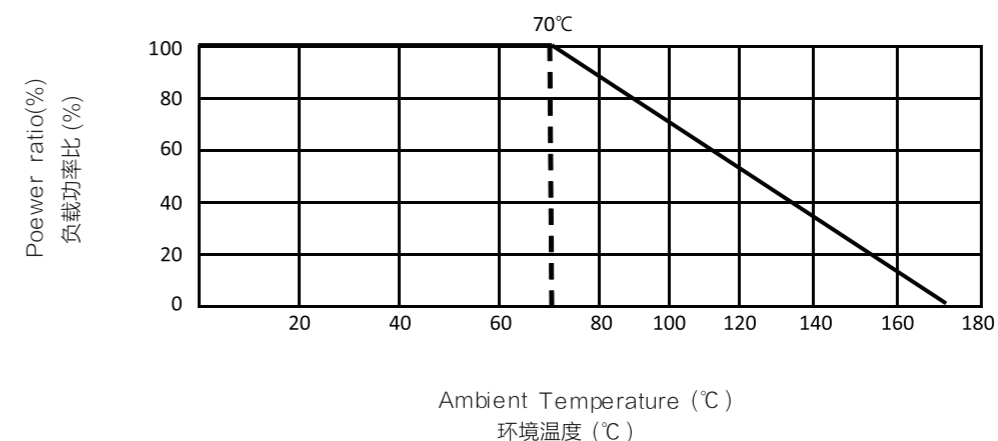
MRMF	6432 (2512)	LR002	F	T	S
Product Type 产品型号	Resistor Size 电阻规格	Resistance 阻值	Resistance Tolerance 阻值公差	Packing Code 包装形式	High Power 升功率
	2012 (0805) 3216 (1206) 5025 (2010) 6432 (2512)	5% LR001:0.001Ω LR010:0.01Ω LR3M5:0.0035Ω 1% LR002:0.002Ω LR050:0.05Ω LR3M5:0.0035Ω	F=1% G=2% J=5%	T: Taping Reel 卷装 B: Bulk 散装	R: 3W S: 2W A: 1.5W N: 1W

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				1%	2%	5%		
0805	1/8W 1/4W 1/2W	-55° C~170°C	√(P*R)	5mΩ ≤ R ≤ 20mΩ			> 100MΩ	± 100ppm/°C
1206	1/4W 1/2W 1W	-55° C~170°C	√(P*R)	1mΩ ≤ R ≤ 30mΩ			> 100MΩ	± 200ppm/°C (R=1mΩ) ± 100ppm/°C (2mΩ ≤ R ≤ 10mΩ) ± 75ppm/°C (R > 10mΩ)
2010	1/2W 3/4W 1W 1.5W	-55° C~170°C	√(P*R)	5mΩ ≤ R ≤ 30mΩ			> 100MΩ	± 100ppm/°C (5mΩ ≤ R ≤ 10mΩ) ± 75ppm/°C (R > 10mΩ)
2512	1W	-55° C~170°C	√(P*R)	2mΩ ≤ R ≤ 50mΩ			> 100MΩ	± 100ppm/°C (2mΩ ≤ R ≤ 10mΩ) ± 75ppm/°C (R > 10mΩ)
	1.5W			R ≤ 15mΩ				
	2W			R ≤ 10mΩ				
*2512	1W 1.5W 2W 3W	-55° C~170°C	√(P*R)	1mΩ ≤ R ≤ 60mΩ			> 100MΩ	± 75ppm/°C

*:Ultra High Power 超大功率

Derating Curve 功率衰减曲线图



■ Environmental Characteristics 信赖性试验项目

Item 项目	Requirement 条件	Test Method 测试方法
Temperature Coefficient of Resistance(T.C.R.) 温度系数(T.C.R.)	Refer 4.0 参考 4.0	+25°C~+125°C
Load Life 负载寿命	< ± 1%	1000hours at rated power,70°C 1.5 hrs"ON" and 0.5 hrs "OFF" 70°C温度中施加额定电压,1.5小时"开",0.5小时"关",共1000小时
Short Time Overload 短时间过负载	< ± 0.5%	5 X rated power for 5s 额定功率*5倍,持续5秒
Moisture no Load 水分空载	< ± 1%	85°C,85%RH,1000hrs 85°C,85%RH,持续1000小时
Temperature Cycle 温度循环	< ± 0.5%	-55°C & +155°C, 300cycle, 15min per extreme condition -55°C & +155°C, 极端条件下每次15分钟,共300次
Resistance to Soldering Heat 耐热性试验	< ± 0.5%	260 ± 5°C for 20 ± 1 seconds 260 ± 5°C锡炉中,持续20 ± 1秒
Solderability 焊锡性	95% min. coverage 导体爬锡面积大于95%	245 ± 5°C for 2 ± 0.5 seconds 245 ± 5°C锡炉中,持续2 ± 0.5秒
High Temperature Exposure 高温曝光	< ± 1%	170°C,1000hrs 170°C,持续1000小时
Low Temperature Storage 低温存储	< ± 0.5%	-55°C, 1000hrs -55°C,,持续1000小时
Substrate Bending 基板弯折强度	< ± 1%	Bending width 2mm 弯折宽度 2mm
Insulation Resistance 绝缘阻抗	≥ 100MΩ	100V DC for 1 minute 100V DC, 持续1分钟

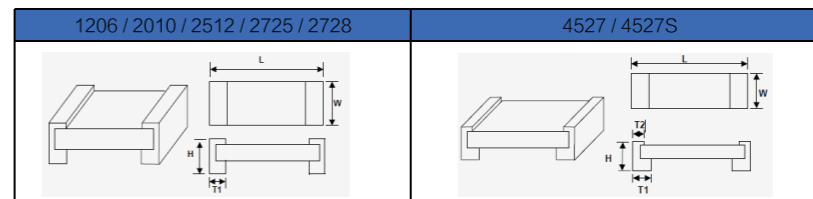
Operating Voltage= $\sqrt{P \cdot R}$ or Max.Operating Voltage listed above,whichever is lower.
 Overload Voltage= $2.5 \cdot \sqrt{P \cdot R}$ or Max.Overload Voltage listed above,whichever is lower.
 RCWV(Rated Continuous Working Voltage)= $\sqrt{P \cdot R}$ or Max. Operating Voltage whichever is lower.
 ■Reference Standards:IEC 60115-1,60068-2-58;JIS-C 5201-1
 操作电压= $\sqrt{P \cdot R}$, 过负载电压= $2.5 \cdot \sqrt{P \cdot R}$,操作电流= $\sqrt{P/R}$
 ■依据标准:IEC 60115-1,60068-2-58;JIS-C 5201-1

合金低阻贴片电阻 (MRE) Metal Alloy Low-Resistance Resistors

■ Resume 摘要

- | | |
|-----------------------|--------------------------------------|
| 1、高精度 (1%、5%、0.5%) | Tight tolerance (1%、5%、0.5%) |
| 2、高温特性 (最高温度170°C) | High temperature (Max.170°C) |
| 3、低温漂 (最低可15PPM/°C) | Low TCR (Min.15PPM/°C) |
| 4、大阻值范围 (0.2mΩ~330mΩ) | More resistance values (0.2mΩ~330mΩ) |
| 5、高功率 | High power |

■ Dimensions 尺寸



Size 规格	功率 (W)	阻值范围 (mΩ)	尺寸 Dimensions				
			L	W	H	T ₁	T ₂
0805	0.5	3~50	2.032 ± 0.20	1.270 ± 0.20	0.30 ± 0.05	0.35 ± 0.20	
1206	0.5/1.0	0.6	3.0 ± 0.25	1.6 ± 0.25	1.000 ± 0.254	0.725 ± 0.254	
		1			0.645 ± 0.254	0.508 ± 0.254	
		2.0~4.0			0.545 ± 0.254	0.600 ± 0.254	
		5				0.508 ± 0.254	
2010	1	1.0~3.0	5.080 ± 0.254	2.540 ± 0.254	0.787 ± 0.254	1.295 ± 0.254	
		3.1~100.0			0.645 ± 0.254	0.787 ± 0.254	
2512	1	0.5~4.0	6.248 ± 0.254	3.202 ± 0.254	0.787 ± 0.254	1.880 ± 0.254	
		4.1~75.0			0.645 ± 0.254	1.118 ± 0.254	
		75.1~100.0			0.645 ± 0.254	0.868 ± 0.254	
		100~200			0.645 ± 0.254	0.868 ± 0.254	
		201~300			0.600 ± 0.254	0.868 ± 0.254	
		100~200			0.787 ± 0.254	1.880 ± 0.254	
	1.5	0.5~4.0	6.248 ± 0.254	3.202 ± 0.254	0.645 ± 0.254	1.118 ± 0.254	
		4.1~75.0			0.645 ± 0.254	0.868 ± 0.254	
		75.1~100.0			0.645 ± 0.254	0.868 ± 0.254	
		101~200			0.600 ± 0.254	0.868 ± 0.254	
		201~220			0.787 ± 0.254	1.880 ± 0.254	
		201~220			0.645 ± 0.254	1.118 ± 0.254	
2	0.5~4.0	6.248 ± 0.254	3.202 ± 0.254	0.787 ± 0.254	1.880 ± 0.254		
	4.1~75.0			0.645 ± 0.254	1.118 ± 0.254		
	0.5			0.787 ± 0.254	1.880 ± 0.254		
	0.6~2.9			1.118 ± 0.254	1.676 ± 0.254		
	3.0~4.0			0.645 ± 0.254	1.118 ± 0.254		
	4.1~10.0			0.991 ± 0.254	2.159 ± 0.254		
2725	4	0.2~0.5	6.807 ± 0.254	6.452 ± 0.254	1.092 ± 0.254	2.159 ± 0.254	
		1			0.991 ± 0.254	1.803 ± 0.254	
		1.5			0.889 ± 0.254	1.651 ± 0.254	
		2			1.295 ± 0.254	1.295 ± 0.254	
		2.5					
2728	3	3.5&4.0	6.706 ± 0.254	7.188 ± 0.254	0.991 ± 0.254	1.143 ± 0.254	
		4.0~100.0					
		101~200					
4527S	3	0.5~5.0	11.430 ± 0.254	6.850 ± 0.254	1.400 ± 0.254	3.215 ± 0.254	0.965 ± 0.254
		5.1~20			1.815 ± 0.254	1.815 ± 0.254	
		0.5~50			3.2 ± 0.25	3.2 ± 0.25	
		5.1~120			1.500 ± 0.254	1.8 ± 0.25	

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