

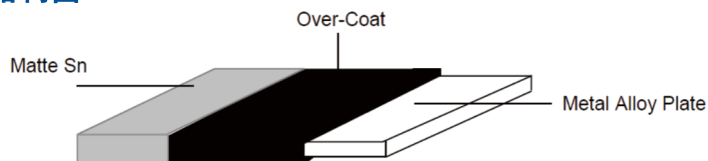
**合金低阻贴片电阻(MRF) Metal Alloy Low-Resistance Resistors**

**■ Resume 摘要**

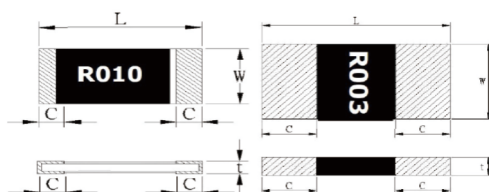
High power rating up to 5Watts/Low TCR down to 50PPM/Resistance values from 1mΩ to 500mΩ/Customized resistance available.

大功率（5Watts），低温度系数（50PPM），阻值范围（1mΩ ~ 500mΩ），可订做阻值。

**■ Construction 结构图**



**■ Dimensions 尺寸**



Size 规格	L	W	T	C
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)
2817	7.1 ± 0.20	4.2 ± 0.10	0.80 ± 0.20	0.90 ± 0.20
4527	11.65 ± 0.25	6.85 ± 0.25	1.10 ± 0.25	1.85 ± 0.25

**■ Part Numbering 型号名称**

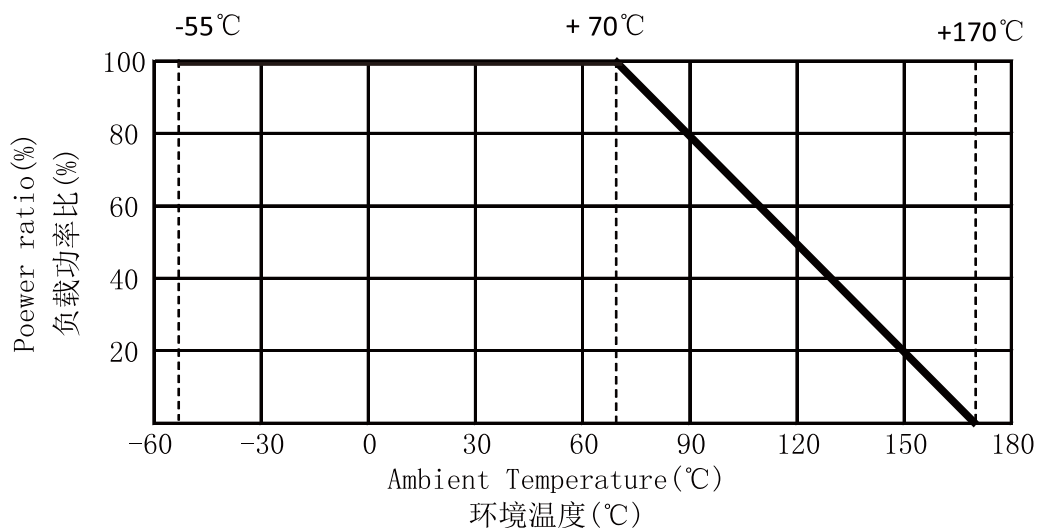
<u>MRF</u>	<u>6432 (2512)</u>	<u>LR3M5</u>	<u>F</u>	<u>T</u>	<u>S</u>
Product Type 产品类型	Resistor Size 电阻规格	Resistance 阻值	Resistance Tolerance 阻值公差	Packing Code 包装形式	High Power 升功率
MRF	3216 (1206) 5025 (2010) 6432 (2512)	LR001:0.001Ω LR010:0.01Ω LR3M5:0.0035Ω	F= ±1% G= ±2% J= ±5%	T: Taping Reel 卷装 B: Bulk 散装	Z: 5W R: 3W S: 2W A: 1.5W N: 1W Q: 3/4W U: 1/2W V: 1/4W

■ 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%		
1206	1/4W 1/2W 1W	-55~170°C	√(P*R)	1mΩ ≤ R ≤ 30mΩ	> 100MΩ	±50ppm/°C
2010	1/2W 3/4W 1W 1.5W	-55~170°C	√(P*R)	5mΩ ≤ R ≤ 50mΩ	> 100MΩ	± 100ppm/°C (5mΩ ≤ R ≤ 10mΩ) ± 75ppm/°C ) (R > 10mΩ)
2512	1W	-55~170°C	√(P*R)	1mΩ ≤ R ≤ 50mΩ	> 100MΩ	± 275ppm/°C (R ≤ 1mΩ) ± 50ppm/°C (1mΩ < R ≤ 50mΩ)
	1.5W			R ≤ 15mΩ		
	2W			R ≤ 10mΩ		
*2512	1W 1.5W 2W 3W	-55~170°C	√(P*R)	1mΩ ≤ R ≤ 100mΩ	> 100MΩ	± 50ppm/°C
	1W 1.5W 2W			100mΩ < R ≤ 500mΩ		
2817	3W	-55~170°C	√(P*R)	10mΩ / 20mΩ	> 100MΩ	-100ppm/K~0ppm/K ( -55°C~22°C ) 以 22°C为基准温度 ± 50 ppm/K ( 22°C ~60°C ) ± 60 ppm/K ( 60°C~170°C )
4527	5W	-55~170°C	√(P*R)	6mΩ ≤ R ≤ 50mΩ	> 100MΩ	± 75ppm/°C

\*:High Power升功率

■ 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.)	As Spec. 参考规格表	+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.

Storage Temperature:  $25 \pm 3^\circ\text{C}$ ; Humidity < 80%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= $\sqrt{P/R}$

■ 储存温度:  $25 \pm 3^\circ\text{C}$ ; 湿度 < 80%RH

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