METAL ALLOY LOW-RESISTANCE RESISTOR

MRF Series

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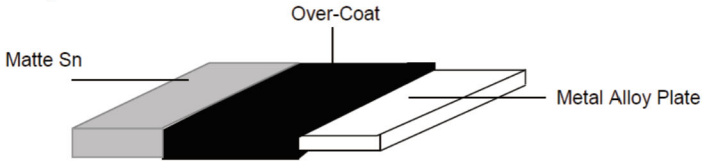
Metal Alloy Low-Resistance Resistors 合金低阻贴片电阻(MRF)

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

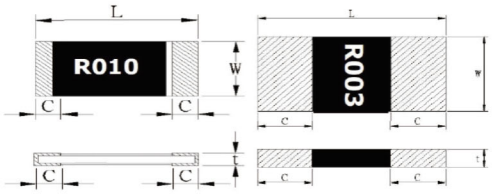
■ Resume 摘要

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

MRF	6432（2512）	LR3M5	F	T	S
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

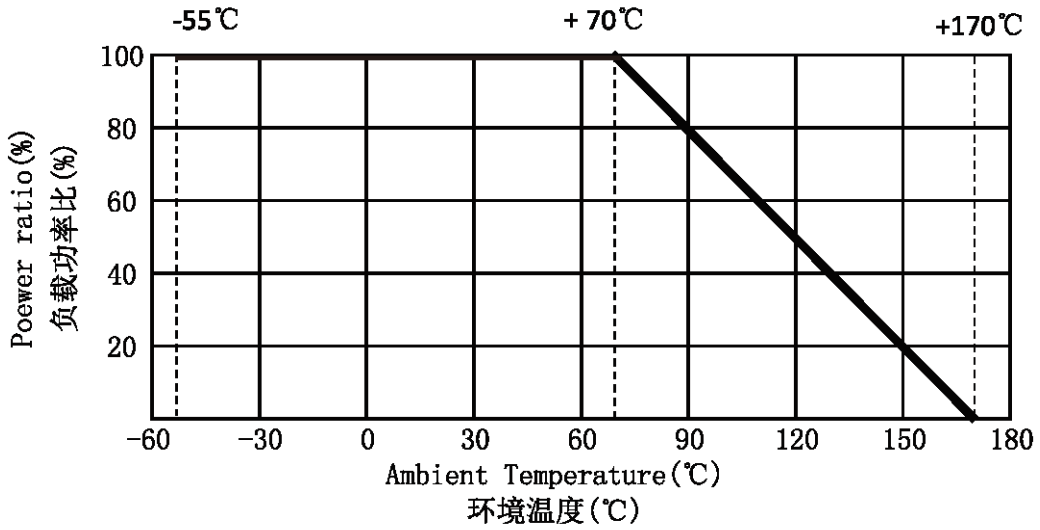
Metal Alloy Low-Resistance Resistors 合金低阻贴片电阻(MRF)

■ Standard Electrical Specifications 标准规格表

Item 项目 / Type 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 ±1% ±2% ±5%	Insulation Resistance 绝缘阻抗	TCR 温度系数 (PPM/℃)
1206	1/4W 1/2W 1W	-55~170℃	√(P*R)	1mΩ≤R≤30mΩ	>100MΩ	±50ppm/℃
2010	1/2W 3/4W 1W 1.5W	-55~170℃	√(P*R)	5mΩ≤R≤50mΩ	>100MΩ	±100ppm/℃ (5mΩ≤R≤10mΩ ±75ppm/℃) (R>10mΩ)
2512	1W	-55~170℃	√(P*R)	1mΩ≤R≤50mΩ	>100MΩ	±275ppm/℃ (R≤1mΩ) ±50ppm/℃ (1mΩ<R≤50mΩ)
	1.5W			R≤15mΩ		
	2W			R≤10mΩ		
*2512	1W 1.5W 2W 3W	-55~170℃	√(P*R)	1mΩ≤R≤100mΩ	>100MΩ	±50ppm/℃
	1W 1.5W 2W			100mΩ<R≤500mΩ		
2817	3W	-55~170℃	√(P*R)	10mΩ /20mΩ	>100MΩ	-100ppm/K~0ppm/K (-55℃~22℃) 以 22℃为基准温度 ±50 ppm/K (22℃ ~60℃) ±60 ppm/K (60℃~170℃)
4527	5W	-55~170℃	√(P*R)	6mΩ≤R≤50mΩ	>100MΩ	±75ppm/℃

*: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℃~+125℃
Load Life 负载寿命	< ±1%	1000hours at rated power,70℃ 1.5 hrs"ON" and 0.5 hrs "OFF" 70℃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℃,85%RH,1000hrs 85℃,85%RH,持续1000小时
Temperature Cycle 温度循环	< ±0.5%	-55℃ &+155℃，300cycle，15min per extreme condition -55℃ &+155℃，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℃ for 20±1 seconds 260±5℃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℃ for 2±0.5 seconds 245±5℃锡炉中，持续2±0.5秒
High Temperature Exposure 高温曝光	< ±1%	170℃,1000hrs 170℃,持续1000小时
Low Temperature Storage 低温存储	< ±0.5%	-55℃，1000hrs -55℃,,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=√(P*R) or Max.Operating Voltage listed above,whichever is lower.
Overload Voltage=2.5*√(P*R) or Max.Overload Voltage listed above,whichever is lower.
RCWV(Rated Continuous Working Voltage)=√(P*R) or Max. Operating Voltage whichever is lower.
Storage Temperature:25±3℃; Humidity<80%RH
Reference Standards:IEC 60115-1,60068-2-58;JIS-C 5201-1
■RCWV(额定持续工作电压)=√(P*R) 或者较小的最大操作电压.
操作电压=√(P*R) , 过负载电压=2.5*√(P*R) ,操作电流=√(P/R)
■储存温度:25±3℃；湿度<80%RH
■依据标准:IEC 60115-1,60068-2-58;JIS-C 5201-1