

规格书

SPECIFICATION

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合金贴片电阻规格书-RM Jumper 系列

Approval Specification Metal Jumper Chip Resistors Type *RM Jumper*

1 范围 (scope) :

1.1 适用于本公司所生产的无铅、无卤之合金贴片电阻 RM Jumper 系列

This specification applies to metal jumper chip resistors which meet requirements of Pb free and halogen free.

2 产品料号 (part number) :

2512 2W 1% 0mΩ

RM2512FBR000GM

<u>RM</u>	<u>2512</u>	<u>F</u>	<u>B</u>	<u>R000</u>	<u>G</u>	<u>M</u>
↓	↓	↓	↓	↓	↓	↓
类型(Type) RM: 合金贴片电阻(Metal jumper chip resistors)	尺寸(Size) 1206 2512	公差 Tolerance F=±1% J=±5%	额定功率 Rated Power 1= 1W B=2W C=3W	阻值 Resistance value R000=0mΩ	包装代码 Packing Code G= reel (卷装) V= bulk (散料)	电极 terminal M=窄电极 Narrow terminal T=宽电极 Wide terminal

3 电阻本体字码标示(Marking on the Resistor's Body):

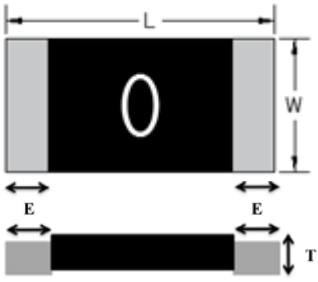
※ 以一字码标示, Marking→0=0mΩ



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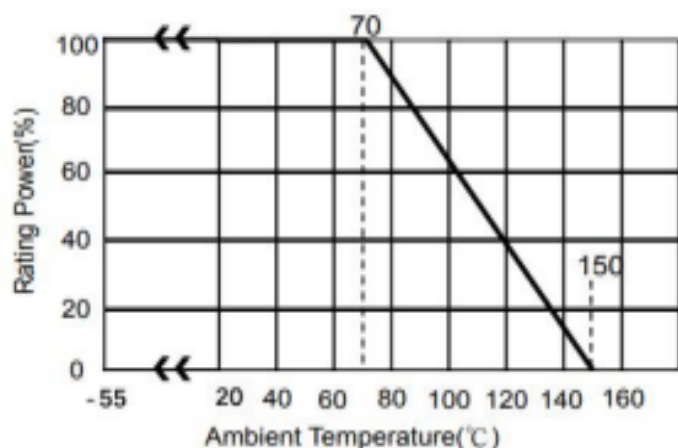
4 尺寸 (dimension) :

尺寸 dimension				
	单位 (unit) : mm			
型别 Type	L	W	T	E
RM1206	3.2±0.20	1.6±0.20	0.7±0.15	0.50±0.30
RM2512	6.4±0.2	3.2±0.2	0.70±0.20	0.9±0.2

5 功率衰减曲线 (Derating Curve) :

When the ambient temperature exceeds 70°C, power dissipation must be adjusted according to the derating curve below.

当电阻工作在温度超过 70°C 时，额定功率必须减额，减额曲线依据下图



工作温度范围 (Operating Temperature Range) : -55~+150°C

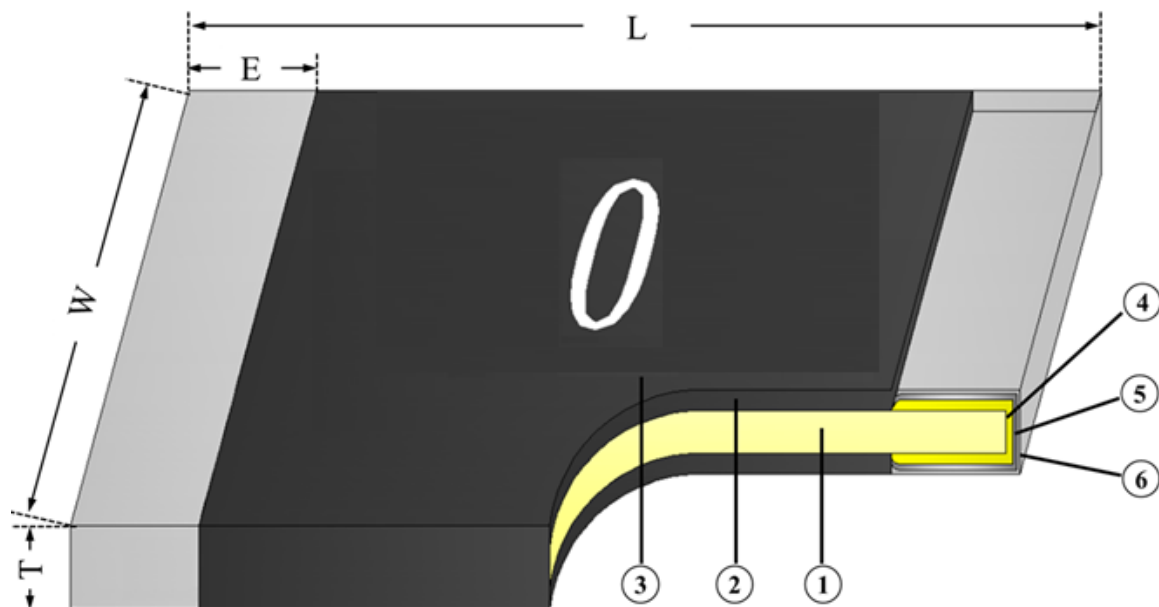
储存条件 (storage condition) :
5~30°C, 30~75%RH.

保存期限(Shelf Life): 2 年

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6 电阻结构 (Construction) :



No.	结构 construction	主要材料 Major material
1	阻体 Resistive layer	合金 Metal Alloy
2	保护层 Protective layer	环氧树脂 Epoxy
3	文字 Marking	环氧树脂 Epoxy
4	铜电极 Cu plating layer	铜 Cu
5	镍电极 Ni plating layer	镍 Ni
6	锡电极 Sn plating layer	锡 Sn

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7 阻值范围及电气特性 (Resistance Range and Electrical Characteristics) :

型别 Type	额定功率 Rated Power	阻值范围 Resistance Range	额定电流 Rated Current	操作温度 Operation Temperature
		F(±1%)		
RM1206	1W	≤0.2mΩ	70A	-55°C ~ +150°C
RM2512	2W/3W	≤0.2mΩ	100A	

备注 (remark) :

※ 额定电流计算公式 (The rated current is calculated by the following formula) :

$$I = \sqrt{P / R}$$

I: 额定电流 (Rated current) (A)

P: 额定功率 (Rated Power) (W)

R: 电阻阻值 (Resistance) (Ω)

※ 如果计算出的电流超过此型别的最大工作电流, 则此型别的最大工作电流为此电阻的额定电流。

In case the value calculated by the formula exceed the maximum working current as above table, the maximum working current shall be regarded as rated current.

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8 性能(Performance Specifications)

内容 Item	测试方法 Test Methods	测试条件 Test Conditions	规格 Specification
短时间过负荷 Short-time overload	IEC60115-1 4.13	額定功率 x4, 5sec 4 X rated power for 5s	<0.2mΩ
高温高湿 Biased Humidity	MIL-STD-202 METHOD 103	10%Rated power at 85°C,RH:85% , 1000Hrs, Measurement at 24hrs after test conclusion 10%额定功率, 85°C, 相对湿度: 85%, 1000 小 时, 试验结束后 24 小时测量	<0.2mΩ
温度循环 Temperature cycling	JESD22 Method JA-104	-55°C&+155°C, 循环 300 次, 试验结束 24±4 小时 后量测试验前后阻值变化率. 300Cycle (-55°C to 155°C), Measurement at 24hrs after test conclusion	< 0.2mΩ
高温储存 High Temperature Exposure(Stor age)	MIL-STD-202 Method 108	150°C下放置 1000H, 试验结束 24±4 小时后量测试 验前后阻值变化率. T=150°C ,1000hrs,Measurement at 24hrs after test conclusion	< 0.2mΩ
低温储存 Low Temperature operation	IEC60115-1 4.23.4	-55°C下放置 1000H, 24 小时后量测试验前后阻值 变化率. T= -55°C,1000hrs,Measurement at 24hrs after test conclusion	< 0.2mΩ

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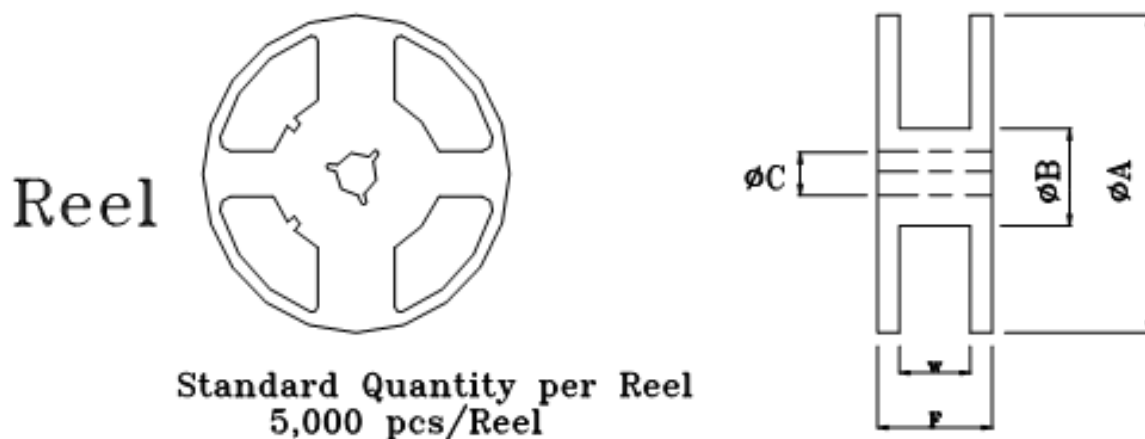
内容 Item	测试方法 Test Methods	测试条件 Test Conditions	规格 Specification
负荷寿命 Operational life	MIL-STD-202 METHOD 108	电阻放入恒温箱中，温度 $70\pm 2^{\circ}\text{C}$ ，通电额定电流 1.5 小时，断电 0.5 小时；重复通断电至试验时间 1000 小时。量测试验前后阻值变化率。 Put the specimen in a chamber at $70\pm 2^{\circ}\text{C}$ temperature and applied rated Current for 1.5H and rested for 0.5H repeatedly till total test time is 1000hrs .Measure the variation of resistance.	$< 0.2\text{m}\Omega$
抗焊锡热 Resistance to soldering heat	IEC60115-1 4.18	沾助焊剂后浸入锡炉，锡炉温度 $260\pm 5^{\circ}\text{C}$ ，时间 10 ± 1 秒，测量试验前后的阻值变化率。 T= $260\pm 5^{\circ}\text{C}$ solder, 10 ± 1 sec dwell	$< 0.2\text{m}\Omega$
焊锡性 Solderability	J-STD-002B test B	沾助焊剂后浸入锡炉，锡炉温度 $245\pm 5^{\circ}\text{C}$ ，时间 2~3Sec Dip the terminal in a flux and then dip into a soldering bath at $245\pm 5^{\circ}\text{C}$ for 2~3sec.	最少 95% 面积上锡 (Min 95% coverage)

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9 包装规格 (Tapping Specification)

9.1 卷盘尺寸 (reel dimension)



尺寸 Dimensions		A	B	C	F	W
RM1206	mm	178±2.00	60.00±1.00	13.50±0.50	11.40±0.10	9.00±0.30
	Inch	7.008±0.079	2.362±0.039	0.531±0.020	0.449±0.039	0.354±0.012
RM2512	mm	178±2.00	60.00±1.00	13.50±0.50	15.40±1.00	13.00±0.3
	Inch	7.008±0.079	2.362±0.039	0.531±0.020	0.606±0.039	0.512±0.012

※ 备注 (Remark) : (1) 2512 每卷 4,000 pcs

2512 Quantity per Reel 4,000 pcs/Reel

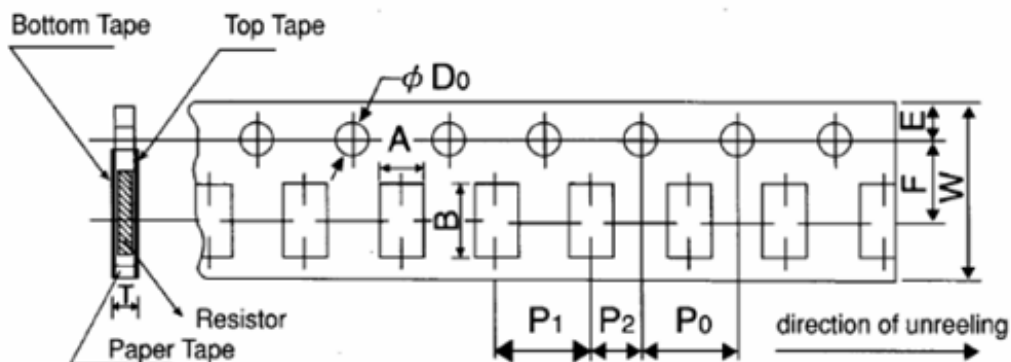
(2) 1206 每卷 5,000pcs

1206 Quantity per Reel 5,000 pcs/Reel

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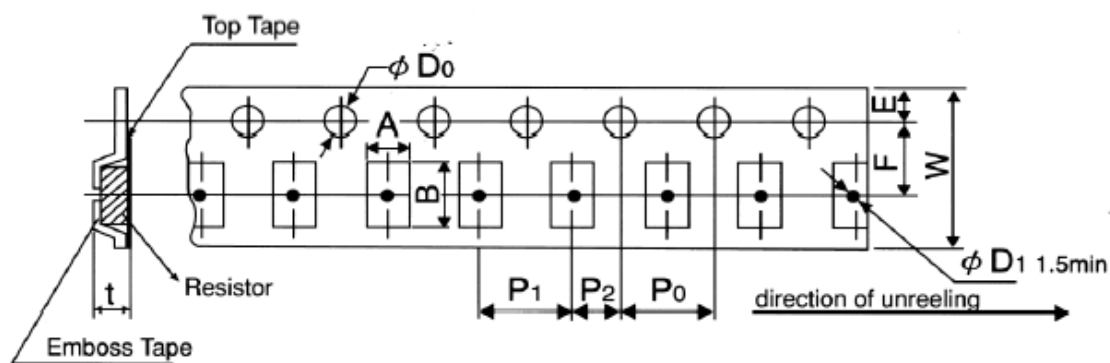
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9.2 包装尺寸 (packing dimension)



单位:mm

Packing	Type	A	B	W	F	E	P1	P2	P ₀	D ₀	T
Paper Tape	RM1206	2.0±0.15	3.6±0.2	8.0±0.2	3.5±0.05	1.75±0.1	4.0±0.1	2.0±0.05	4.0±0.1	1.50± ^{0.1} / _{0.0}	0.84±0.1



单位:mm

Packing	Type	A	B	W	F	E	P1	P2	P ₀	D ₀	T
Emboss	RM2512	3.6± ^{0.2} / _{0.18}	6.9±0.2	12.0±0.2	5.5±0.05	1.75±0.1	4.0±0.1	2.0±0.05	4.0±0.05	1.50± ^{0.1} / _{0.0}	1.00±0.2

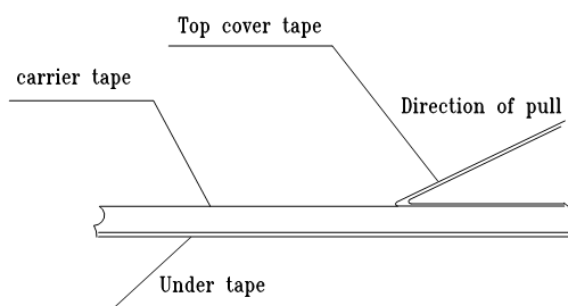
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10 上胶带剥离力测试 (Peel force of top cover tape)

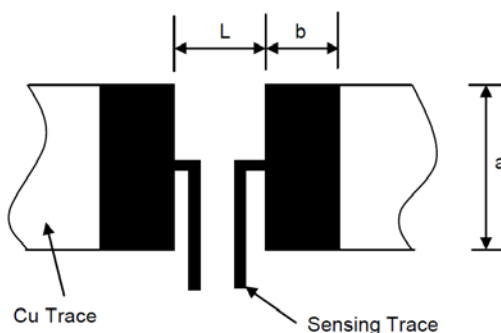
上胶带以 300mm/分钟的速度，沿 165~180 度角的方向进行剥离，如下图所示。纸带的剥离力范围为 0.1N~0.7N(10g~70g)；载带的剥离力范围为 0.3N~1N(30~100g)

The top cover tape is pulled at a speed of 300 mm/min with the angle between the tape during peel and the direction of unreeling maintained at 165 to 180 degree as following picture. The peel force of paper carrier tape shall be 0.1N to 0.7N(10 to 70 g), the peel force of plastic carrier tape shall be 0.3N to 1N (30 to 100 g)



11 焊接 (soldering)

11.1 建议焊盘尺寸 (Recommended Solder Pad Dimension)



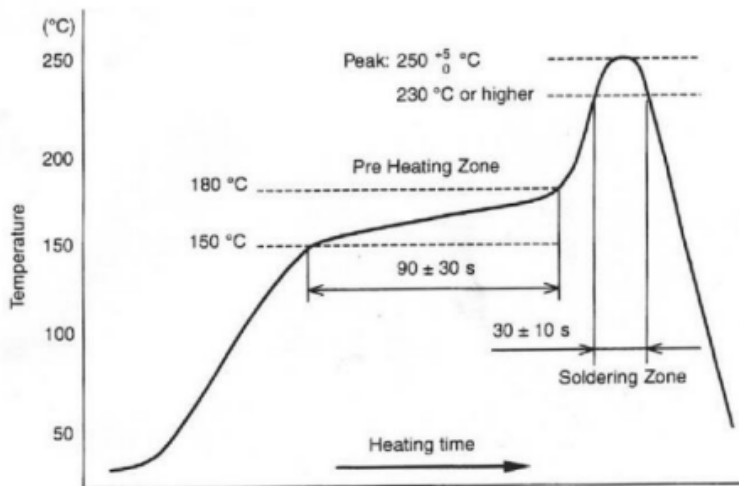
单位:mm

尺寸 Dimensions	阻值范围 Resistance Range	a	b	L
RM1206	0mΩ	1.80±0.1	1.70±0.1	1.60±0.1
RM2512	0mΩ	4.00±0.1	2.10±0.1	4.10±0.1

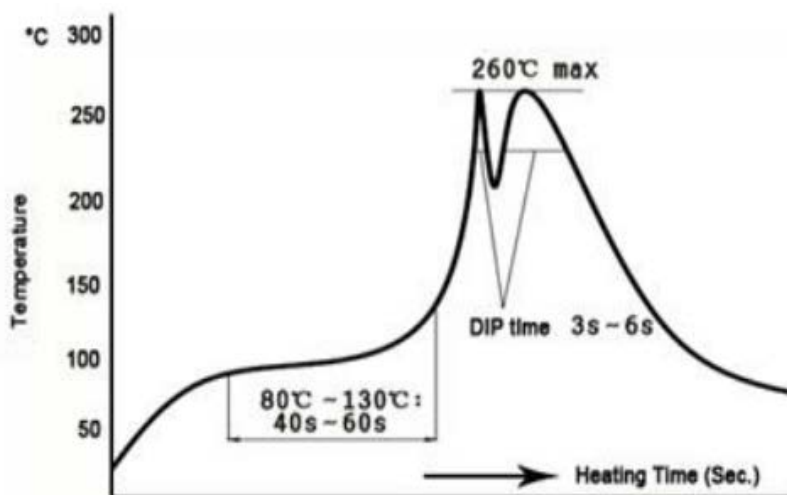
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11.2 建议回流焊曲线 (Recommend reflow soldering profile)



11.3 建议波峰焊曲线 (Recommend wave soldering profile)



11.4 手工焊温度 (hand soldering temperature)

烙铁温度 350 ± 10 °C, 3 秒之内, 避免烙铁接触电阻本体

The iron temperature is 350 ± 10 °C, hand soldering time less than 3S. Avoid solder iron tip direct touch the components body

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★All product specification and data are subject to change without notice.