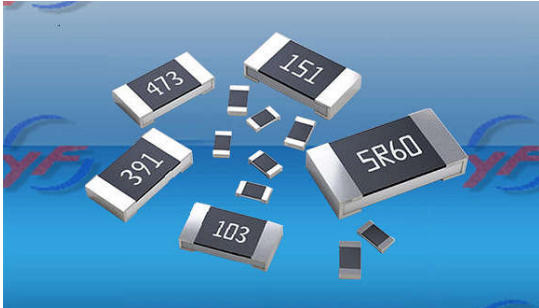


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■ **产品特性 Feature:**

- 低功率、体积小、阻值范围广
Low power, small size, wide resistance range;
- 性能稳定、高频特性好、机械特性稳定
Stable performance of high voltage, superior mechanical;
- 贴片安装，适合回流焊与波峰焊
Chip products, reflow and wave-flow solder are available;
- 符合环保要求 RoHS compliant, halogen free, lead free;

■ **产品引用范围 Application:**

- 消费电子 Consumer electronics;
- 工业/自动化行业 Industrial/automation system;
- 汽车电子 Automotive electronics;
- 仪器/仪表设备 Meter/Instruments;

■ **产品订货方式 Parts Number Explanation:**

RSMD	-	1206	-	1/4W	-	331	-	J	-	T
类型		尺寸		功率		阻值		误差		包装
Type		Dimension		Rated Power		Resistance		Tolerance		Packing
		0201		0.125W		5R6=5.6Ω		B:±0.1%		T: Belt/Reel type
		0402		0.25W		150=15Ω		D:±0.5%		B: Bulk type
		0603		0.5W		511=510Ω		F:±1%		
		0805		0.6W		1331=1.33KΩ		G:±2%		
		1206		1W		472=4.7KΩ		J:±5%		
		1210		2W		753=75KΩ		K:±10%		
		2010		3W		105=1MΩ				
		2512								

■ **环保申明 RoHS declaration:**

本产品符合 RoHS 2.0(2011/65/EU)环保要求。
 The products meet the standards of RoHS 2.0(2011/65/EU).

■ **参考标准 Reliability standard**

可焊性 Weldability Standard:	IEC60068-2-20
环境标准 Environment Standard:	SJ/T 11363-2006, ROHS 2011/65/EU
检验标准 QC standard:	MIL-STD-105E, GB/T 2828.1-2003
产品性能 Performance:	IEC60115-2008, GB/T5729-2003

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■ **标准产品规格 Standard electrical specifications:**

尺寸 Dimension	功率 Rated Power At 70°C	最高使用电压 Max. Rating Voltage(U _R)	最高过载电压 Max. Overload Voltage(U _L)	绝缘电压 Insulation Voltage(U _N)	温度系数 T.C.R. PPM/°C	工作温度 Operating Temperature
0201	1/20W	25VDC	50VDC	75VAC	±10ppm ~ 400ppm	-55°C ~ +125°C
0402	1/16W	50VDC	100VDC	150VAC		
0603	1/10W	50VDC	100VDC	150VAC		
0805	1/8W	150VDC	300VDC	430VAC		
1206	1/4W	200VDC	400VDC	570VAC		
1210	1/3W	200VDC	400VDC	600VAC		
2010	3/4W	200VDC	400VDC	600VAC		
2512	1W	200VDC	400VDC	600VAC		

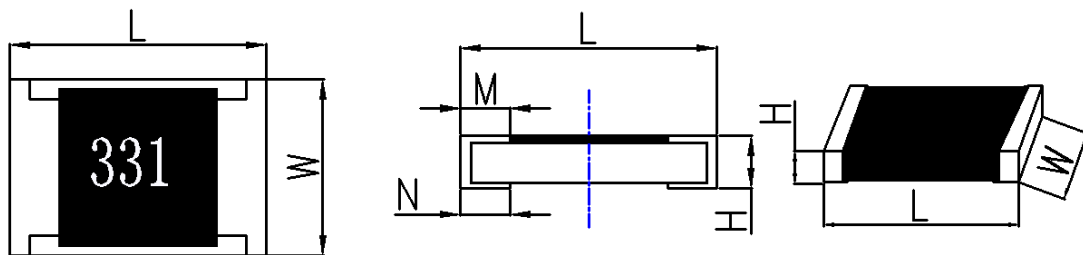
● **额定电压 Rating Voltage:**

额定功率对应的额定电压,直流(DC)或交流电流(AC),可以采用如下公式计算。当计算的额定电压超过最高使用电压时,则使用最高使用电压为额定电压。

The following equation may be used to determine the DC(Direct Current) or AC(Alternating Current)(RMS, root mean square value) of normal rated power. However, if the result value exceeds the max. using voltage, the max. using voltage is to be used:

$U_P = \sqrt{P \times R}$	U _P : 额定电压 Rating voltage (V) P: 额定功率 Rating Power (W) R: 电阻值 Resistance(Ω)
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■ **产品尺寸 Type dimension:**



尺寸 Dimension	阻值 Resistance	尺寸 Dimension(mm)				净重 N.W.
		L	W	H±0.1	N±0.2	
0201	4.7Ω~1MΩ	0.6±0.05	0.3±0.05	0.23±0.05	0.15±0.05	
0402	4.7Ω~1MΩ	1.0±0.10	0.5±0.10	0.3±0.10	0.25±0.10	
0603	1Ω~1MΩ	1.6±0.15	0.8±0.15	0.4±0.10	0.3±0.20	
0805	1Ω~1MΩ	2.0±0.20	1.25±0.20	0.5±0.10	0.4±0.20	
1206	1Ω~1MΩ	3.2±0.20	1.6±0.20	0.55±0.10	0.5±0.20	
1210	1Ω~1MΩ	3.2±0.20	2.5±0.20	0.55±0.10	0.5±0.20	
2010	1Ω~1MΩ	5.0±0.20	2.5±0.20	0.55±0.10	0.6±0.20	
2512	1Ω~1MΩ	6.4±0.20	3.2±0.20	0.55±0.10	0.6±0.20	

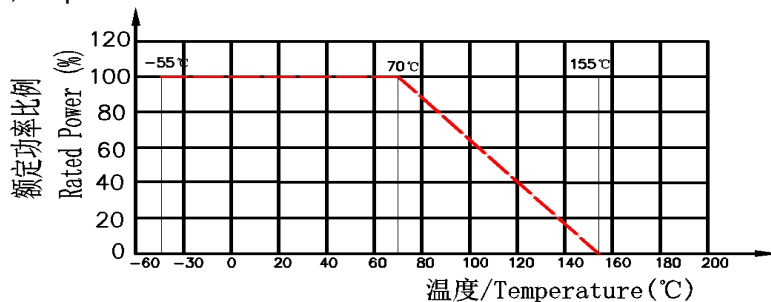
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■ 产品特性 Product performance:

● 额定功耗 Power Derating Curve:

额定功率是周围温度 70℃ 以下(推荐工作区域), 可连续使用的负载功率的最大数值, 且应使机械性能与电气性能满足. 如周围温度超过 70℃ 时, 依照下图功率衰减曲线而定。

Rated power is the max using power under 70℃ and continuous duty. At the same time, the overload power is fit for mechanical properties and electrical properties. When the temperature is over 70℃, the power must be derated in accordance with the curve as below:

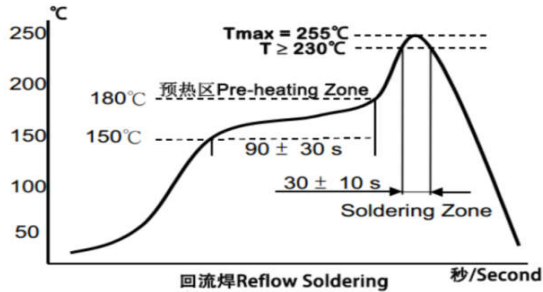


● 产品可靠性特性 Product reliable performance:

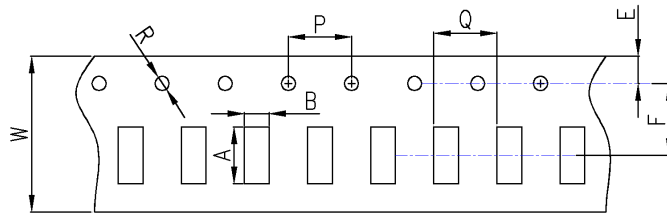
测试项目 Test Item	测试方法 Test Method	测试方法 Procedure	测试标准 Requirements										
基板强度 Substrate Strength	IEC60115-1 4.33	基板加载 5N 拉力, 时间 10 秒; Pressurizing force:5N, 10 seconds	无损坏 No damage										
本体强度 Body strength	IEC60115-1 4.15	电阻体中间, 加载 5N 的压力, 时间 60 秒 Central part pressurizing force:5N for 60seconds	无损坏 No damage $\Delta R/R \leq \pm 1.0\%$										
耐振性 Vibration	IEC60115-1 4.22	10~55HZ/0.75mm/2H*3											
耐焊锡热 Soldering Heat	IEC60115-1 4.18	270±5℃, 10S	$\Delta R/R \leq \pm 0.5\%$										
可焊锡性 Solderability	IEC60115-1 4.17	245±5℃, 3±0.5S	≥95%										
温度系数 Temperature coefficient (T.C.R.)	IEC60115-1 4.8	$T.C.R. = \frac{R - R_0}{R_0} \times \frac{1}{T - T_0} \times 10^6$ (PPM/°C) R ₀ : 常温下(T ₀)的阻值 Resistance at room temperature(T ₀); R: 测试温度(T=T ₀ +50)的阻值 Resistance at T=T ₀ +50;	根据产品额定参数 Refer to Ratings										
短时间过负载 Short Time Overload	IEC60115-1 4.13	Min(2.5 × U _P , U _R), 5s	$\Delta R/R \leq \pm 2.0\%$										
绝缘耐压 Withstanding voltage	IEC60115-1 4.7	U _N , 60S, I ≤ 2mA.	$\Delta R/R \leq \pm 0.5\%$										
绝缘阻值 Insulation resistance	IEC60115-1 4.6	DC100V, R > 100MΩ	$\Delta R/R \leq \pm 0.5\%$										
耐久性 Endurance	IEC60115-1 4.25	室温条件下, 取电压或者最高使用电压的较小者, 通电 1.5 小时, 断电 0.5 小时, 循环测试 1000 小时。 Min(U _P , U _R), 1.5H- ON and 0.5H-OFF for 1000H.	$\Delta R/R \leq \pm 5\%$										
断续过负载 Intermittent Overload	IEC60115-1 4.39	室温条件下, 取电压或者最高使用电压的较小者, 通电 1 秒, 断电 25 秒, 循环测试 10000 次。 Min(U _P , U _R), 1s-ON/25s-OFF for 10000 cycle	无损伤 No damage $\Delta R/R \leq \pm 5\%$										
温度循环 Temperature Cycle	IEC60115-1 4.19	如下循环 Cycle Below: <table border="1" style="margin-left: 20px;"> <tr> <td>温度 Temperature</td> <td>25℃</td> <td>85℃</td> <td>25℃</td> <td>-25℃</td> </tr> <tr> <td>时间 Duration</td> <td>15min</td> <td>15min</td> <td>15min</td> <td>15min</td> </tr> </table> 持续时间 Cycle Time:1000Hrs.	温度 Temperature	25℃	85℃	25℃	-25℃	时间 Duration	15min	15min	15min	15min	无损坏 No damage $\Delta R/R \leq \pm 0.5\%$
温度 Temperature	25℃	85℃	25℃	-25℃									
时间 Duration	15min	15min	15min	15min									
耐溶剂特性 Solvent Resistance	IEC6011-1 4.29	在室温条件下, 在异丙醇(IPA)浸泡 10 小时。 In iso-propyl alcohol(IPA) for 10H in normal condition	无损伤 No damage $\Delta R/R \leq \pm 1.0\%$										

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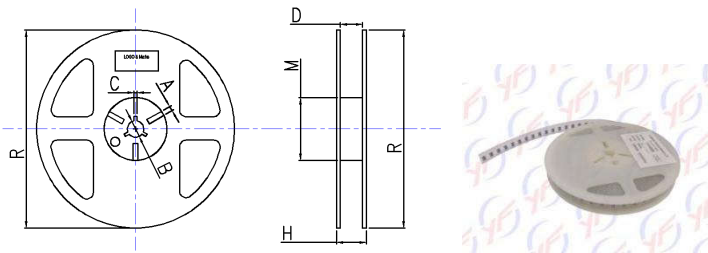
● 焊接参数 Soldering profile:



■ 包装尺寸 Embossed Dimensions(Reel):



种类 Type	尺寸 Dimension(mm)							
	W±0.5	E±0.2	F±0.1	P±0.5	Q±0.5	R±0.2	A±0.2	B±0.2
0201	8	1.75	3.5	4	2	1.5	0.7	0.4
0402	8	1.75	5.5	4	2	1.5	1.2	0.7
0603	8	1.75	3.5	4	4	1.5	1.85	1.1
0805	8	1.75	3.5	4	4	1.5	2.35	1.65
1206	8	1.75	3.5	4	4	1.5	3.5	1.9
1210	8	1.75	3.5	4	4	1.5	3.5	2.8
2010	12	1.75	5.5	4	4	1.5	5.5	2.8
2512	12	1.75	5.5	4	4	1.5	6.8	3.5



型号 Type	数量 MPQ	尺寸 Dimension(mm)						
		R±2.0	D±1.0	H±1.0	M±2.0	A±0.5	B±0.5	C±0.5
0201	10,000 PCS	178	9.5	11.5	60	2	13	5.5
0402	10,000 PCS	178	9.5	11.5	60	2	13	5.5
0603	5,000 PCS	178	9.5	11.5	60	2	13	5.5
0805	5,000 PCS	178	9.5	11.5	60	2	13	5.5
1206	5,000 PCS	178	9.5	11.5	60	2	13	5.5
1210	5,000 PCS	178	9.5	11.5	60	2	13	5.5
2010	4,000 PCS	178	13	15	60	2	13	5.5
2512	4,000 PCS	178	13	15	60	2	13	5.5