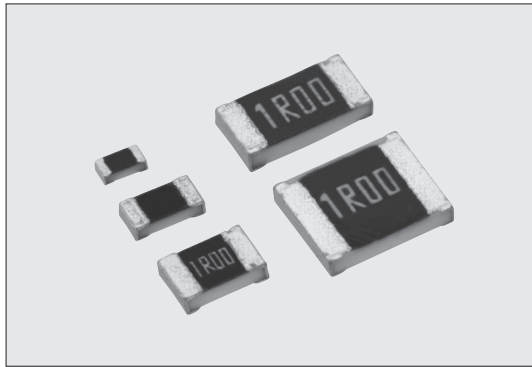


SR73-RT 矩形低阻值片式电阻器 (抗硫化型)

Low Resistance Flat Chip Resistors (Anti Sulfuration)



外观颜色: 黑色
Coating color: Black

特点 Features

- 由于内部上面电极使用高性能抗硫化材料, 因此内部上面电极不会产生硫化断线。
- 是电源电路、电动机电路等的电流检测电阻器
- 是阻值允许偏差±1.0%、电阻温度系数±100×10⁻⁶/K的高可靠性、高性能产品。
- 对应回流焊、波峰焊。
- 端子无铅品, 符合欧盟RoHS。电极、电阻膜层、玻璃中所含的铅玻璃不适用欧盟RoHS指令。
- AEC-Q200相关数据已取得。
- Excellent anti-sulfuration characteristic due to using high sulfuration-proof inner top electrode material.
- Current detecting resistors for power supply, motor circuits, etc.
- High reliability and performance with resistance tolerance ±1.0%, T.C.R. ±100×10⁻⁶/K
- Suitable for both reflow and flow solderings.
- Products with lead free termination meet EU-RoHS requirements. EU-RoHS regulation is not intended for Pb-glass contained in electrode, resistor element and glass.
- AEC-Q200 qualified

品名构成 Type Designation

实例 Example

SR73	2B	RT	TD	R10	J
品种 Product Code	额定功率 Power Rating	端子表面材质 Terminal Surface Material	二次加工 Taping	公称电阻值*1 Nominal Resistance	阻值允许偏差 Resistance Tolerance
	1E:0.166W 1J:0.2W 2A:0.33W 0.5W 2B:0.33W 0.5W 2E:0.5W 0.66W	RT:Sn	TP: 2mm pitch punch paper TD:4mm pitch punch paper BK:Bulk	F:4 digits G:3 digits Ex. 0.1Ω:R100	F:±1% G:±2% J:±5%

电阻值范围 (Ω) Resistance Value	3位显示 3digits	电阻值范围 (Ω) Resistance Value	4位显示 4digits
0.1~0.91	R10~R91	0.1~0.976	R100~R976
1~9.1	1R0~9R1	1~9.76	1R00~9R76
10	100	10	10R0

欲知关于此产品含有的环境有害物质详情(除EU-RoHS以外), 请与我们联系。
编带细节请参考卷末附录C。

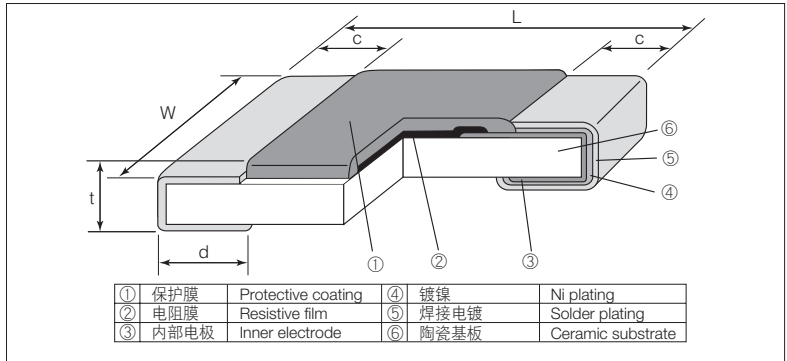
Contact us when you have control request for environmental hazardous material other than the substance specified by EU-RoHS.

For further information on taping, please refer to APPENDIX C on the back pages.

参考标准 Reference Standards

IEC 60115-8
JIS C 5201-8
EIAJ RC-2134C

结构图 Construction



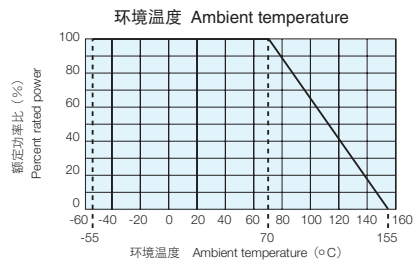
外形尺寸 Dimensions

型号 Type (Inch Size Code)	电阻值范围 (Ω) Resistance Range	尺寸 Dimensions (mm)					Weight(g) (1000pcs)
		L	W	c	d	t	
1E(0402)	1~10	1.0 ^{+0.1} _{-0.05}	0.5 ^{+0.1} _{-0.05}	0.2±0.1	0.25±0.1	0.35±0.05	0.68
1J(0603)	0.1~0.43	1.6±0.2	0.8 ^{+0.15} _{-0.1}	0.4±0.1	0.45±0.1	0.45±0.1	2.50
	0.47~10			0.35±0.1	0.35±0.1		2.14
2A(0805)	0.1~0.43	2.0±0.2	1.25±0.1	0.4±0.2	0.4 ^{+0.2} _{-0.1}	0.5±0.1	5.13
	0.47~10				0.3 ^{+0.2} _{-0.1}		4.54
2B(1206)	0.1~0.43	3.2±0.2	1.6±0.2	0.5±0.3	0.5 ^{+0.2} _{-0.1}	0.6±0.1	10.0
	0.47~10				0.4 ^{+0.2} _{-0.1}		9.14
2E(1210)	0.1~0.39	2.6±0.2			0.5 ^{+0.2} _{-0.1}		16.3
	0.43~10				0.4 ^{+0.2} _{-0.1}		15.5

用途 Applications

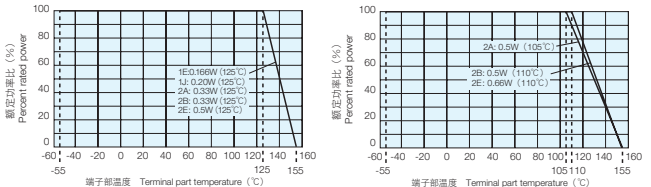
- 汽车电子装置、电源、工业机器
- Car electronics, Power supply, Industrial robot

负荷减轻特性曲线 Derating Curve



在环境温度70℃以上使用时, 应按照上图负荷减轻特性曲线, 减小额定功率。
For resistors operated at an ambient temperature of 70°C or above, a power rating shall be derated in accordance with the above derating curve.

端子部温度 Terminal part temperature SR73 2A (0.5W), SR73 2B (0.5W), SR73 2E (0.66W)



超过上述端子部温度使用时, 请根据负荷特性曲线减小额定功率后使用。
按照※2的额定功率使用时, 请使用右侧端子部温度的负荷减轻特性曲线。

※关于使用方法, 请参照卷首的“端子部温度负荷特性曲线的说明”。
For resistors operated terminal part temperature of described for each size or above, a power rating shall be derated in accordance with derating curve.

If you want to use at the rated power of ※2 please use the derating curves based on the terminal part temperature of right side.

※Please refer to "Introduction of the derating curves based on the terminal part temperature" on the beginning of our catalog before use.

■ 额定值 Ratings

NEW

型号 Type	额定功率 Power Rating	额定环境温度 Rated Ambient Temp.	额定端子部温度 Rated Terminal Part Temp.	电阻温度系数 T.C.R. ($\times 10^{-6}/K$)	电阻值范围 Resistance Range (Ω)			编带和包装数/卷 Taping & Q'ty /Reel (pcs)	
					F: $\pm 1\%$ E24 · E96 ^{※3}	G: $\pm 2\%$ E24	J: $\pm 5\%$ E24	TPL · TP	TD
1E	0.166W	70°C	125°C	± 200	1~10	1~10	1~10	TPL:20,000 TP :10,000	—
1J	0.2W	70°C	125°C	± 200	0.2~10	0.2~10	0.2~10	—	5,000
				± 300	0.1~0.18	0.1~0.18	0.1~0.18		
2A	0.33W	70°C	125°C	± 100	0.47~10	—	—	—	5,000
				± 200	0.2~0.43	0.2~10	0.2~10		
	± 250	0.1~0.18	0.1~0.18	0.1~0.18					
	± 100	0.47~10	—	—					
0.5W ^{※2}	—	105°C	105°C	± 200	0.2~0.43	0.2~10	0.2~10	—	5,000
				± 250	0.1~0.18	0.1~0.18	0.1~0.18		
2B	0.33W	70°C	125°C	± 100	0.47~10	—	—	—	5,000
				± 200	0.2~0.43	0.2~10	0.2~10		
	± 250	0.1~0.18	0.1~0.18	0.1~0.18					
	± 100	0.47~10	—	—					
0.5W ^{※2}	—	110°C	110°C	± 200	0.2~0.43	0.2~10	0.2~10	—	5,000
				± 250	0.1~0.18	0.1~0.18	0.1~0.18		
2E	0.5W	70°C	125°C	± 100	0.43~10	—	—	—	5,000
				± 200	0.2~0.39	0.2~10	0.2~10		
	± 250	—	—	0.1~0.18					
	± 100	0.43~10	—	—					
0.66W ^{※2}	—	110°C	110°C	± 200	0.2~0.39	0.2~10	0.2~10	—	5,000
				± 250	—	—	0.1~0.18		

 使用温度范围 Operating Temperature Range: $-55^{\circ}\text{C} \sim +155^{\circ}\text{C}$

 额定电压是 $\sqrt{\text{额定功率} \times \text{公称电阻值}}$ 所算出的值。

 Rated voltage = $\sqrt{\text{Power Rating} \times \text{Resistance value}}$

 ※3 SR731E (F: $\pm 1.0\%$), SR731J、2A、2B ($0.1\Omega \sim 0.43\Omega$) 及 SR732E ($0.1\Omega \sim 0.39\Omega$) 的公称阻值仅为 E24。

 ※3 The nominal resistance value for SR731E (F: $\pm 1.0\%$), SR731J, 2A, 2B ($0.1\Omega \sim 0.43\Omega$) and SR732E ($0.1\Omega \sim 0.39\Omega$) is in E24.

根据客户的使用状况, 如果不清楚是该使用额定环境温度还是额定端子部温度, 请以额定端子部温度为优先。

详情请参照 14~17 页的“端子部温度负荷特性曲线的说明”。

If any questions arise whether to use the “Rated Ambient Temperature” or the “Rated Terminal Part Temperature” in your usage conditions, please give priority to the “Rated Terminal Part Temperature”.

For more details, please refer to “Introduction of the derating curves based on the terminal part temperature” in page 14 to 17.

■ 性能 Performance

试验项目 Test Items	标准值 Performance Requirements $\Delta R \pm (\% + 0.005\Omega)$		试验方法 Test Methods
	保证值 Limit	代表值 Typical	
电阻值 Resistance	在规定的允许偏差内 Within specified tolerance	—	25°C
电阻温度系数 T.C.R.	在规定值以内 Within specified T.C.R.	—	$+25^{\circ}\text{C} / -55^{\circ}\text{C}$ and $+25^{\circ}\text{C} / +125^{\circ}\text{C}$
过载 (短时间) Overload (Short time)	2	0.5	额定电压 $\times 2.5$ 倍施加 5 秒钟 Rated voltage $\times 2.5$ for 5s
耐焊接热 Resistance to soldering heat	1	0.3	$260^{\circ}\text{C} \pm 5^{\circ}\text{C}$, 10s ± 1 s
温度突变 Rapid change of temperature	1	0.3	-55°C (30min.) / $+125^{\circ}\text{C}$ (30min.) 100 cycles
耐湿负荷 Moisture resistance	2	1	$40^{\circ}\text{C} \pm 2^{\circ}\text{C}$, 90%~95%RH, 1000h 1.5小时 ON、0.5小时 OFF 的周期 1.5h ON/0.5h OFF cycle
在 70°C 时的耐久性 Endurance at 70°C	2	1	$70^{\circ}\text{C} \pm 2^{\circ}\text{C}$, 1000h 1.5小时 ON、0.5小时 OFF 的周期 1.5h ON/0.5h OFF cycle
高温放置 High temperature exposure	1	0.3	$+155^{\circ}\text{C}$, 1000h
硫化试验 Sulfuration test	5	0.2	用含硫 3.5% 的工业油浸渍 $105^{\circ}\text{C} \pm 3^{\circ}\text{C}$ 500h Soaked in industrial oil with sulfur substance 3.5% contained $105^{\circ}\text{C} \pm 3^{\circ}\text{C}$ 500h

■ 使用注意事项 Precautions for Use

- 片状电阻器的基材是氧化铝, 由于和安装基板的热膨胀系数不同, 在反复施加热循环等热应力时, 结合部的焊锡 (焊脚部) 有时会发生龟裂。
- 根据焊盘图案的大小和接续焊接的量, 焊接后的电阻值会有变动。设计前请确认电阻值的增加/下降的影响。
- The substrate of chip resistors is alumina. Cracks may occur at the connection of solder (solder fillet portion) due to the difference of the coefficient of thermal expansion from a mounting board when heat stress like heat cycle, etc. are repeatedly given to them.
- The resistance value after soldering may change depending on the size of pad pattern or solder amount. Make sure the effect of decline/increase of resistance value before designing.