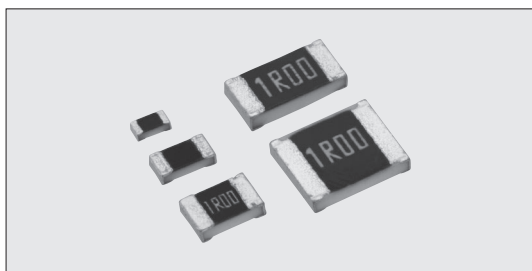
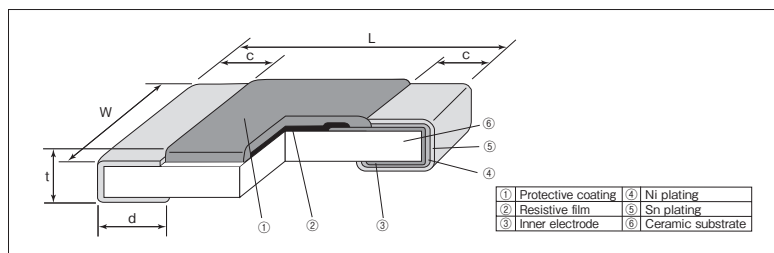


## SR73-RT Low Resistance Flat Chip Resistors (Anti Sulfuration)



Coating color : Black

## Construction



## Features

- 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  $\pm 1.0\%$ , T.C.R.  $\pm 100 \times 10^{-6}/K$
- 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 Tested.

## Applications

- Car electronics, Power supply, Industrial robot

## Reference Standards

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

## Dimensions

Type (Inch Size Code)	Resistance Range ( $\Omega$ )	Dimensions (mm)					Weight(g) (1000pcs)
		L	W	c	d	t	
1E (0402)	1~10	$1.0 \pm 0.05$	$0.5 \pm 0.05$	$0.2 \pm 0.1$	$0.25 \pm 0.1$	$0.35 \pm 0.05$	0.68
1J (0603)	0.1~0.43	$1.6 \pm 0.2$	$0.8 \pm 0.15$	$0.35 \pm 0.1$	$0.35 \pm 0.1$	$0.45 \pm 0.1$	2.50
	0.47~10			$0.35 \pm 0.1$	$0.35 \pm 0.1$		2.14
2A (0805)	0.1~0.43	$2.0 \pm 0.2$	$1.25 \pm 0.1$	$0.4 \pm 0.2$	$0.4 \pm 0.2$	$0.5 \pm 0.1$	5.13
	0.47~10				$0.3 \pm 0.2$		4.54
2B (1206)	0.1~0.43	$3.2 \pm 0.2$	$1.6 \pm 0.2$	$0.5 \pm 0.3$	$0.5 \pm 0.2$	$0.6 \pm 0.1$	10.0
	0.47~10				$0.4 \pm 0.2$		9.14
2E (1210)	0.1~0.39	$2.6 \pm 0.2$	$2.6 \pm 0.2$	$0.5 \pm 0.3$	$0.5 \pm 0.2$	$0.6 \pm 0.1$	16.3
	0.43~10				$0.4 \pm 0.2$		15.5

## Type Designation

Example

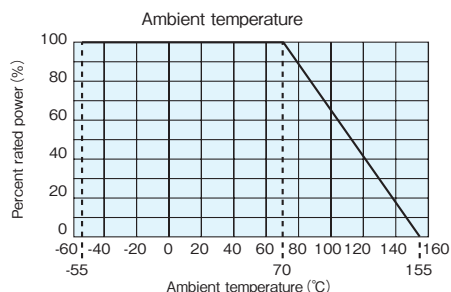
SR73	2B	R	T	TD	R10	J
Product Code	Power Rating	Characteristic	Terminal Surface Material	Taping	Nominal Resistance	Resistance Tolerance
	1E: 0.166W 1J: 0.2W 2A: 0.33W 2B: 0.33W 2E: 0.5W 2E: 0.66W	R: Anti sulfuration	T: Sn	TPL: TP: 2mm pitch punch paper TD: 4mm pitch punch paper BK: Bulk	F: 4 digits G, J: 3 digits Ex. 0.1 $\Omega$ : R100	F: $\pm 1\%$ G: $\pm 2\%$ J: $\pm 5\%$

Resistance Value ( $\Omega$ )	3digits	Resistance Value ( $\Omega$ )	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

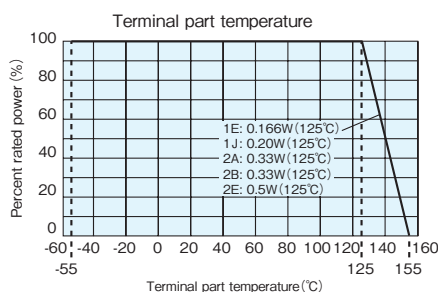
Contact us when you have control request for environmental hazardous material other than the substance specified by EU-RoHS.

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

## Derating Curve



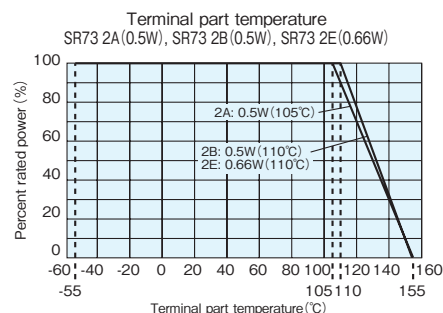
For resistors operated at an ambient temperature of 70°C or higher, the power shall be derated in accordance with the above derating curve.



When the terminal part temperature of the resistor exceeds the rated terminal part temperature shown above, the power shall be derated according to the derating curve.

If you want to use at the rated power of  $\times 2$  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.



## Ratings

Type	Power Rating	Rated Ambient Temp.	Rated Terminal Part Temp.	T.C.R. ( $\times 10^{-6}/K$ )	Resistance Range ( $\Omega$ )			Taping & Q'ty /Reel (pcs)	
					F: $\pm 1\%$ E24 · E96 <sup>※1</sup>	G: $\pm 2\%$ E24	J: $\pm 5\%$ E24	TPL · TP	TD
1E	0.166W	70°C	125°C	$\pm 200$	1~10	1~10	1~10	TPL:20,000 TP :10,000	—
1J	0.2W	70°C	125°C	$\pm 200$ $\pm 300$	0.2~10 0.1~0.18	0.2~10 0.1~0.18	0.2~10 0.1~0.18	—	5,000
2A	0.33W	70°C	125°C	$\pm 100$ $\pm 200$ $\pm 250$	0.47~10 0.2~0.43 0.1~0.18	— 0.2~10 0.1~0.18	— 0.2~10 0.1~0.18	—	5,000
				$\pm 100$ $\pm 200$ $\pm 250$	0.47~10 0.2~0.43 0.1~0.18	— 0.2~10 0.1~0.18	— 0.2~10 0.1~0.18		
				$\pm 100$ $\pm 200$ $\pm 250$	0.47~10 0.2~0.43 0.1~0.18	— 0.2~10 0.1~0.18	— 0.2~10 0.1~0.18		
	0.5W <sup>※2</sup>	70°C	105°C	$\pm 100$ $\pm 200$ $\pm 250$	0.47~10 0.2~0.43 0.1~0.18	— 0.2~10 0.1~0.18	— 0.2~10 0.1~0.18		
				$\pm 100$ $\pm 200$ $\pm 250$	0.47~10 0.2~0.43 0.1~0.18	— 0.2~10 0.1~0.18	— 0.2~10 0.1~0.18		
				$\pm 100$ $\pm 200$ $\pm 250$	0.47~10 0.2~0.43 0.1~0.18	— 0.2~10 0.1~0.18	— 0.2~10 0.1~0.18		
2B	0.33W	70°C	125°C	$\pm 100$ $\pm 200$ $\pm 250$	0.47~10 0.2~0.43 0.1~0.18	— 0.2~10 0.1~0.18	— 0.2~10 0.1~0.18	—	5,000
				$\pm 100$ $\pm 200$ $\pm 250$	0.47~10 0.2~0.43 0.1~0.18	— 0.2~10 0.1~0.18	— 0.2~10 0.1~0.18		
				$\pm 100$ $\pm 200$ $\pm 250$	0.47~10 0.2~0.43 0.1~0.18	— 0.2~10 0.1~0.18	— 0.2~10 0.1~0.18		
	0.5W <sup>※2</sup>	70°C	110°C	$\pm 100$ $\pm 200$ $\pm 250$	0.47~10 0.2~0.43 0.1~0.18	— 0.2~10 0.1~0.18	— 0.2~10 0.1~0.18		
				$\pm 100$ $\pm 200$ $\pm 250$	0.47~10 0.2~0.43 0.1~0.18	— 0.2~10 0.1~0.18	— 0.2~10 0.1~0.18		
				$\pm 100$ $\pm 200$ $\pm 250$	0.47~10 0.2~0.43 0.1~0.18	— 0.2~10 0.1~0.18	— 0.2~10 0.1~0.18		
2E	0.5W	70°C	125°C	$\pm 100$ $\pm 200$ $\pm 250$	0.43~10 0.2~0.39 —	— 0.2~10 —	— 0.2~10 0.1~0.18	—	5,000
				$\pm 100$ $\pm 200$ $\pm 250$	0.43~10 0.2~0.39 —	— 0.2~10 —	— 0.2~10 0.1~0.18		
				$\pm 100$ $\pm 200$ $\pm 250$	0.43~10 0.2~0.39 —	— 0.2~10 —	— 0.2~10 0.1~0.18		
	0.66W <sup>※2</sup>	70°C	110°C	$\pm 100$ $\pm 200$ $\pm 250$	0.43~10 0.2~0.39 —	— 0.2~10 —	— 0.2~10 0.1~0.18		
				$\pm 100$ $\pm 200$ $\pm 250$	0.43~10 0.2~0.39 —	— 0.2~10 —	— 0.2~10 0.1~0.18		
				$\pm 100$ $\pm 200$ $\pm 250$	0.43~10 0.2~0.39 —	— 0.2~10 —	— 0.2~10 0.1~0.18		

Operating Temperature Range :  $-55^{\circ}\text{C} \sim +155^{\circ}\text{C}$

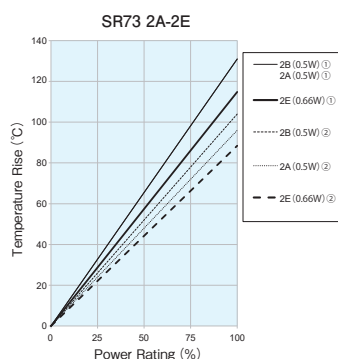
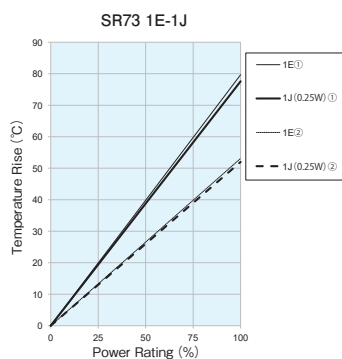
Rated voltage= $\sqrt{\text{Power Rating} \times \text{Resistance value}}$

※1 The nominal resistance value for SR731E(1 $\Omega \sim 10\Omega$ ), SR731J, 2A, 2B (0.1 $\Omega \sim 0.43\Omega$ ) and SR732E (0.1 $\Omega \sim 0.39\Omega$ ) is in E24.

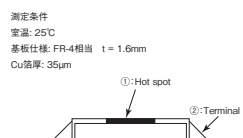
※2 If you use at the rated power, please keep the condition that the terminal of the resistor is below the rated terminal part temperature. Please refer to the derating curves based on the terminal temperature of right side on the previous page.

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" on the beginning of our catalog.

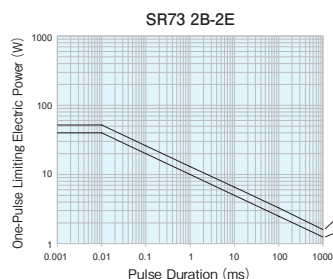
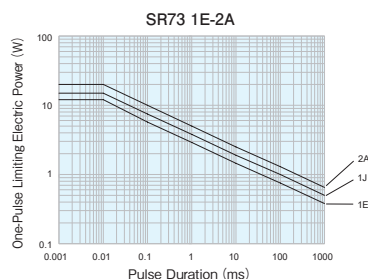
## Temperature Rise



Regarding the temperature rise, the value of the temperature varies per conditions and board for use since the temperature is measured under our measuring conditions.



## One-Pulse Limiting Electric Power



Please ask us about the resistance characteristic of continuous applied pulse. The pulse endurance values are not assured values, so be sure to check the products on actual equipment when you use them.

## ■ Performance

Test Items	Performance Requirements $\Delta R \pm$ (% +0.005 $\Omega$ )		Test Methods
	Limit	Typical	
Resistance	Within specified tolerance	—	25°C
T.C.R.	Within specified T.C.R	—	+25°C / -55°C and +25°C / +125°C
Overload (Short time)	2	0.5	Rated voltage $\times$ 2.5 for 5s
Resistance to soldering heat	1	0.3	260°C $\pm$ 5°C, 10s $\pm$ 1s
Rapid change of temperature	1	0.3	-55°C (30min.) / +125°C (30min.) 100 cycles
Moisture resistance	2	1	40°C $\pm$ 2°C, 90%~95%RH, 1000h 1.5h ON / 0.5h OFF cycle
Endurance at 70°C or rated terminal part temperature	2	1	70°C $\pm$ 2°C or rated terminal part temperature $\pm$ 2°C 1000h 1.5h ON / 0.5h OFF cycle
High temperature exposure	1	0.3	+155°C, 1000h
Sulfuration test	5	0.2	Soaked in industrial oil with sulfur substance 3.5% contained 105°C $\pm$ 3°C 500h

## ■ Precautions for Use

- 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.