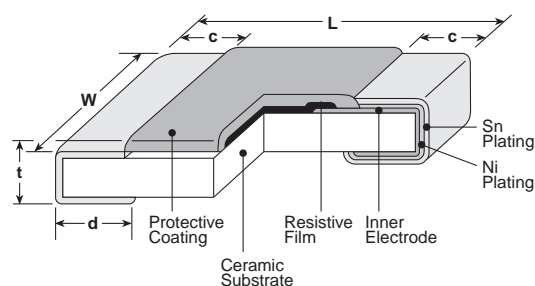


### features

- Excellent anti-sulfuration characteristic due to using high sulfuration-proof inner top electrode material
- Metal-glaze thick film resistor for surface mounting
- High precision resistor with T.C.R. down to 25 ppm and tolerance as tight as  $\pm 0.1\%$
- High reliability with  $\Delta R$  of  $\pm 0.2\%$  and  $\pm 0.5\%$  in the reliability test
- Suitable for both flow and reflow solderings
- Products with lead-free terminations meet EU RoHS requirements. EU RoHS regulation is not intended for Pb-glass contained in electrode, resistor element and glass.
- AEC-Q200 Qualified

### dimensions and construction

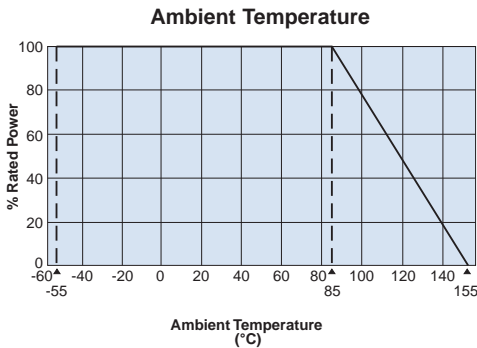


Type (Inch Size Code)	Dimensions inches (mm)				
	L	W	c	d	t
<b>1E</b> (0402)	.039 <sup>+0.004</sup> <sub>-.002</sub> (1.0 <sup>+0.1</sup> <sub>-0.05</sub> )	.020 $\pm$ .002 (0.5 $\pm$ 0.05)	.008 $\pm$ .004 (0.2 $\pm$ 0.1)	.010 <sup>+0.02</sup> <sub>-.004</sub> (0.25 <sup>+0.05</sup> <sub>-0.1</sub> )	.014 $\pm$ .002 (0.35 $\pm$ 0.05)
<b>1J</b> (0603)	.063 $\pm$ .008 (1.6 $\pm$ 0.2)	.031 $\pm$ .004 (0.8 $\pm$ 0.1)	.008 $\pm$ .004 (0.2 $\pm$ 0.1)	.012 $\pm$ .004 (0.3 $\pm$ 0.1)	.018 $\pm$ .004 (0.45 $\pm$ 0.1)
<b>2A</b> (0805)	.079 $\pm$ .008 (2.0 $\pm$ 0.2)	.049 $\pm$ .004 (1.25 $\pm$ 0.1)	.010 $\pm$ .006 (0.25 $\pm$ 0.15)	.012 <sup>+0.008</sup> <sub>-.004</sub> (0.3 <sup>+0.2</sup> <sub>-0.1</sub> )	.020 $\pm$ .004 (0.5 $\pm$ 0.1)
<b>2B</b> (1206)	.126 $\pm$ .008 (3.2 $\pm$ 0.2)	.063 $\pm$ .008 (1.6 $\pm$ 0.2)	.014 $\pm$ .006 (0.35 $\pm$ 0.15)	.016 <sup>+0.008</sup> <sub>-.004</sub> (0.4 <sup>+0.2</sup> <sub>-0.1</sub> )	.024 $\pm$ .004 (0.6 $\pm$ 0.1)

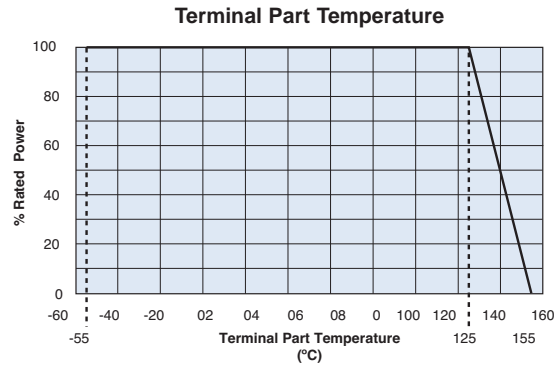
### ordering information

<b>RS73F</b>	<b>1J</b>	<b>R</b>	<b>T</b>	<b>TD</b>	<b>1002</b>	<b>B</b>
<b>Type</b>	<b>Power Rating</b>	<b>Characteristic</b>	<b>Termination Material</b>	<b>Packaging</b>	<b>Nominal Resistance</b>	<b>Tolerance</b>
RS73F RS73G	1E 1J 2A 2B	R: Anti-Sulfur	T: Sn	TPL-TP: 2mm pitch punch paper TD: 4mm pitch punched paper For further information on packaging, please refer to Appendix A	4 digits	B: $\pm 0.1\%$ C: $\pm 0.25\%$ D: $\pm 0.5\%$ F: $\pm 1\%$

### Derating Curve

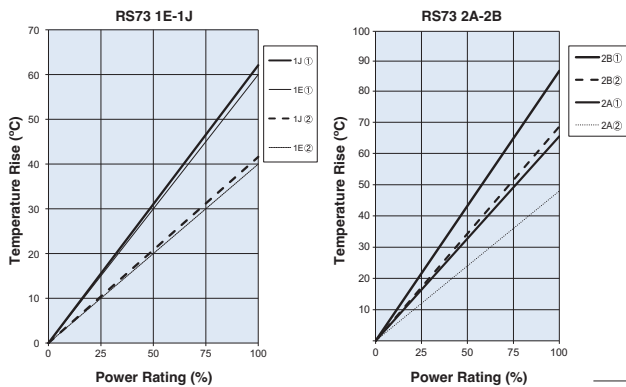


For resistors operated at an ambient temperature of 85°C or above, a power rating shall be derated in accordance with the derating curve.



For resistors operated terminal part temperature of described for each size or above, a power rating shall be derated in accordance with the derating curve. Please refer to "Introduction of the derating curve based on the terminal part temperature" in the beginning of our catalog before use.

### Temperature Rise

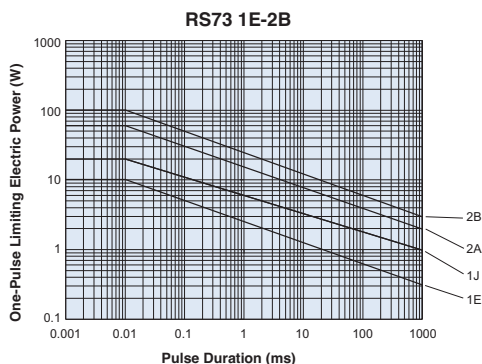


Regarding the temperature rise, the value of the temperature varies per conditions and board for use since the temperature is measured under our measuring conditions.



Measurement condition  
 Room temperature: 25°C  
 PCB: FR-4t = 1.6mm  
 Cu foil thickness: 35µm

### One-Pulse Limiting Electric Power



The maximum applicable voltage is equal to the max. overload voltage. 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.

### applications and ratings

Part Designation	Power Rating	Rated Ambient Temp.	Rated Terminal Part Temp.	T.C.R. (X 10 <sup>-6</sup> /K)	Resistance Range*2				Maximum Working Voltage	Maximum Overload Voltage	Operating Temperature Range
					B±0.1% E-24, E-96	C±0.25% E-24, E-96	D±0.5% E-24, E-96	F±1% E-24, E-96			
RS73F1E (0402)	0.125W	85°C	+125°C	±25*1	300Ω - 100kΩ	300Ω - 1MΩ	300Ω - 1MΩ	300Ω - 1MΩ	75V	100V	-55°C to +155°C
RS73G1E (0402)				±50							
RS73F1J (0603)	0.2W			±25*1	10Ω - 1MΩ	10Ω - 1MΩ	10Ω - 1MΩ	10Ω - 1MΩ	100V	150V	
RS73G1J (0603)				±50							
RS73F2A (0805)	0.25W			±25*1	10Ω - 3MΩ	10Ω - 6.8MΩ	10Ω - 10MΩ	10Ω - 10MΩ	150V	300V	
RS73G2A (0805)				±50							
RS73F2B (1206)	0.33W			±25*1	10Ω - 5.1MΩ	10Ω - 5.1MΩ	10Ω - 10MΩ	10Ω - 10MΩ	200V	400V	
RS73G2B (1206)				±50							

Rated voltage =  $\sqrt{\text{Power rating} \times \text{resistance value}}$  or max. working voltage, whichever is lower

\*1 Measurement Temperature: +25°C/+125°C. Cold T.C.R. (-55°C/+25°C) is -50~+25x10<sup>-6</sup>/K

\*2 Please inquire about E-192

If any questions arise whether to use the "Rated Ambient Temperature" or the "Rated Terminal Part Temperature," please give priority to the "Rated Terminal Part Temperature." Prior to use and for more details refer to "Introduction of the derating curves in the terminal part temperature" in the beginning of the catalog.

### environmental applications

#### Performance Characteristics

Parameter	Requirement $\Delta R \pm(\%+0.05\Omega)$		Test Method
	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)	±0.2%	±0.03%	Rated Voltage x 2.5 for 5 seconds
Resistance to Solder Heat	±0.2%	±0.1%	260°C ± 5°C, 10 seconds ± 1 second
Rapid Change of Temperature	0.2: 1E (300Ω≤R≤20kΩ) 1J (10Ω≤R≤1MΩ) 2A, 2B (10Ω≤R≤10MΩ) 0.4: others	0.05: 1E (300Ω≤R≤20kΩ) 1J (10Ω≤R≤1MΩ) 2A, 2B (10Ω≤R≤10MΩ) 0.2: others	-55°C (30 minutes), +125°C (30 minutes), 1000 cycles
Moisture Resistance	0.2: 1E (300Ω≤R≤10kΩ) 1J (10Ω≤R≤200kΩ) 2A, 2B (10Ω≤R≤10MΩ) 0.4-0.5: others	0.04: 1E (300Ω≤R≤10kΩ) 1J (10Ω≤R≤200kΩ) 2A, 2B (10Ω≤R≤10MΩ) 0.08: others	40°C ± 2°C, 90%-95% RH, 1000 hours, 1.5 hr ON, 0.5 hr OFF cycle
Endurance at 85°C	0.2: 1E (300Ω≤R≤20kΩ) 1J (10Ω≤R≤1MΩ) 2A, 2B (10Ω≤R≤10MΩ) 0.4: others	0.05: 1E (300Ω≤R≤20kΩ) 1J (10Ω≤R≤1MΩ) 2A, 2B (10Ω≤R≤10MΩ) 0.2: others	85°C ± 2°C or rated terminal part temperature ± 2°C 1000h 1.5 hr ON, 0.5 hr OFF cycle
High Temperature Exposure	0.2: 1E (300Ω≤R≤10kΩ) 1J (10Ω≤R≤200kΩ) 2A, 2B (10Ω≤R≤100kΩ) 0.4-0.5: others	0.1: 1E (300Ω≤R≤10kΩ) 1J (10Ω≤R≤200kΩ) 2A, 2B (10Ω≤R≤100kΩ) 0.2-0.3: others	+155°C, 1000 hours
Sulfuration Test	±5%	±0.2%	Soaked in industrial oil with sulfur substance 3.5% 105°C ± 3°C, 500hr

Please refer to conventional products for characteristic data such as temperature rise.