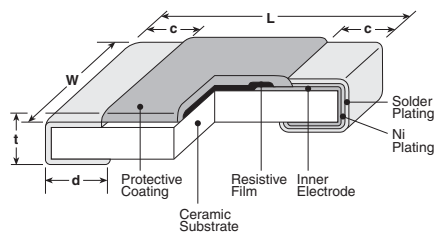


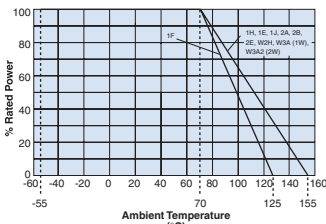
## features

- 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: 0201 (1H), 0402 (1E), 0603 (1J), 0805 (2A), 1206 (2B), 1210 (2E), 2010 (2H/W2H), 2512 (3A/W3A/W3A2)

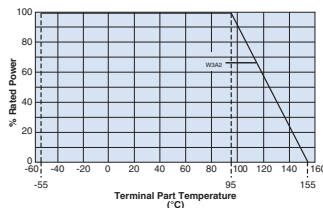
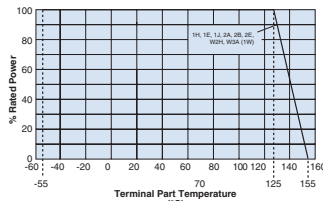
## dimensions and construction



### 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.

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

Type* (Inch Size Code)	Dimensions inches (mm)				
	L	W	c	d	t
<b>1F</b> (01005)	.015±.001 (0.4±0.02)	.007±.001 (0.2±0.02)	.004±.001 (0.10±0.03)	.004±.001 (0.11±0.03)	.005±.001 (0.13±0.02)
<b>1H</b> (0201)	.024±.001 (0.6±0.03)	.012±.001 (0.3±0.03)	.004±.002 (0.1±0.05)	.006±.002 (0.15±0.05)	.009±.001 (0.23±0.03)
<b>1E</b> (0402)	.039 <sup>+0.04</sup> <sub>-0.02</sub> (1.0 <sup>+0.1</sup> <sub>-0.05</sub> )	.02±.002 (0.5±0.05)	.008±.004 (0.2±0.1)	.01 <sup>+0.02</sup> <sub>-0.04</sub> (0.25 <sup>+0.05</sup> <sub>-0.1</sub> )	.014±.002 (0.35±0.05)
<b>1J</b> (0603)	.063±.008 (1.6±0.2)	.031±.004 (0.8±0.1)	.012±.004 (0.3±0.1)	.012±.004 (0.3±0.1)	.018±.004 (0.45±0.1)
<b>2A</b> (0805)	.079±.008 (2.0±0.2)	.049±.004 (1.25±0.1)	.016±.008 (0.4±0.2)	.012 <sup>+0.008</sup> <sub>-0.004</sub> (0.3 <sup>+0.2</sup> <sub>-0.1</sub> )	.02±.004 (0.5±0.1)
<b>2B</b> (1206)	.126±.008 (3.2±0.2)	.063±.008 (1.6±0.2)		.016 <sup>+0.008</sup> <sub>-0.004</sub> (0.4 <sup>+0.2</sup> <sub>-0.1</sub> )	
<b>2E</b> (1210)		.102±.008 (2.6±0.2)			
<b>2H</b> (2010)	.197±.008 (5.0±0.2)	.098±.008 (2.5±0.2)	.02±.012 (0.5±0.3)	.026±.006 (0.65±0.15)	.024±.004 (0.6±0.1)
<b>W2H</b> (2010)					
<b>3A</b> (2512)	.248±.008 (6.3±0.2)	.122±.008 (3.1±0.2)		.016 <sup>+0.008</sup> <sub>-0.004</sub> (0.4 <sup>+0.2</sup> <sub>-0.1</sub> )	
<b>W3A/W3A2</b> (2512)					

\* Parentheses indicate EIA package size codes.

## ordering information

RK73B	2B	T	TD	102	J
Type	Size	Termination Material	Packaging	Nominal Resistance	Tolerance
	1F 1H 1E 1J 2A 2B 2E W2H W3A 2H 3A W3A2	T: Sn (1F ~ W3A2) Contact factory for below options: L: SnPb (1E, 1J, 2A, 2B, 2E, 2H, 3A) G: Au (1E ~ 2A: 10Ω ~ 1MΩ)	TX: 01005 only: 4mm width - 1mm pitch plastic embossed TBL: 01005 only: 2mm pitch pressed paper TC: 0201 only: 7" 2mm pitch pressed paper (TC: 10,000 pcs/reel, TCM: 15,000 pcs/reel) TPL: 0402 only: 2mm pitch punched paper TP: 0402, 0603 & 0805: 7" 2mm pitch punched paper TD: 0603, 0805, 1206 & 1210: 7" 4mm pitch punched paper TE: 0805, 1206, 1210, 2010 & 2512: 7" 4mm plastic embossed For further information on packaging, please refer to Appendix A	2 significant figures + 1 multiplier "R" indicates decimal on value <10Ω	G: ±2% J: ±5%

Specifications given herein may be changed at any time without prior notice. Please confirm technical specifications before you order and/or use.

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## general purpose 2%, 5% tolerance thick film chip resistor

### applications and ratings

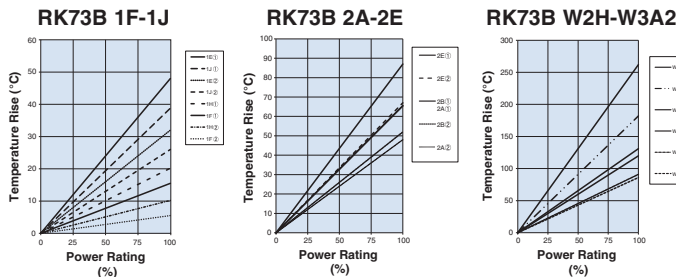
Part Designation	Power Rating	Rated Ambient Temp.	Rated Terminal Part Temp.	T.C.R. (x10 <sup>-6</sup> /K)	Resistance Range		Maximum Working Voltage	Maximum Overload Voltage	Operating Temperature Range		
					G±2% E-24	J±5% E-24					
RK73B1F (01005)	0.03W	70°C	125°C	±200	100kΩ - 1MΩ	100kΩ - 10MΩ	20V	30V	-55°C to +125°C		
					±250	10Ω - 91kΩ				10Ω - 91kΩ	
					0~+300	1Ω - 9.1Ω				1Ω - 9.1Ω	
RK73B1H (0201)	0.05W					±200	10Ω - 10MΩ	10Ω - 10MΩ		25V	50V
RK73B1E (0402)	0.1W					±400	—	1Ω - 9.1Ω			
RK73B1J (0603)	0.1W					±200	1Ω - 10MΩ	1Ω - 10MΩ		75V	100V
	0.125W					±400	—	11MΩ - 22MΩ			
RK73B2A (0805)	0.25W					±200	1Ω - 1kΩ	1Ω - 1kΩ		150V	200V
RK73B2B (1206)	0.25W					±200	1Ω - 1MΩ	1Ω - 1MΩ			
RK73B2E (1210)	0.50W					±200	1Ω - 5.6MΩ	1Ω - 5.6MΩ		200V	400V
						±400	6.2MΩ - 10MΩ	6.2MΩ - 22MΩ			
RK73BW2H/2H (2010)	0.75W					±200	10Ω - 5.6MΩ	1Ω - 5.6MΩ		200V	400V
						±400	—	6.2MΩ - 22MΩ			
RK73BW3A/3A (2512)	1.0W					±200	10Ω - 5.6MΩ	1Ω - 5.6MΩ		200V	400V
						±400	—	6.2MΩ - 22MΩ			
RK73BW3A2 (2512)	2.0W				95°C	±200	10Ω - 5.6MΩ	1Ω - 5.6MΩ		200V	400V
				±400	—	6.2MΩ - 22MΩ					

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

If any questions arise on 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." Prior to use and for more details, refer to "Introduction of the derating curves based on the terminal part temperature" in the beginning of our catalog. Temperature rise at high power will depend on PCB layout. Be sure to contact factory prior to use and monitor terminal part temperature.

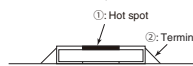
## environmental applications

### Temperature Rise

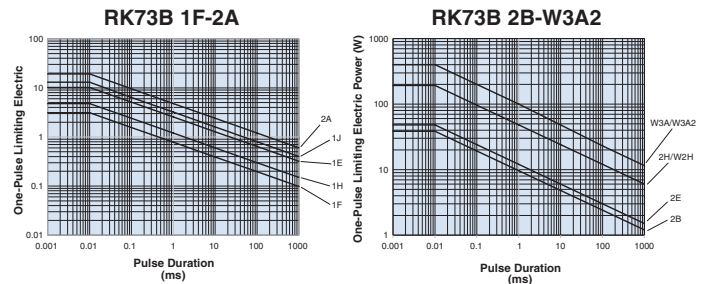


Regarding the temperature rise, the value of the temperature varies per conditions and board for use since the temperature is measured under our measuring conditions.

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.

### Performance Characteristics

Parameter	Requirement $\Delta R$ (%+0.1Ω)		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)	±2%	±1%: 1F ±0.5%: Another	Rated Voltage x 2.5 for 5 seconds (1E, 2B, W3A2: Rated Voltage x 2 for 5 seconds)
Resistance to Soldering Heat	±1%: 1F-W3A2 (10Ω≤R≤1MΩ) ±3%: 1F-W3A2 (R<10Ω, R>1MΩ)	±0.5%: 1F-W3A2 (10Ω≤R≤1MΩ); ±1%: 1F-W3A2 (R<10Ω, R>1MΩ)	260°C ± 5°C, 10 seconds ± 1 second
Rapid Change of Temperature	±1%: 1F ±0.5%: Another	±0.5%: 1F ±0.3%: Another	-55°C (30 minutes), +125°C (30 minutes), 100 cycles
Moisture Resistance	±2%: 1J, 2A, 2B ±3%: Another	±0.75%: 1J, 2A, 2B ±1.5%: 1F; ±1%: Another	40°C ± 2°C, 90%-95% RH, 1000 hours, 1.5 hr ON, 0.5 hr OFF cycle
Endurance at 70°C	±2%: 1J, 2A, 2B ±3%: Another	±0.75%: 1J, 2A, 2B ±1%: Another	70°C ± 2°C, 1000 hours, 1.5 hr ON, 0.5 hr OFF cycle
High Temperature Exposure	±1%	±0.5%: 1F ±0.3%: Another	+125°C, 1000 hours: 1F; +155°C, 1000 hours: 1E, 1H, 1J, 2A, 2B, 2E, 2H/W2H, 3A/W3A/W3A2

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