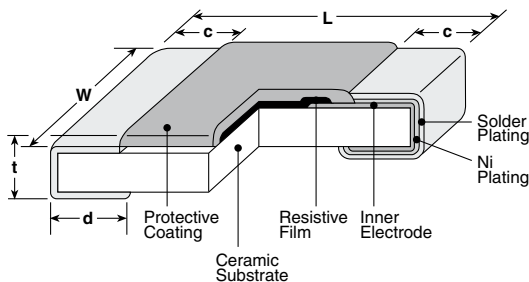




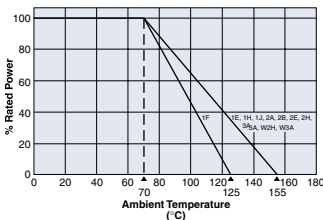
## features

- Marking: No marking on 1F, 1H & 1E sizes, black protective coat. White, three-digit marking on 1J ~ 3A on black protective coat.
- 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)

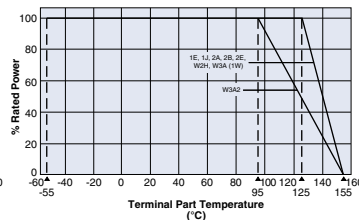
## dimensions and construction



### Derating Curve



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



For resistors operated at a terminal part temperature of described for each size or above, a power rating shall be derated in accordance with the above derating curve.

Please refer to "Introduction of the derating curve based on the terminal part temperature" in 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>+0.004</sup> <sub>-.002</sub> (1.0 <sup>+0.1</sup> <sub>-.05</sub> )	.02±.002 (0.5±0.05)	.008±.004 (0.2±0.1)	.01 <sup>+0.002</sup> <sub>-.004</sub> (0.25 <sup>+0.05</sup> <sub>-.01</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>-.004</sub> (0.3 <sup>+0.2</sup> <sub>-.01</sub> )	.02±.004 (0.5±0.1)
<b>2B</b> (1206)	.126±.008 (3.2±0.2)	.063±.008 (1.6±0.2)	.02±.012 (0.5±0.3)	.016 <sup>+0.008</sup> <sub>-.004</sub> (0.4 <sup>+0.2</sup> <sub>-.01</sub> )	.024±.004 (0.6±0.1)
<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)	.016 <sup>+0.008</sup> <sub>-.004</sub> (0.4 <sup>+0.2</sup> <sub>-.01</sub> )	.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)			
<b>W3A/W3A2</b> (2512)				.026±.006 (0.65±0.15)	

\* Parentheses indicate EIA package size codes.

## ordering information

New Part #	RK73B	2B	T	TD	102	J
Type					Nominal Resistance	Tolerance
Size		1F 1H 1E 1J 2A 2B 2E W2H W3A 2H 3A New W3A2	Termination Material T: Sn (1F ~ W3A2) Contact factory for below options: L: SnPb (1E, 1J, 2A, 2B, 2E, 2H, 3A) G: Au (1E ~ 2A: 10Ω ~ 1MΩ)	Packaging TX: 01005 only: 4mm width - 1mm pitch plastic embossed TBL: 01005 only: 2mm pitch pressed paper TA: 0201 only: 1mm pitch pressed paper TC: 0201 only: 7" 2mm pitch pressed paper (TC: 10,000 pcs/reel, TCM: 15,000 pcs/reel) TCD: 0201 only: 10" 2mm pitch pressed paper TPD: 0402 only: 10" plastic embossed 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 TDD: 0603, 0805, 1206 & 1210: 10" paper tape TE: 0805, 1206, 1210, 2010 & 2512: 7" plastic embossed TED: 0805, 1206, 1210, 2010 & 2512: 10" 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%

## 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	—	±200	100kΩ - 1MΩ	100kΩ - 1MΩ	20V	30V	-55°C to +125°C															
				±250	10Ω - 91kΩ	10Ω - 91kΩ																		
				0~+300	1Ω - 9.1Ω	1Ω - 9.1Ω																		
RK73B1H (0201)	0.05W		70°C	—	±200	10Ω - 10MΩ	10Ω - 10MΩ	25V		50V	-55°C to +155°C													
					±400	—	1Ω - 9.1Ω																	
RK73B1E (0402)	0.1W			70°C	125°C	±200	1Ω - 10MΩ	1Ω - 10MΩ		50V		100V	-55°C to +155°C											
						±200	1.1kΩ - 1MΩ	1.1kΩ - 10MΩ																
RK73B1J (0603)	0.1W					70°C	125°C	±400		—		11MΩ - 22MΩ		75V	100V	-55°C to +155°C								
								±200		1Ω - 1kΩ		1Ω - 1kΩ												
RK73B2A (0805)	0.25W							70°C		125°C		±200		1Ω - 1MΩ	1Ω - 1MΩ		150V	200V	-55°C to +155°C					
												±400		1.1MΩ - 10MΩ	1.1MΩ - 10MΩ									
RK73B2B (1206)	0.25W											70°C		125°C	±200		1Ω - 5.6MΩ	1Ω - 5.6MΩ		200V	400V	-55°C to +155°C		
		±400							6.2MΩ - 10MΩ						6.2MΩ - 22MΩ									
RK73B2E (1210)	0.50W	70°C							125°C						±200		10Ω - 5.6MΩ	1Ω - 5.6MΩ		200V	400V		-55°C to +155°C	
															±400		—	6.2MΩ - 10MΩ						
RK73BW2H/2H (2010)	0.75W		70°C								125°C				±200		10Ω - 5.6MΩ	1Ω - 5.6MΩ		200V	400V			-55°C to +155°C
															±400		—	6.2MΩ - 22MΩ						
RK73BW3A/3A (2512)	1.0W			70°C	125°C								±200		10Ω - 5.6MΩ		1Ω - 5.6MΩ	200V (500V)*		400V (500V)*	-55°C to +155°C			
													±400		—		6.2MΩ - 22MΩ							
NEW RK73BW3A2 (2512)	2.0W					70°C	125°C						±200		10Ω - 5.6MΩ	1Ω - 5.6MΩ	200V	400V		-55°C to +155°C				
													±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. \*Please consult with us about the Max. Working Voltage and Max. Overload Voltage with ( ). 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

### 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

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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