

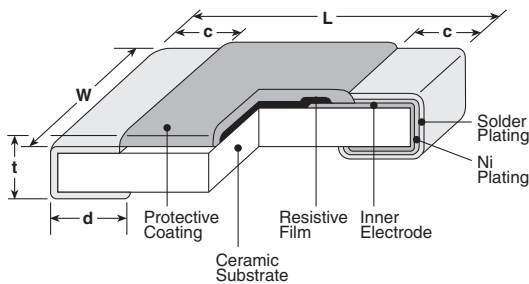
## general purpose 2%, 5% tolerance thick film chip resistor



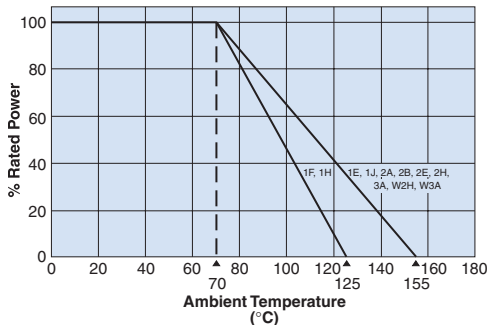
### features

- RuO<sub>2</sub> thick film resistor element
- Anti-leaching nickel barrier terminations
- Meets or exceeds EIA 575, EIAJ RC 2690A, EIA PDP-100, MIL-R-55342F
- Marking: White three-digit on black protective coat  
No marking on 1F, 1H and 1E sizes
- Products with lead-free terminations meet EU RoHS requirements. Pb located in glass material, electrode and resistor element is exempt per Annex 1, exemption 5 of EU directive 2005/95/EC

### dimensions and construction



### Derating Curve



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>-.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>+0.02</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)		.016 <sup>+0.008</sup> <sub>-.004</sub> (0.4 <sup>+0.2</sup> <sub>-.01</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>-.004</sub> (0.4 <sup>+0.2</sup> <sub>-.01</sub> )	
<b>W3A</b> (2512)				.026±.006 (0.65±0.15)	

### ordering information

New Part #	RK73B	2B	T	TD	102	J
Type				Packaging	Nominal Resistance	Tolerance
Size		1F 1H 1E 1J 2A 2B 2E 2H 3A W2H W3A	Termination Material T: Sn (1F, 1H, 1E, 1J, 2A, 2B, 2E, 2H, 3A) L: SnPb (1E, 1J, 2A, 2B, 2E, 2H, 3A) G: Au (1E, 1J, 2A: 10Ω ~ 1MΩ - Contact factory)	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 punched paper TPL: 0402 only: 2mm pitch punched paper TP: 0402, 0603 & 0805: 7" 2mm pitch punched paper TD: 0603, 0805, 1206 & 1210: 7" 2mm pitch punched paper TDD: 0603, 0805, 1206 & 1210: 10" paper tape TE: 0805, 1206, 1210, 2010 & 2512: 7" punched plastic TED: 0805, 1206, 1210, 2010 & 2512: 10" punched plastic 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.

10/29/08

## applications and ratings

Part Designation*	Power Rating @ 70°C	T.C.R. (ppm/°C) Max.	Resistance Range E-24** (G±2%)	Resistance Range E-24** (J±5%)	Absolute Maximum Working Voltage	Absolute Maximum Overload Voltage	Operating Temperature Range
RK73B1F (01005)	1/32W (.03W)	±250	6.8KΩ - 1MΩ	6.8KΩ - 1MΩ	15V	30V	-55°C to +125°C
		±300	10Ω - 6.2K	10Ω - 6.2K			
RK73B1H (0201)	1/20W (.05W)	±200	10Ω - 10MΩ	10Ω - 10MΩ	25V	50V	
		±400	—	1Ω - 9.1Ω			
RK73B1E (0402)	1/16W (.063W)	±200	1Ω - 1MΩ	1Ω - 10MΩ	50V	100V	
RK73B1J (0603)	1/10W (.10W)	±200	1Ω - 10MΩ	1Ω - 10MΩ			
		±400	—	11MΩ - 22MΩ			
RK73B2A (0805)	1/8W (.125W)	±200	1Ω - 1MΩ	1Ω - 1MΩ	150V	200V	
		±400	1.1MΩ - 10MΩ	1.1MΩ - 10MΩ			
RK73B2B (1206)	1/4W (.25W)	±200	1Ω - 5.6MΩ	1Ω - 5.6MΩ	200V	400V	-55°C to +155°C
		±400	6.2MΩ - 10MΩ	6.2MΩ - 22MΩ			
RK73B2E (1210)	1/2W (.50W)	±200	10Ω - 1KΩ	1Ω - 1KΩ			
	1/3W (.33W)		1.1KΩ - 5.6MΩ	1.1KΩ - 5.6MΩ			
	1/3W (.33W)	±400	—	6.2MΩ - 10MΩ			
RK73B2H/W2H (2010)	3/4W (.75W)	±200	10Ω - 5.6MΩ	1Ω - 5.6MΩ	200V	400V	
		±400	—	6.2MΩ - 22MΩ			
RK73B3A/W3A (2512)	1W	±200	10Ω - 5.6MΩ	1Ω - 5.6MΩ	200V (500V***)	400V (500V***)	
		±400	—	6.2MΩ - 22MΩ			

\* Parenthesis indicate EIA package size codes.

\*\*\* Please contact KOA Speer for the Max. working voltage and the Max. overload voltage.

\*\* See Appendix D for available decade values.

## environmental applications

### Performance Characteristics

Parameter	Requirement ΔR		Test Method
	Limit	Typical	
Resistance	Within regulated 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 (2B: Rated Voltage x 2 for 5 seconds)
Resistance to Solder Heat	±1%, ±3%*	±0.75%, ±1%, ±0.5%**	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, ±0.5%: 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, 1H +155°C, 1000 hours: 1E, 1J, 2A, 2B, 2E, W2H, W3A

\* ±1%: 1F~W3A (10Ω≤R≤1MΩ); ±3%: 1H~W3A (R<10Ω, R>1MΩ)

\*\* ±0.75%: 1F, 1H (10Ω≤R≤1MΩ); ±1%: 1J~W3A (R<10Ω, R>1MΩ); ±0.5%: Another

For Surface Temperature Rise Graph see Terms & Definitions. Additional environmental applications can also be found at [www.koaspeer.com](http://www.koaspeer.com)

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12/09/08