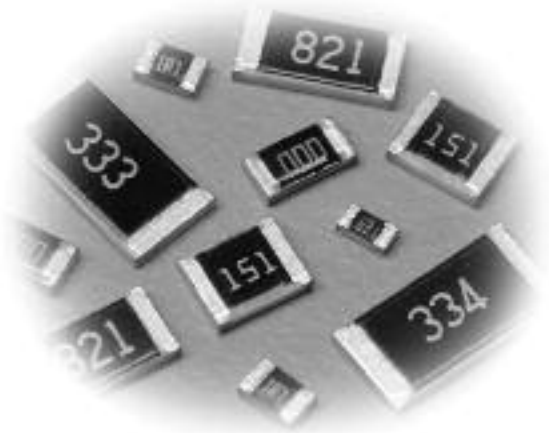
KOA SPEER ELECTRONICS, INC.

RK73B

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

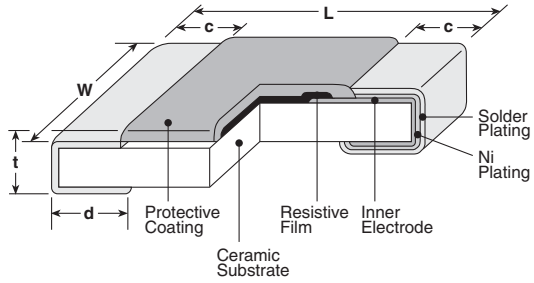


EU RoHS COMPLIANT

features

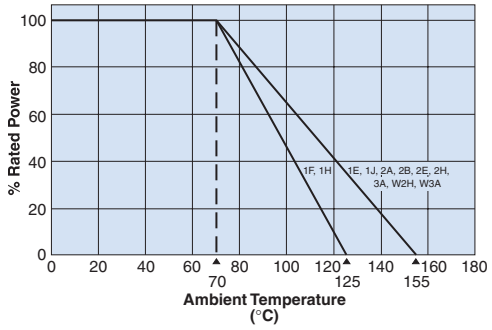
- RuO_2 thick film resistor element
- Anti-leaching nickel barrier terminations
- Meets or exceeds EIA 575, EIAJ RC 2690A, EIA PDP-100, MIL-R-55342F
- Marking: White three-digit on black protective coat
  No marking on 1F, 1H and 1E sizes
- Products with lead-free terminations meet EU RoHS requirements. 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



Type (Inch Size Code)	Dimensions inches (mm) L	W	c	d	t
1F (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)
1H (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)
1E (0402)	.039 +.004 -.002 (1.0 +0.1 -0.05)	.02±.002 (0.5±0.05)	.008±.004 (0.2±0.1)	.01 +.002 -.004 (0.25 +0.05 -0.1)	.014±.002 (0.35±0.05)
1J (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)
2A (0805)	.079±.008 (2.0±0.2)	.049±.004 (1.25±0.1)	.016±.008 (0.4±0.2)	.012 +.008 -.004 (0.3 +0.2 -0.1)	.02±.004 (0.5±0.1)
2B (1206)	.126±.008 (3.2±0.2)	.063±.008 (1.6±0.2)	.02±.012 (0.5±0.3)	.016 +.008 -.004 (0.4 +0.2 -0.1)	.024±.004 (0.6±0.1)
2E (1210)		.102±.008 (2.6±0.2)			
2H (2010)	.197±.008 (5.0±0.2)	.098±.008 (2.5±0.2)			
W2H (2010)				.026±.006 (0.65±0.15)	
3A (2512)	.248±.008 (6.3±0.2)	.122±.008 (3.1±0.2)		.016 +.008 -.004 (0.4 +0.2 -0.1)	
W3A (2512)				.026±.006 (0.65±0.15)	

Derating Curve



ordering information

New Part #

RK73B	2B	T	TD	102	J
Type	Size	Termination Material	Packaging	Nominal Resistance	Tolerance
	1F 1H 1E 1J 2A 2B 2E 2H 3A W2H W3A	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%

10/29/08

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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	-55°C to +155°C
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	
		±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			
		±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.
** See Appendix D for available decade values.
*** Please contact KOA Speer for the Max. working voltage and the Max. overload voltage.

environmental applications

Performance Characteristics

Parameter	Requirement ΔR Limit	Requirement ΔR Typical	Test Method
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

Specifications given herein may be changed at any time without prior notice. Please confirm technical specifications before you order and/or use. 12/09/08