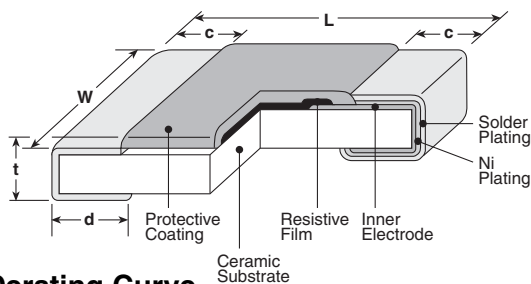


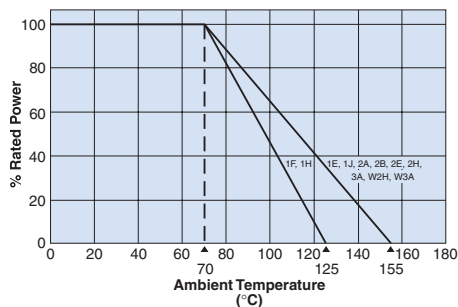
### features

- RuO<sub>2</sub> thick film resistor element
- Meets or exceeds EIA 575, EIAJ RC 2690A, EIA PDP-100, MIL-R-55342F
- Marking: Four-digit black on blue protective coat on 1J – 3A sizes. No marking on 1E size  
Black body and no marking on 1F, 1H size  
Three-digit on 1J size, E-24 values only
- 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>NEW 1F (01005)</b>	.016±.0008 (0.4±0.02)	.008±.0008 (0.2±0.02)	.004±.001 (0.1±0.03)	.004±.001 (0.11±0.03)	.005±.0008 (0.13±0.02)
<b>1H (0201)</b>	.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 (0402)</b>	.039 <sup>+0.004</sup> <sub>-0.002</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>+0.002</sup> <sub>-0.004</sub> (0.25 <sup>+0.05</sup> <sub>-0.1</sub> )	.014±.002 (0.35±0.05)
<b>1J (0603)</b>	.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 (0805)</b>	.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 (1206)</b>	.126±.008 (3.2±0.2)	.063±.008 (1.6±0.2)	.02±.012 (0.5±0.3)	.016 <sup>+0.008</sup> <sub>-0.004</sub> (0.4 <sup>+0.2</sup> <sub>-0.1</sub> )	.024±.004 (0.6±0.1)
<b>2E (1210)</b>		.102±.008 (2.6±0.2)			
<b>2H (2010)</b>	.197±.008 (5.0±0.2)	.098±.008 (2.5±0.2)			
<b>W2H (2010)</b>					
<b>3A (2512)</b>	.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 (2512)</b>					

### ordering information

New Part #	RK73H	2B	T	TD	1003	F
Type						
Size		NEW 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)	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 punched paper TPL: 0402 only: 2mm pitch punch paper TP: 0402, 0603, 0805: 7" 2mm pitch punch 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" punched plastic TED: 0805, 1206, 1210, 2010 & 2512: 10" punched plastic For further information on packaging, please refer to Appendix A	Nominal Resistance 3 significant figures + 1 multiplier "R" indicates decimal on value <100Ω	Tolerance D: ±0.5% F: ±1%

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

11/05/09

## applications and ratings

Part Designation*	Power Rating @ 70°C	T.C.R. (ppm/°C) Max.	Resistance Range E-24, E-96 (D±0.5%)	Resistance Range E-24, E-96 (F±1%)	Absolute Maximum Working Voltage	Absolute Maximum Overload Voltage	Operating Temperature Range
NEW RK73H1F (01005)	1/3W (.03W)	±250	—	6.8kΩ - 1MΩ <sup>1</sup>	15V	30V	-55°C to +155°C
		±300	—	10Ω - 6.2KΩ <sup>1</sup>			
RK73H1H (0201)	1/20W (.05W)	±200	10Ω - 1MΩ	10Ω - 10MΩ	25V	50V	-55°C to +125°C
		±400	—	1.0Ω - 9.1Ω <sup>1</sup>			
RK73H1E (0402)	1/16W (.063W)	±100	10Ω - 1MΩ	10Ω - 1MΩ	50V	100V	-55°C to +155°C
		±200	—	1.0Ω - 9.76Ω 1.02MΩ - 10MΩ			
RK73H1J (0603)	1/10W (.10W)	±100	10Ω - 1MΩ	10Ω - 1MΩ	150V	200V	-55°C to +155°C
		±200	—	1.0Ω - 9.76Ω 1.02MΩ - 10MΩ			
RK73H2A (0805)	1/8W (.125W)	±100	10Ω - 1MΩ	10Ω - 1MΩ	200V	400V	-55°C to +155°C
		±200	—	1.0Ω - 9.76Ω			
		±400	—	1.02MΩ - 10MΩ			
RK73H2B (1206)	1/4W (.25W)	±100	10Ω - 1MΩ	10Ω - 1MΩ	200V	400V	-55°C to +155°C
		±200	—	1.0Ω - 9.76Ω 1.02MΩ - 5.6MΩ			
		±400	—	5.62MΩ - 10MΩ			
RK73H2E (1210)	1/2W (.50W)	±100	10Ω - 1KΩ	10Ω - 1KΩ	200V	400V	-55°C to +155°C
	1/3W (.33W)		1.02KΩ - 1MΩ	1.02KΩ - 1MΩ			
	1/2W (.50W)	±200	—	1.0Ω - 9.76Ω			
	1/3W (.33W)	±200	—	1.02MΩ - 5.6MΩ			
RK73H2H/W2H (2010)	3/4W (.75W)	±100	10Ω - 1MΩ	10Ω - 1MΩ	200V (500V <sup>**</sup> )	400V (500V <sup>**</sup> )	-55°C to +155°C
		±200	—	1.0Ω - 9.76Ω 1.02MΩ - 5.6MΩ			
		±400	—	5.62MΩ - 10MΩ			
RK73H3A/W3A (2512)	1W	±100	10Ω - 1MΩ	10Ω - 1MΩ	200V (500V <sup>**</sup> )	400V (500V <sup>**</sup> )	-55°C to +155°C
		±200	—	1.0Ω - 9.76Ω 1.02MΩ - 5.6MΩ			
		±400	—	5.62MΩ - 10MΩ			

\* Parenthesis indicate EIA package size codes.

<sup>1</sup> 1F(10~1MΩ) and 1H (1.0~9.1Ω, ±1%)E-24 values only.

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

## environmental applications

### Performance Characteristics

Parameter	Requirement Δ R		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 only ±0.5% all others	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	±0.5%	±0.5%: 1F only ±0.3% all others	-55°C (30 minutes), +125°C (30 minutes), 100 cycles
Moisture Resistance	±2%: 1J, 2A, 2B ±3%: all others	±0.75%: 1J, 2A, 2B; ±1.5%: 1F, ±1%: all others	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%: all others	±0.75%: 1J, 2A, 2B ±1.5%: 1F, ±1%: all others	70°C ± 2°C, 1000 hours, 1.5 hr ON, 0.5 hr OFF cycle
High Temperature Exposure	±1%	±0.5%: 1F only ±0.3%: all others	+125°C, 1000 hours: 1F, 1H +155°C, 1000 hours: 1E, 1J, 2A, 2B, 2E, W2H, W3A

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

\*\* ±0.75%: 1H; ±1%: 1E ~W3A (R<10Ω, R>1MΩ); ±0.5%: all others

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

11/10/09