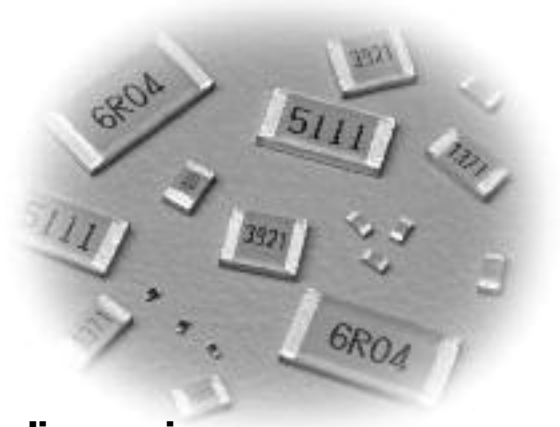
KOA SPEER ELECTRONICS, INC.

RK73H

precision 0.5%, 1% tolerance thick film chip resistor

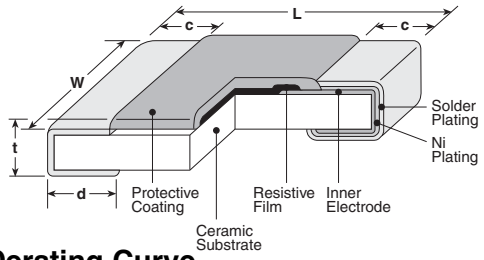
EU RoHS COMPLIANT



features

- Marking: 1F, 1H: no marking, black body
  1E: blue body, no marking
  1J: three-digit black marking (E-24 only) on blue protective coat. 2A ~ 3A four-digit black marking on blue 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)

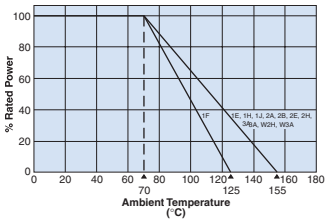
dimensions and construction



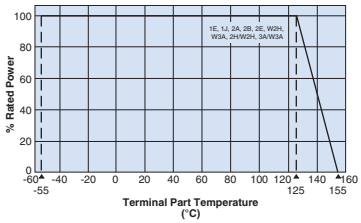
Type* (Inch Size Code)	Dimensions inches (mm) L	W	c	d	t
1F (01005)	.016±.0008 (0.4±0.02)	.008±.0008 (0.2±0.02)	.004±.001 (0.1±0.03)	.004±.001 (0.11±0.03)	.005±.0008 (0.13±0.02)
1H (0201)	.024±.001 (0.6±0.03)	.012±.001 (0.3±0.03)	.004±.002 (0.1±0.05)	.006±.002 (0.15±0.05)	.009±.001 (0.23±0.03)
1E (0402)	.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)	

* Parentheses indicate EIA package size codes.

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" on the beginning of our catalog before use.

ordering information

New Part #

RK73H	2B	T	TD	1003	F
Type	**Size**	**Termination Material**	**Packaging**	**Nominal Resistance**	**Tolerance**
	1F 1H 1E 1J 2A 2B 2E W2H W3A 2H 3A	T: Sn (1F ~ 3A) Contact factory for below options: L: SnPb (1E, 1J, 2A, 2B, 2E, 2H, 3A) G: Au (1E ~ 2A: 10Ω ~ 1MΩ) X: Bondable (1J ~ 2E: 10Ω ~ 1MΩ)	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 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" embossed plastic TED:0805, 1206, 1210, 2010 & 2512: 10" embossed plastic For further information on packaging, please refer to Appendix A	3 significant figures + 1 multiplier "R" indicates decimal on value <100Ω	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.

11/27/14

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applications and ratings

Part Designation	T.C.R. (x10^{-6}/K)	Power Rating @ 70°C	Resistance Range D±0.5% E-24, E-96	Resistance Range F±1% E-24, E-96	Maximum Working Voltage	Maximum Overload Voltage	Rated Terminal Part Temperature	Operating Temperature Range
RK73H1F (01005)	±200	0.03W	—	100kΩ - 1MΩ[1]	20V	30V	—	-55°C to +125°C
	±250		—	100Ω - 91kΩ[1]				
	±300		—	10Ω - 91Ω[1]				
RK73H1H (0201)	±200	0.05W	10Ω - 1MΩ	10Ω - 10MΩ[1]	25V	50V		-55°C to +155°C
	±400		—	1.0Ω - 9.1Ω[1]				
RK73H1E (0402)	±100	0.063W (0.1W*)	10Ω - 1MΩ	10Ω - 1MΩ	50V	100V	125°C	
	±200		—	1.0Ω - 9.76Ω 1.02MΩ - 10MΩ				
RK73H1J (0603)	±100	0.1W (0.125W*)	10Ω - 1MΩ	10Ω - 1MΩ				
	±200		—	1.0Ω - 9.76Ω 1.02MΩ - 10MΩ				
RK73H2A (0805)	±100	0.125W (0.25W*)	10Ω - 1MΩ	10Ω - 1MΩ	150V	200V		
	±200		—	1.0Ω - 9.76Ω				
	±400		—	1.02MΩ - 10MΩ				
RK73H2B (1206)	±100	0.25W	10Ω - 1MΩ	10Ω - 1MΩ	200V	400V		
	±200		—	1.0Ω - 9.76Ω 1.02MΩ - 5.6MΩ				
	±400		—	5.62MΩ - 10MΩ				
RK73H2E (1210)	±100	0.5W	10Ω - 1kΩ	10Ω - 1KΩ				
		0.33W (0.5W*)	1.02kΩ - 1MΩ	1.02KΩ - 1MΩ				
	±200	0.5W	—	1.0Ω - 9.76Ω				
	±200	0.33W (0.5W*)	—	1.02MΩ - 5.6MΩ				
	±400	0.33W (0.5W*)	—	5.62MΩ - 10MΩ				
RK73HW2H/2H (2010)	±100	0.75W	10Ω - 1MΩ	10Ω - 1MΩ				
	±200		—	1.0Ω - 9.76Ω 1.02MΩ - 5.6MΩ				
	±400		—	5.62MΩ - 10MΩ				
RK73HW3A/3A (2512)	±100	1.0W	10Ω - 1MΩ	10Ω - 1MΩ	200V (500V*)	400V (500V*)		
	±200		—	1.0Ω - 9.76Ω 1.02MΩ - 5.6MΩ				
	±400		—	5.62MΩ - 10MΩ				

Rated ambient temperature: +70°C

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

[1] 1F: 10~1MΩ: E-24. 1H: 1.0~9.1, 1M~10MΩ: E-24.

* Please refer to the "Higher Power Ratings" statement in the beginning of the catalog. Also, contact KOA prior to usage and for the max. working voltage and max. overload voltage.

environmental applications

Performance Characteristics

Parameter	Requirement Δ R (%+0.1Ω) Limit	Typical	Test Method
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 (2B: Rated Voltage x 2 for 5 seconds)
Resistance to Soldering Heat	±1%: 1F ~ W3A (10Ω≤R≤1MΩ); ±3%: 1H ~ W3A (R<10Ω, R>1MΩ)	±0.5%: 1F ~ W3A (10Ω<R<1MΩ); ±1%: 1H ~ W3A (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

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12/05/14

LifeElectronics
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