KOA SPEER ELECTRONICS, INC.

RK73B

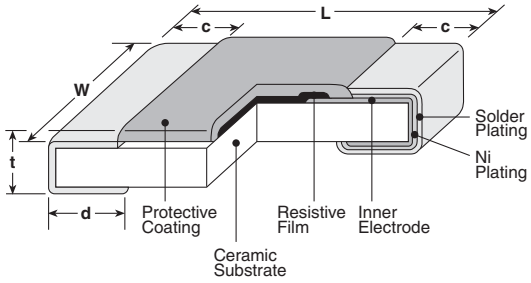
general purpose 2%, 5% tolerance thick film chip resistor

EU RoHS COMPLIANT

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)

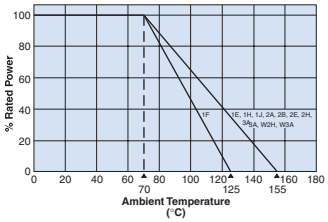
dimensions and construction



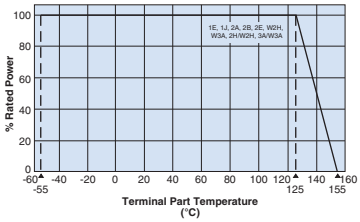
Type* (Inch Size Code)	Dimensions inches (mm) L	W	c	d	t
1F (01005)	.015±.001 (0.4±0.02)	.007±.001 (0.2±0.02)	.004±.001 (0.10±0.03)	.004±.001 (0.11±0.03)	.005±.001 (0.13±0.02)
1H (0201)	.024±.001 (0.6±0.03)	.012±.001 (0.3±0.03)	.004±.002 (0.1±0.05)	.006±.002 (0.15±0.05)	.009±.001 (0.23±0.03)
1E (0402)	.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)	

* 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 # RK73B | 2B | T | TD | 102 | J

Type

Size
1F, 1H, 1E, 1J, 2A, 2B, 2E, W2H, W3A, 2H, 3A

Termination Material
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)

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

Nominal Resistance
2 significant figures + 1 multiplier
"R" indicates decimal on value <10Ω

Tolerance
G: ±2%
J: ±5%

11/27/14

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applications and ratings

Part Designation	T.C.R. (x10^{-6}/K)	Power Rating @ 70°C	Resistance Range G±2% E-24	Resistance Range J±5% E-24	Maximum Working Voltage	Maximum Overload Voltage	Rated Terminal Part Temperature	Operating Temperature Range
RK73B1F (01005)	±200	0.03W	100kΩ - 1MΩ	100kΩ - 1MΩ	20V	30V	—	-55°C to +125°C
	±250		100Ω - 91kΩ	100Ω - 91kΩ				
	±300		10Ω - 91Ω	10Ω - 91Ω				
	0~+300		1Ω - 9.1Ω	1Ω - 9.1Ω				
RK73B1H (0201)	±200	0.05W	10Ω - 10MΩ	10Ω - 10MΩ	25V	50V		-55°C to +155°C
	±400		—	1Ω - 9.1Ω				
RK73B1E (0402)	±200	0.063W (0.1W*)	1Ω - 10MΩ	1Ω - 10MΩ	50V	100V	125°C	
RK73B1J (0603)	±200	0.10W (0.125W*)	1Ω - 10MΩ	1Ω - 10MΩ				
	±400		—	11MΩ - 22MΩ				
RK73B2A (0805)	±200	0.125W (0.25W*)	1Ω - 1MΩ	1Ω - 1MΩ	150V	200V		
	±400		1.1MΩ - 10MΩ	1.1MΩ - 10MΩ				
RK73B2B (1206)	±200	0.25W	1Ω - 5.6MΩ	1Ω - 5.6MΩ	200V	400V		
	±400		6.2MΩ - 10MΩ	6.2MΩ - 22MΩ				
RK73B2E (1210)	±200	0.50W	10Ω - 1kΩ	1Ω - 1KΩ				
		0.33W (0.5W*)	1.1kΩ - 5.6MΩ	1.1KΩ - 5.6MΩ				
	±400		—	6.2MΩ - 10MΩ				
RK73BW2H/2H (2010)	±200	0.75W	10Ω - 5.6MΩ	1Ω - 5.6MΩ				
	±400		—	6.2MΩ - 22MΩ				
RK73BW3A/3A (2512)	±200	1.0W	10Ω - 5.6MΩ	1Ω - 5.6MΩ	200V (500V*)	400V (500V*)		
	±400		—	6.2MΩ - 22MΩ				

Rated ambient temperature: +70°C

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

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