

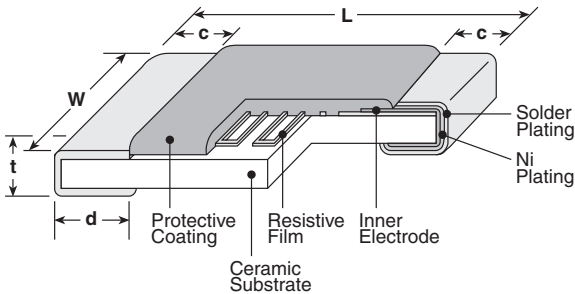
## precision high heat resistance metal film chip resistor



### features

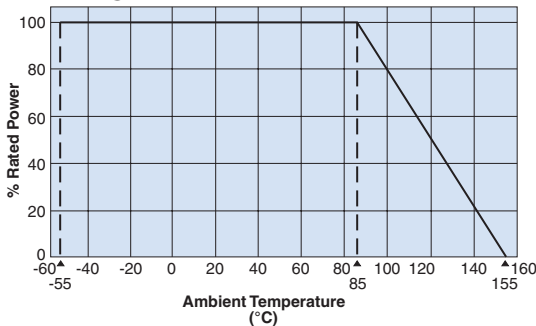
- High precision type  $\pm 0.05\%$  is available with standard products
- Improved moisture resistance by special protective coating
- Rated up to  $+155^{\circ}\text{C}$
- Marking: Black coating
- Products with lead-free terminations meet EU RoHS requirements

### dimensions and construction



Type (Inch Size Code)	Dimensions inches (mm)				
	L	W	c	d	t
<b>1E</b> (0402)	.039 <sup>+0.004</sup> <sub>-.002</sub> (1.0 <sup>+0.1</sup> <sub>-0.05</sub> )	.020 $\pm$ .002 (0.5 $\pm$ 0.05)	.010 $\pm$ .004 (0.25 $\pm$ 0.1)	.010 <sup>+0.002</sup> <sub>-.004</sub> (0.25 <sup>+0.05</sup> <sub>-0.1</sub> )	.014 $\pm$ .002 (0.35 $\pm$ 0.05)
<b>1J</b> (0603)	.063 $\pm$ .008 (1.6 $\pm$ 0.2)	.031 $\pm$ .004 (0.8 $\pm$ 0.1)	.012 $\pm$ .004 (0.3 $\pm$ 0.1)	.012 $\pm$ .004 (0.3 $\pm$ 0.1)	.018 $\pm$ .004 (0.45 $\pm$ 0.1)
<b>2A</b> (0805)	.079 $\pm$ .008 (2.0 $\pm$ 0.2)	.049 $\pm$ .008 (1.25 $\pm$ 0.2)	.016 $\pm$ .008 (0.4 $\pm$ 0.2)	.012 <sup>+0.008</sup> <sub>-.004</sub> (0.3 <sup>+0.2</sup> <sub>-0.1</sub> )	.02 $\pm$ .004 (0.5 $\pm$ 0.1)
<b>2B</b> (1206)	.126 $\pm$ .008 (3.2 $\pm$ 0.2)	.063 $\pm$ .008 (1.6 $\pm$ 0.2)	.02 $\pm$ .012 (0.5 $\pm$ 0.3)	.016 <sup>+0.008</sup> <sub>-.004</sub> (0.4 <sup>+0.2</sup> <sub>-0.1</sub> )	.024 $\pm$ .004 (0.6 $\pm$ 0.1)
<b>2E</b> (1210)		.098 $\pm$ .008 (2.5 $\pm$ 0.2)			

### Derating Curve



### ordering information

New Part #	<b>RN73H</b>	<b>2B</b>	<b>T</b>	<b>TD</b>	<b>1002</b>	<b>B</b>	<b>25</b>
	Type	Size	Termination Material	Packaging	Nominal Resistance	Resistance Tolerance	T.C.R. (ppm/°C)
		1E: 0.063W 1J: 0.1W 2A: 0.125W 2B: 0.25W 2E: 0.25W	T: Sn	TP: 0402 only: 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: 7" embossed plastic TED: 0805, 1206, 1210: 10" embossed plastic For further information on packaging, please refer to Appendix A	3 significant figures + 1 multiplier "R" indicates decimal on value <100Ω	A: $\pm 0.05\%$ B: $\pm 0.1\%$ C: $\pm 0.25\%$ D: $\pm 0.5\%$ F: $\pm 1.0\%$	05 10 25 50 100

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

12/22/10

### applications and ratings

Part Designation	Power Rating @ 70°C	T.C.R. (ppm/°C) Max.	Resistance Range E-24, E-96, E-192*					Maximum Working Voltage	Maximum Overload Voltage	Operating Temp. Range
			(A±0.05%)	(B±0.1%)	(C±0.25%)	(D±0.5%)	(F±1.0%)			
RN73H1E	1/16W (.063W)	±10	—	100Ω - 10kΩ	100Ω - 10kΩ	100Ω - 10kΩ	100Ω - 10kΩ	50V	75V	-55°C to +155°C
		±25	—	100Ω - 100kΩ	100Ω - 100kΩ	47Ω - 100kΩ	47Ω - 100kΩ			
		±50	—	100Ω - 100kΩ	100Ω - 100kΩ	10Ω - 100kΩ	10Ω - 100kΩ			
RN73H1J	1/10W (.10W)	±5	100Ω - 47kΩ	100Ω - 47kΩ	—	—	—	75V	150V	
		±10	100Ω - 59kΩ	100Ω - 59kΩ	100Ω - 59kΩ	100Ω - 59kΩ	100Ω - 59kΩ			
		±25	51Ω - 59kΩ	15Ω - 360kΩ	15Ω - 360kΩ	10Ω - 360kΩ	10Ω - 360kΩ			
		±50	—	15Ω - 360kΩ	15Ω - 360kΩ	10Ω - 360kΩ	10Ω - 360kΩ			
RN73H2A	1/8W (.125W)	±5	100Ω - 100kΩ	100Ω - 100kΩ	—	—	—	100V	200V	
		±10	100Ω - 100kΩ	100Ω - 100kΩ	100Ω - 100kΩ	100Ω - 100kΩ	100Ω - 100kΩ			
		±25	51Ω - 100kΩ	15Ω - 1MΩ	15Ω - 1MΩ	10Ω - 1MΩ	10Ω - 1MΩ			
		±50	—	15Ω - 1MΩ	15Ω - 1MΩ	10Ω - 1MΩ	10Ω - 1MΩ			
		±100	—	—	—	10Ω - 1MΩ	10Ω - 1MΩ			
RN73H2B	1/4W (.25W)	±5	100Ω - 300kΩ	100Ω - 300kΩ	—	—	—	150V	300V	
		±10	100Ω - 300kΩ	100Ω - 300kΩ	100Ω - 300kΩ	100Ω - 300kΩ	100Ω - 300kΩ			
		±25	51Ω - 300kΩ	15Ω - 1MΩ	15Ω - 1MΩ	10Ω - 1MΩ	10Ω - 1MΩ			
		±50	—	15Ω - 1MΩ	15Ω - 1MΩ	10Ω - 1MΩ	10Ω - 1MΩ			
		±100	—	—	—	10Ω - 1MΩ	10Ω - 1MΩ			
RN73H2E	1/4W (.25W)	±10	100Ω - 510kΩ	100Ω - 510kΩ	100Ω - 510kΩ	100Ω - 510kΩ	100Ω - 510kΩ	200V	400V	
		±25	51Ω - 510kΩ	15Ω - 1MΩ	15Ω - 1MΩ	10Ω - 1MΩ	10Ω - 1MΩ			
		±50	—	15Ω - 1MΩ	15Ω - 1MΩ	10Ω - 1MΩ	10Ω - 1MΩ			
		±100	—	—	—	10Ω - 1MΩ	10Ω - 1MΩ			

\* No marking on E-192 values

### environmental applications

#### Performance Characteristics

Parameter	Requirement $\Delta R \pm(\% \pm 0.05\Omega)$		Test Method
	Limit	Typical	
Resistance	Within specified tolerance	—	25°C
T.C.R.	Within specified T.C.R.	—	+25°C/-55°C and +25°C/+155°C**
Overload (Short time)	±0.05%	±0.01%	Rated Voltage x 2.5 or Max. overload volume, whichever is less for 5 seconds
Resistance to Solder Heat	±0.05%*	±0.01%	260°C ± 5°C, 10 seconds ± 1 second
Rapid Change of Temperature	±0.1%*	±0.02%	1J, 2A: -55°C (30 minutes), +155°C (30 minutes), 1000 cycles 2B, 2E: -55°C (30 minutes), +155°C (30 minutes), 500 cycles
Moisture Resistance	±0.1%*	±0.05%	85°C ± 2°C, 85%±5%RH, 1000 hours; 1.5 hr ON, 0.5 hr OFF cycle
Endurance at 85°C	±0.1%*	±0.05%	85°C ± 2°C, 1000 hours, 1.5 hr ON, 0.5 hr OFF cycle
High Temperature Exposure	±0.1%*	±0.05%	+155°C, 1000 hours

\* Depends on resistance value, please contact KOA Speer for details.

\*\* Test conditions differs depending on resistance value

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

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12/22/10