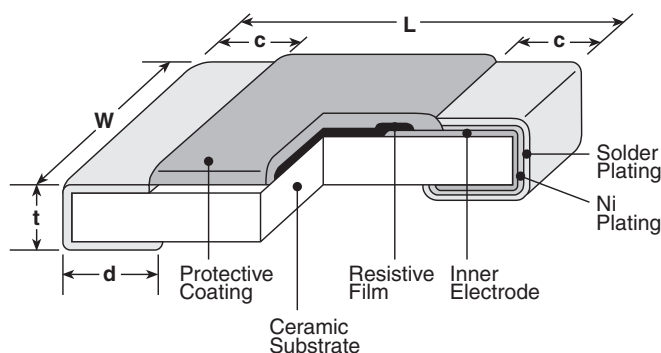


## features

- RuO<sub>2</sub> thick film resistor element
- Anti-leaching nickel barrier terminations
- Meets or exceeds EIA 575, EIAJ RC 2690A, EIA PDP-100, MIL-R-55342F
- Marking: Four-digit black on blue protective coat on 1E - 3A sizes. No marking on 1E size  
Black body and no marking on 1H size  
Three-digit on 1J size, E-24 values only
- Products with lead-free terminations meet 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<br>(Inch Size Code) | Dimensions inches (mm)                                                           |                         |                         |                                                                                 |                          |
|--------------------------|----------------------------------------------------------------------------------|-------------------------|-------------------------|---------------------------------------------------------------------------------|--------------------------|
|                          | L                                                                                | W                       | c                       | d                                                                               | t                        |
| <b>1H</b><br>(0201)      | .024±.001<br>(0.6±0.03)                                                          | .012±.001<br>(0.3±0.03) | .004±.002<br>(0.1±0.05) | .006±.002<br>(0.15±0.05)                                                        | .009±.001<br>(0.23±0.03) |
| <b>1E</b><br>(0402)      | .039 <sup>+.004</sup> <sub>-.002</sub><br>(1.0 <sup>+.01</sup> <sub>-.05</sub> ) | .02±.002<br>(0.5±0.05)  | .008±.004<br>(0.2±0.1)  | .01 <sup>+.002</sup> <sub>-.004</sub><br>(0.25 <sup>+.05</sup> <sub>-.1</sub> ) | .014±.002<br>(0.35±0.05) |
| <b>1J</b><br>(0603)      | .063±.008<br>(1.6±0.2)                                                           | .031±.004<br>(0.8±0.1)  | .012±.004<br>(0.3±0.1)  | .012±.004<br>(0.3±0.1)                                                          | .018±.004<br>(0.45±0.1)  |
| <b>2A</b><br>(0805)      | .079±.008<br>(2.0±0.2)                                                           | .049±.004<br>(1.25±0.1) | .016±.008<br>(0.4±0.2)  | .012 <sup>+.008</sup> <sub>-.004</sub><br>(0.3 <sup>+.02</sup> <sub>-.1</sub> ) | .02±.004<br>(0.5±0.1)    |
| <b>2B</b><br>(1206)      | .126±.008<br>(3.2±0.2)                                                           | .063±.008<br>(1.6±0.2)  | .02±.012<br>(0.5±0.3)   | .016 <sup>+.008</sup> <sub>-.004</sub><br>(0.4 <sup>+.02</sup> <sub>-.1</sub> ) | .024±.004<br>(0.6±0.1)   |
| <b>2E</b><br>(1210)      |                                                                                  | .102±.008<br>(2.6±0.2)  |                         |                                                                                 |                          |
| <b>2H</b><br>(2010)      | .197±.008<br>(5.0±0.2)                                                           | .098±.008<br>(2.5±0.2)  |                         |                                                                                 |                          |
| <b>3A</b><br>(2512)      | .248±.008<br>(6.3±0.2)                                                           | .122±.008<br>(3.1±0.2)  |                         |                                                                                 |                          |

## ordering information

| New Part # | RK73H | 2B                                           | T                                                                                                                                                                       | TD                                                                                                                                                                                                                                                                                                               | 1003                                                                         | F                  |
|------------|-------|----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|--------------------|
| Type       |       | Size                                         | Termination Material                                                                                                                                                    | Packaging                                                                                                                                                                                                                                                                                                        | Nominal Resistance                                                           | Tolerance          |
|            |       | 1H<br>1E<br>1J<br>2A<br>2B<br>2E<br>2H<br>3A | T: Sn<br>(1H, 1E, 1J, 2A, 2B, 2E, 2H, 3A)<br>L: SnPb<br>(1E, 1J, 2A, 2B, 2E, 2H, 3A)<br>(Other termination styles may be available, please contact factory for options) | TC: 2mm pitch pressed paper (0201 only)<br>TP: 2mm pitch punched paper (0402, 0603 & 0805)<br>TD: 7" paper tape (0603, 0805, 1206 & 1210)<br>TDD: 10" paper tape (0603, 0805, 1206 & 1210)<br>TE: 7" punched plastic (0805, 1206, 1210, 2010 & 2512)<br>TED: 10" punched plastic (0805, 1206, 1210, 2010 & 2512) | 3 significant figures + 1 multiplier<br>"R" indicates decimal on value <100Ω | D: ±0.5%<br>F: ±1% |

For further information on packaging, please refer to Appendix A.

## 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** |
|-------------------|---------------------|----------------------|--------------------------------------|------------------------------------|----------------------------------|-----------------------------------|-------------------------------|
| RK73H1H (0201)    | 1/20W (.05W)        | ±200                 | 10Ω - 1M <sup>1</sup> Ω              | 10Ω - 1MΩ <sup>1</sup>             | 25V                              | 50V                               | -55°C to +125°C               |
|                   |                     | ±400                 |                                      | 6.2Ω - 9.1Ω <sup>1</sup>           |                                  |                                   |                               |
| RK73H1E (0402)    | 1/16W (.063W)       | ±100                 | 10Ω - 976k                           | 10Ω - 1MΩ                          | 50V                              | 100V                              | -55°C to +155°C               |
|                   |                     | ±200                 | —                                    | 1.02MΩ - 10MΩ                      |                                  |                                   |                               |
|                   |                     | ±400                 | —                                    | 1.0Ω - 9.76Ω                       |                                  |                                   |                               |
| RK73H1J (0603)    | 1/10W (.10W)        | ±100                 | 10Ω - 1MΩ                            | 10Ω - 1MΩ                          | 150V                             | 300V                              |                               |
|                   |                     | ±400                 | —                                    | 1.0Ω - 9.76Ω                       |                                  |                                   |                               |
|                   |                     | ±200                 | —                                    | 1.02MΩ - 10MΩ                      |                                  |                                   |                               |
| RK73H2A (0805)    | 1/8W (.125W)        | ±100                 | 10Ω - 1MΩ                            | 10Ω - 1MΩ                          | 200V                             | 400V                              |                               |
|                   |                     | ±400                 | —                                    | 1.0Ω - 9.76Ω<br>1.02MΩ - 10MΩ      |                                  |                                   |                               |
| RK73H2B (1206)    | 1/4W (.25W)         | ±100                 | 10Ω - 1MΩ                            | 10Ω - 1MΩ                          | 200V                             | 400V                              |                               |
|                   |                     | ±200                 | —                                    | 1.02MΩ - 5.6MΩ                     |                                  |                                   |                               |
|                   |                     | ±400                 | —                                    | 1.0Ω - 9.76Ω<br>5.62MΩ - 10MΩ      |                                  |                                   |                               |
| RK73H2E (1210)    | 1/2W (.50W)         | ±100                 | 10Ω - 1KΩ                            | 10Ω - 1KΩ                          | 200V                             | 400V                              |                               |
|                   | 1/3W (.33W)         |                      | 1.02KΩ - 1MΩ                         | 1.02KΩ - 1MΩ                       |                                  |                                   |                               |
|                   | 1/3W (.33W)         | ±200                 | —                                    | 1.02MΩ - 5.6MΩ                     |                                  |                                   |                               |
|                   | 1/2W (.50W)         | ±400                 | —                                    | 1.0Ω - 9.76Ω                       |                                  |                                   |                               |
|                   | 1/3W (.33W)         |                      | —                                    | 5.62MΩ - 10MΩ                      |                                  |                                   |                               |
| RK73H2H (2010)    | 3/4W (.75W)         | ±100                 | 10Ω - 1MΩ                            | 10Ω - 1MΩ                          | 200V (500V <sup>***</sup> )      | 400V (500V <sup>***</sup> )       |                               |
|                   |                     | ±200                 | —                                    | 1.02MΩ - 5.6MΩ                     |                                  |                                   |                               |
|                   |                     | ±400                 | —                                    | 1.0Ω - 9.76Ω<br>5.62MΩ - 10MΩ      |                                  |                                   |                               |
| RK73H3A (2512)    | 1W                  | ±100                 | 10Ω - 1MΩ                            | 10Ω - 1MΩ                          | 200V (500V <sup>***</sup> )      | 400V (500V <sup>***</sup> )       |                               |
|                   |                     | ±200                 | —                                    | 1.02MΩ - 5.6MΩ                     |                                  |                                   |                               |
|                   |                     | ±400                 | —                                    | 1.0Ω - 9.76Ω<br>5.62MΩ - 10MΩ      |                                  |                                   |                               |

\* Parenthesis indicate EIA package size codes.

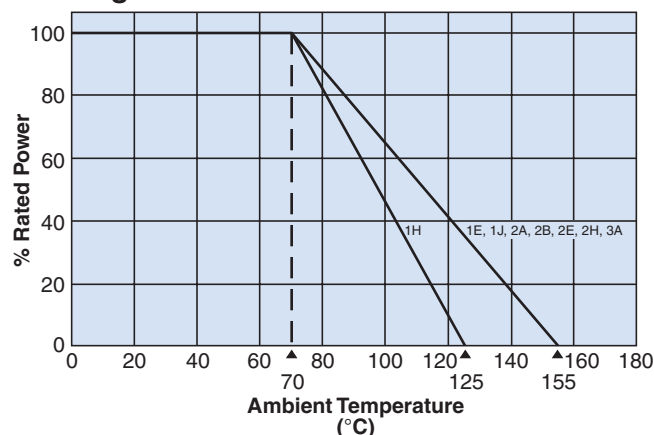
<sup>1</sup> E-24 values only.

\*\* 1J, 2A, 2B sizes available -55°C to +175°C (contact factory).

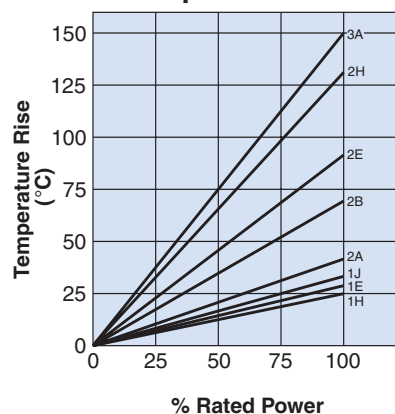
\*\*\* Please contact KOA Speer for the Max. working voltage and the Max. overload voltage.

## environmental applications

### Derating Curve



### Surface Temperature Rise



For complete environmental specifications, please refer to pages 30-31.

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

3/20/07