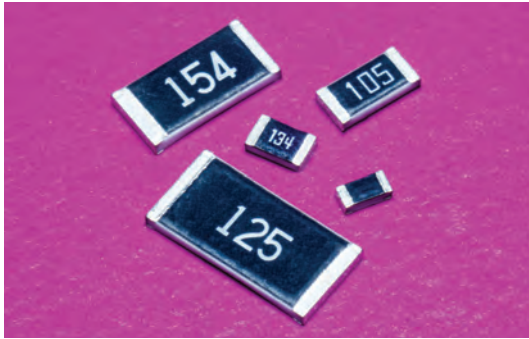
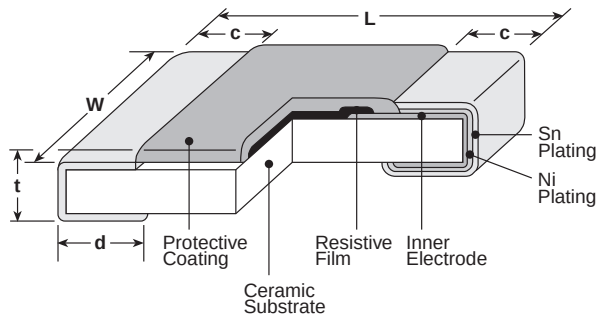




### features

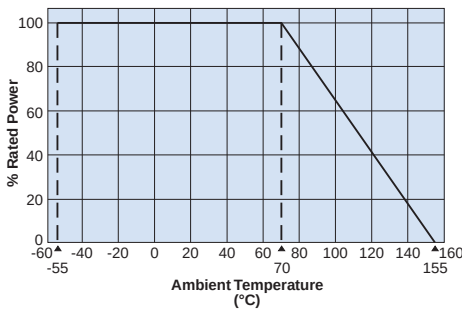
- Superior to RK73 series in maximum working voltage
- Products with lead-free terminations meet EU RoHS requirements. EU RoHS regulation is not intended for Pb-glass contained in electrode, resistor element and glass.

### dimensions and construction

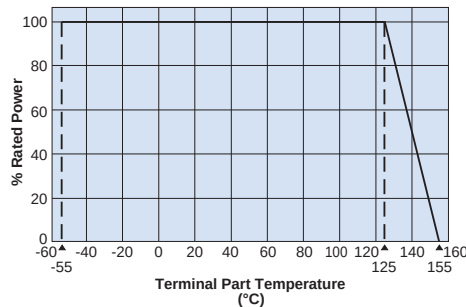


| Type<br>(Inch Size Code) | Dimensions inches (mm) |                         |                        |                                                                                    |                         |
|--------------------------|------------------------|-------------------------|------------------------|------------------------------------------------------------------------------------|-------------------------|
|                          | L                      | W                       | c                      | d                                                                                  | t                       |
| <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>+.0.2</sup> <sub>-.0.1</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>+.0.2</sup> <sub>-.0.1</sub> ) | .024±.004<br>(0.6±0.1)  |
| <b>2H</b><br>(2010)      | .197±.008<br>(5.0±0.2) | .098±.008<br>(2.5±0.2)  | .02±.012<br>(0.5±0.3)  | .016 <sup>+.008</sup> <sub>-.004</sub><br>(0.4 <sup>+.0.2</sup> <sub>-.0.1</sub> ) | .024±.004<br>(0.6±0.1)  |
| <b>3A</b><br>(2512)      | .248±.008<br>(6.3±0.2) | .122±.008<br>(3.1±0.2)  | .02±.012<br>(0.5±0.3)  | .016 <sup>+.008</sup> <sub>-.004</sub><br>(0.4 <sup>+.0.2</sup> <sub>-.0.1</sub> ) | .024±.004<br>(0.6±0.1)  |

### 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" in the beginning of our catalog before use.

### ordering information

| HV73 | 2B                                                       | T                    | TD                                                                                                                                                                    | 1004                                                                                                           | F                                      |
|------|----------------------------------------------------------|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|----------------------------------------|
| Type | Size                                                     | Termination Material | Packaging                                                                                                                                                             | Nominal Resistance                                                                                             | Resistance Tolerance                   |
|      | 1J: 0.1W<br>2A: 0.25W<br>2B: 0.25W<br>2H: 0.5W<br>3A: 1W | T: Sn                | TD: 0603, 0805, 1206:<br>7" 4mm pitch punched paper<br>TE: 2010 & 2512:<br>7" embossed plastic<br>For further information on packaging,<br>please refer to Appendix A | ±0.5%, ±1%:<br>3 significant figures<br>+ 1 multiplier<br>±2%, ±5%:<br>2 significant figures<br>+ 1 multiplier | D: ±0.5%<br>F: ±1%<br>G: ±2%<br>J: ±5% |

### applications and ratings

| Part Designation | Power Rating @ 70°C | Rated Ambient Temp. | Rated Terminal Part Temp. | T.C.R. (ppm/°C) Max. | Resistance Range (Ω) |                  |             |             | Absolute Maximum Working Voltage | Maximum Overload Voltage (D.C.)* | Operating Temp. Range |
|------------------|---------------------|---------------------|---------------------------|----------------------|----------------------|------------------|-------------|-------------|----------------------------------|----------------------------------|-----------------------|
|                  |                     |                     |                           |                      | E-24/E-96 (D±0.5%)   | E-24/E-96 (F±1%) | E-24 (G±2%) | E-24 (J±5%) |                                  |                                  |                       |
| 1J               | 0.1W                | 70°C                | 125°C                     | ±100**               | —                    | 10k - 10M        | 10k - 10M   | 10k - 10M   | 350V                             | 500V*                            | -55°C to +155°C       |
| 2A               | 0.25W               | 70°C                | 125°C                     | ±100                 | 100k - 1M            | 100k - 10M       | 100k - 10M  | 100k - 10M  | 400V                             | 800V*                            |                       |
|                  |                     |                     |                           | ±200                 | —                    | —                | —           | 11M - 51M   |                                  |                                  |                       |
| 2B               | 0.25W               | 70°C                | 125°C                     | ±100                 | 100k - 1M            | 100k - 10M       | 100k - 10M  | 100k - 10M  | 800V                             | 1000V*                           |                       |
|                  |                     |                     |                           | ±200                 | —                    | —                | —           | 11M - 51M   |                                  |                                  |                       |
| 2H               | 0.5W                | 70°C                | 125°C                     | ±100                 | 100k - 1M            | 100k - 10M       | 100k - 10M  | 100k - 10M  | 2000V (D.C.)                     | 3000V*                           |                       |
|                  |                     |                     |                           | ±200                 | —                    | 10.2M - 51M      | 11M - 51M   | 11M - 51M   |                                  |                                  |                       |
|                  |                     |                     |                           | ±300                 | —                    | 51.1M - 100M     | 56M - 100M  | 56M - 100M  |                                  |                                  |                       |
| 3A               | 1W                  | 70°C                | 125°C                     | ±100                 | 43k - 1M             | 43k - 10M        | 43k - 10M   | 43k - 10M   | 3000V (D.C.)                     | 4000V*                           |                       |
|                  |                     |                     |                           | ±200                 | —                    | 10.2M - 20M      | 11M - 20M   | 11M - 51M   |                                  |                                  |                       |

\* Max. overload voltage is specified by D.C. voltage

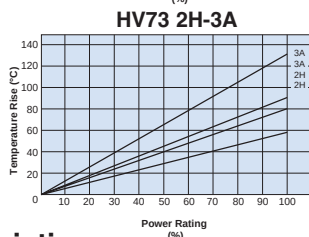
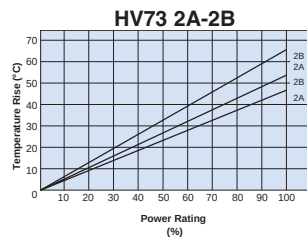
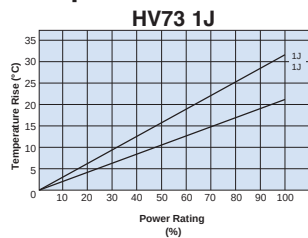
\*\* Cold T.C.R. (-55°C ~ +25°C) of 1.02MΩ ~ 10MΩ is +200x10<sup>-6</sup>/K

If any questions should arise whether to use the "Rated Ambient Temperature" or the "Rated Terminal Part Temperature," please give priority to the "Rated Terminal Part Temperature." Prior to use and for more details refer to "Introduction of the derating curves on the terminal part temperature" in the beginning of the catalog.

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

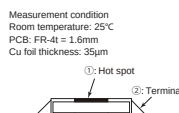
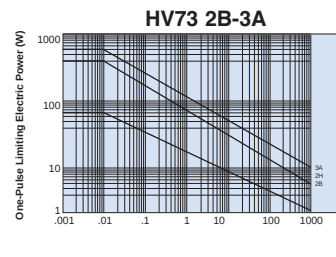
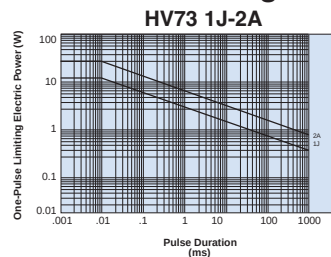
### environmental applications

#### Temperature Rise



Regarding the temperature rise, the value of the temperature varies per conditions and board for use since the temperature is measured under our measuring conditions.

#### One-Pulse Limiting Electric Power



The maximum applicable voltage is equal to the max. overload voltage. Please ask us about the resistance characteristic of continuous applied pulse. The pulse endurance values are not assured values, so be sure to check the products on actual equipment when you use them.

### Performance Characteristics

| Parameter                   | Requirement ΔR ±(%+0.1Ω)                          |                                                     | 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%                                               | ±0.5%                                               | Rated Voltage (D.C.) x 2.5 for 5 seconds                        |
| Resistance to Solder Heat   | ±1%                                               | ±0.5%                                               | 260°C ± 5°C, 10 seconds ± 1 second                              |
| Rapid Change of Temperature | ±0.5%:<br>(10kΩ≤R≤10MΩ)<br>±1%:<br>(10MΩ≤R≤100MΩ) | ±0.3%:<br>(10kΩ≤R≤10MΩ)<br>±0.5%:<br>(10MΩ≤R≤100MΩ) | -55°C (30 minutes), +125°C (30 minutes), 100 cycles             |
| Moisture Resistance         | ±2%                                               | ±0.75%                                              | 40°C ± 2°C, 90%-95% RH, 1000 hours, 1.5 hr ON, 0.5 hr OFF cycle |
| Endurance at 70°C           | ±2%                                               | ±0.75%                                              | 70°C ± 2°C, 1000 hours, 1.5 hr ON, 0.5 hr OFF cycle             |
| High Temperature Exposure   | ±2%                                               | ±0.3%                                               | +155°C, 1000 hours                                              |

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.

5/17/23