High Reliable Thin-Film Chip Resistors

KOA’s RN73H-series thin-film chip resistors have been designed to offer high precision resistor solutions for tough environments, especially in automotive and industrial applications. The usable temperature range extends to +155 °C while the available tolerances are down to ±0.05 % and the best T.C.R. reaches as low as ±5 ppm/K. A special protection layer in combination with a high heat resistant epoxy coating on top of the enhanced resistive element yields superior moisture stability.

Product Features

- Advanced moisture & high heat resistance
- Superior for anti-corrosion
- Additional inorganic passivation
- Low current noise, excellent linearity
- Higher stability over lifetime than thick film resistors
- High rated power at +85 °C
- Tight resistance tolerances down to ±0.05 %
- Extremely low T.C.R. down to ±5 ppm/K
- Standard sizes 0402, 0603, 0805, 1206 and 1210
- Operating temperature performance from -55 °C to +155 °C
- Produced under superior quality-controlled processes
- Reference Standards: IEC 60115-8, JIS C 5201-8, EIAJ RC-2133A
- AEC-Q200 tested, EU-RoHS and China-RoHS compliant
- Sulfur resistance verified according to ASTM B 809-95
- Lab Kits are available

Effect of Inorganic Protection

1. Better cohesiveness (1.5 times) of epoxy with inorganic protective film than epoxy with substrate or resistive film
2. Better cohesiveness (5 ... 10 times) of inorganic protective film with substrate than epoxy with substrate.
3. Hygroscopicity decreased from 1/10 to 0

Datasheet

For more information, please contact:
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High Precision Resistors

KOA’s automotive grade thin film resistors from RN73H-series are intended to be used in most fields of professional electronics where high reliability and excellent stability is a major concern.

- **Application Examples**
  - Automotive electronics
    - Engine ECU, HEV/BMS, EPB, EPS
  - Industrial equipment
    - Control circuits, diagnostic devices
  - Power grid
    - Power meter, power conditioner
  - Medical equipment
  - Scale, test & measuring equipment
  - Automatic equipment controller
  - Converters
  - High precision voltage divider circuits
  - etc.

- **High temperature exposure**
  (RN73H2A, 0805, +155 °C, 1000 Hrs)

- **Ratings**
  
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<td>85°C</td>
<td>90°C</td>
<td>±5</td>
<td>220–10k</td>
<td>50V</td>
<td>100V</td>
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<td>±10</td>
<td>47–100k</td>
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<td></td>
<td>±25</td>
<td>47–300k</td>
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<td>±25</td>
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<td>100°C</td>
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<td>15–1.5M</td>
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<td>110°C</td>
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<td>200V</td>
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<td>±25</td>
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<td>110°C</td>
<td>±5</td>
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01. March 2022