

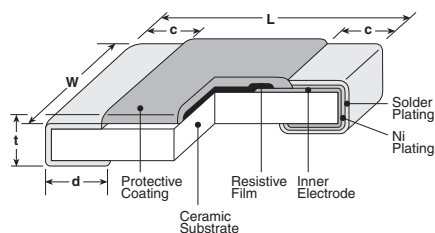
flat chip resistors (anti-sulfuration)

features

- Excellent anti-sulfuration characteristic due to using high sulfuration-proof inner top electrode material
- Excellent heat resistance and weather resistance are ensured by the use of metal glaze thick film
- High stability and high reliability with the triple-layer structure of electrode
- Marking: Z1E: Green protective coating
RK73B1E ~ W3A, RK73Z1J ~ W3A: Black protective coating
RK73H1E ~ W3A: Blue protective coating
- 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: 0402 (1E), 0603 (1J), 0805 (2A), 1206 (2B), 1210 (2E), 2010 (W2H), 2512 (W3A)

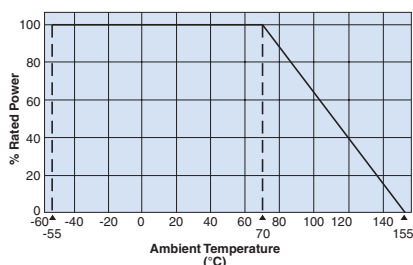


dimensions and construction



| Type (Inch Size Code) | Dimensions inches (mm) | | | | |
|--------------------------|---|-------------------------|------------------------|--|--------------------------|
| | L | W | c | d | t |
| 1E (0402) | .039 ^{+0.004} _{-.002} (1.0 ^{+0.1} _{-.05}) | .02±.002 (0.5±0.05) | .008±.004 (0.2±0.1) | .01 ^{+0.002} _{-.004} (0.25 ^{+0.05} _{-.01}) | .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 ^{+0.008} _{-.004} (0.3 ^{+0.2} _{-.01}) | .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 ^{+0.008} _{-.004} (0.4 ^{+0.2} _{-.01}) | .024±.004 (0.6±0.1) |
| 2E (1210) | | .102±.008 (2.6±0.2) | | | |
| W2H (2010) | .197±.008 (5.0±0.2) | .098±.008 (2.5±0.2) | .02±.012 (0.5±0.3) | .023±.006 (0.65±0.15) | .024±.004 (0.6±0.1) |
| W3A (2512) | .248±.008 (6.3±0.2) | .122±.008 (3.1±0.2) | | | |

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.

ordering information

| New Part # | RK73H | 2A | RT | TD | 1002 | F |
|------------|-------------------------|--|---|---|--|--|
| Type | RK73B RK73H RK73Z | 1E 1J 2A 2B 2E W2H W3A | Termination Surface Material RT: Sn Anti-Sulfur | Packaging TPL: 0402 only: 2mm pitch punch paper TP: 0402, 0603, 0805: 7" 2mm pitch punch 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" embossed plastic TED: 0805, 1206, 1210, 2010 & 2512: 10" embossed plastic For further information on packaging, please refer to Appendix A | Nominal Resistance RK73B: 3 digits RK73H: 4 digits RK73Z: None | Resistance Tolerance D: ±0.5% F: ±1% G: ±2% J: ±5% |

applications and ratings

| Part Designation | Power Rating @ 70°C | T.C.R. (ppm/°C) Max. | Resistance Range | | | | Maximum Working Voltage | Maximum Overload Voltage | Rated Ambient Temp. | Operating Temp. Range |
|----------------------|---------------------|----------------------|-------------------|-----------------|-------------|-------------|-------------------------|--------------------------|---------------------|-----------------------|
| | | | RK73H | | RK73B | | | | | |
| | | | E24, E96 (D±0.5%) | E24, E96 (F±1%) | E24 (G±2%) | E24 (J±5%) | | | | |
| RK73B1E RK73H1E | 0.063W | ±200 | — | 1.02MΩ - 10MΩ | 10Ω - 10MΩ | 1Ω - 10MΩ | 50V | 100V | +70°C | -55°C to +155°C |
| | | ±100 | 100Ω - 1MΩ | 10Ω - 1MΩ | — | — | | | | |
| RK73B1J RK73H1J | 0.1W | ±200 | — | 1.02MΩ - 10MΩ | 10Ω - 10MΩ | 1Ω - 10MΩ | | | | |
| | | ±100 | 100Ω - 1MΩ | 10Ω - 1MΩ | — | — | | | | |
| RK73B2A RK73H2A | 0.125W | ±200 | — | 1.02MΩ - 10MΩ | 10Ω - 10MΩ | 1Ω - 10MΩ | 150V | 200V | | |
| | | ±100 | 100Ω - 1MΩ | 10Ω - 1MΩ | — | — | | | | |
| RK73B2B RK73H2B | 0.25W | ±200 | — | 1.02MΩ - 10MΩ | 10Ω - 10MΩ | 1Ω - 10MΩ | 200V | 400V | | |
| | | ±100 | 100Ω - 1MΩ | 10Ω - 1MΩ | — | — | | | | |
| RK73B2E RK73H2E | 0.5W | ±200 | — | — | 10Ω - 1kΩ | 1Ω - 1kΩ | | | | |
| | 0.33W | | | | 1.1kΩ - 1MΩ | 1.1kΩ - 1MΩ | | | | |
| | 0.5W | ±100 | 100Ω - 1kΩ | 10Ω - 1kΩ | — | — | | | | |
| | 0.33W | | 1.02kΩ - 1MΩ | 1.02kΩ - 1MΩ | — | — | | | | |
| RK73BW2H RK73HW2H | 0.75W | ±200 | — | 1.02MΩ - 10MΩ | 10Ω - 10MΩ | 1Ω - 10MΩ | | | | |
| | | ±100 | 10Ω - 1MΩ | 10Ω - 1MΩ | — | — | | | | |
| RK73BW3A RK73HW3A | 1W | ±200 | — | 1.02MΩ - 10MΩ | 10Ω - 10MΩ | 1Ω - 10MΩ | | | | |
| | | ±100 | 10Ω - 1MΩ | 10Ω - 1MΩ | — | — | | | | |

| Part Designation* | Resistance | Current Rating | Maximum Surge Current | Rated Ambient Temperature | Operating Temperature Range |
|-------------------|------------|----------------|-----------------------|---------------------------|-----------------------------|
| RK73Z1E | 50mΩ max. | 1A | 2A | +70°C | -55°C to +155°C |
| RK73Z1J | | | | | |
| RK73Z2A | | | | | |
| RK73Z2B | | 2A | 10A | | |
| RK73Z2E | | | | | |
| RK73ZW2H | | | | | |
| RK73ZW3A | | | | | |

environmental applications

Performance Characteristics

| Parameter | RK73H, RK73B Requirement Δ R ±(%+0.1Ω) | | RK73Z Requirement | | Test Method |
|-----------------------------|---|--|-------------------|---------|--|
| | Limit | Typical | Limit | Typical | |
| Resistance | Within specified tolerance | — | R≤50mΩ | R≤40mΩ | 25°C |
| T.C.R. | Within specified T.C.R. | — | N/A | N/A | +25°C/-55°C and +25°C/+125°C |
| Overload (Short time) | ±2% | ±0.8% | R≤50mΩ | R≤40mΩ | RK73B, RK73H Rated Voltage x 2.5 for 5 seconds (2B: Rated Voltage x 2 for 5 seconds) RK73Z: Max. surge current for 5 seconds |
| Resistance to Solder Heat | ±1%: 10Ω≤R≤1MΩ; ±3%: R<10Ω, R>1MΩ | ±1%: R<10Ω, R>1MΩ; ±0.5%: All others | R≤50mΩ | R≤40mΩ | 260°C ± 5°C, 10 seconds ± 1 second |
| Rapid Change of Temperature | ±0.5% | ±0.3% | R≤50mΩ | R≤40mΩ | -55°C (30 minutes), +125°C (30 minutes), 100 cycles |
| Moisture Resistance | ±2%: 1J, 2A, 2B ±3%: All others | ±0.75%: 1J, 2A, 2B; ±1%: All others | R≤100mΩ | R≤50mΩ | 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%: All others | ±0.75%: 1J, 2A, 2B; ±1%: All others | R≤100mΩ | R≤50mΩ | 70°C ± 2°C, 1000 hours, 1.5 hr ON, 0.5 hr OFF cycle |
| High Temperature Exposure | ±1% | ±0.5% | R≤50mΩ | R≤40mΩ | +155°C, 1000 hours |
| Sulfuration Test | — | ±0.5% | — | R≤40mΩ | H ₂ S 1000 ppm, 25°C, 90%Rh, 720 hours |

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

1/19/11