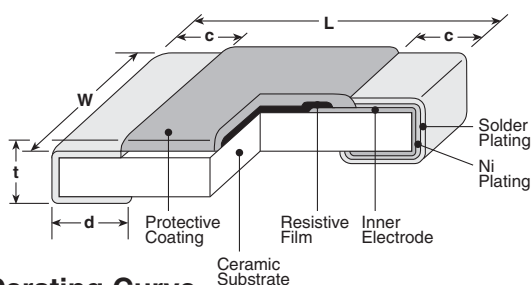


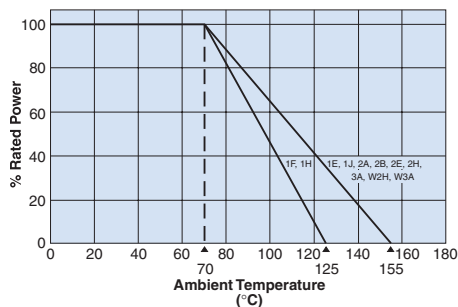
features

- Marking: 1F, 1H, 1E no marking, black body.
1J: three-digit black marking (E-24 only)
on blue protective coat. 2A ~ 3A four-digit
black marking on blue protective coat.
- 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



Derating Curve



| Type* (Inch Size Code) | Dimensions inches (mm) | | | | |
|---------------------------|---|--------------------------|-------------------------|--|---------------------------|
| | L | W | c | d | t |
| 1F (01005) | .016±.0008 (0.4±0.02) | .008±.0008 (0.2±0.02) | .004±.001 (0.1±0.03) | .004±.001 (0.11±0.03) | .005±.0008 (0.13±0.02) |
| 1H (0201) | .024±.001 (0.6±0.03) | .012±.001 (0.3±0.03) | .004±.002 (0.1±0.05) | .006±.002 (0.15±0.05) | .009±.001 (0.23±0.03) |
| 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) | | | |
| 2H (2010) | .197±.008 (5.0±0.2) | .098±.008 (2.5±0.2) | .02±.012 (0.5±0.3) | .026±.006 (0.65±0.15) | .024±.004 (0.6±0.1) |
| W2H (2010) | | | | | |
| 3A (2512) | .248±.008 (6.3±0.2) | .122±.008 (3.1±0.2) | | .016 ^{+0.008} _{-.004} (0.4 ^{+0.2} _{-.01}) | |
| W3A (2512) | | | | .026±.006 (0.65±0.15) | |

* Parentheses indicate EIA package size codes.

ordering information

| New Part # | RK73H | 2B | T | TD | 1003 | F |
|------------|-------|--|--|---|--|---------------------------------|
| Type | | | | | | |
| Size | | 1F 1H 1E 1J 2A 2B 2E W2H W3A | Termination Material T: Sn (1F ~ 3A) Contact factory for below options: L: SnPb (1E ~ 3A) G: Au (1E ~ 2A: 10Ω ~ 1MΩ) X: Bondable (1J ~ 2E: 10Ω ~ 1MΩ) | Packaging TX: 01005 only: 4mm width - 1mm pitch plastic embossed TBL: 01005 only: 2mm pitch pressed paper TA: 0201 only: 1mm pitch pressed paper TC: 0201 only: 7" 2mm pitch pressed paper (TC: 10,000 pcs/reel, TCM: 15,000 pcs/reel) TCD: 0201 only: 10" 2mm pitch pressed paper 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 3 significant figures + 1 multiplier "R" indicates decimal on value <100Ω | Tolerance D: ±0.5% F: ±1% |

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

4/27/11

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 | |
|--------------------|---------------------|----------------------|--------------------------------------|------------------------------------|----------------------------------|-----------------------------------|-----------------------------|------|
| RK73H1F (01005) | 1/32W (.03W) | ±250 | — | 6.8kΩ - 1MΩ ¹ | 15V | 30V | -55°C to +125°C | |
| | | ±300 | — | 10Ω - 6.2KΩ ¹ | | | | |
| RK73H1H (0201) | 1/20W (.05W) | ±200 | 10Ω - 1MΩ | 10Ω - 10MΩ | 25V | 50V | | |
| | | ±400 | — | 1.0Ω - 9.1Ω ¹ | | | | |
| RK73H1E (0402) | 1/16W (.063W) | ±100 | 10Ω - 1MΩ | 10Ω - 1MΩ | 50V | 100V | | |
| | | ±200 | — | 1.0Ω - 9.76Ω 1.02MΩ - 10MΩ | | | | |
| RK73H1J (0603) | 1/10W (.10W) | ±100 | 10Ω - 1MΩ | 10Ω - 1MΩ | | | 150V | 200V |
| | | ±200 | — | 1.0Ω - 9.76Ω 1.02MΩ - 10MΩ | | | | |
| | | ±400 | — | 1.0Ω - 9.76Ω 1.02MΩ - 10MΩ | | | | |
| RK73H2A (0805) | 1/8W (.125W) | ±100 | 10Ω - 1MΩ | 10Ω - 1MΩ | 200V | 400V | | |
| | | ±200 | — | 1.0Ω - 9.76Ω | | | | |
| | | ±400 | — | 1.02MΩ - 10MΩ | | | | |
| RK73H2B (1206) | 1/4W (.25W) | ±100 | 10Ω - 1MΩ | 10Ω - 1MΩ | 200V | 400V | | |
| | | ±200 | — | 1.0Ω - 9.76Ω 1.02MΩ - 5.6MΩ | | | | |
| | | ±400 | — | 5.62MΩ - 10MΩ | | | | |
| RK73H2E (1210) | 1/2W (.50W) | ±100 | 10Ω - 1KΩ | 10Ω - 1KΩ | | | | |
| | 1/3W (.33W) | | 1.02KΩ - 1MΩ | 1.02KΩ - 1MΩ | | | | |
| | 1/2W (.50W) | ±200 | — | 1.0Ω - 9.76Ω | | | | |
| | 1/3W (.33W) | ±200 | — | 1.02MΩ - 5.6MΩ | | | | |
| RK73HW2H/2H (2010) | 3/4W (.75W) | ±100 | 10Ω - 1MΩ | 10Ω - 1MΩ | 200V (500V*) | 400V (500V*) | | |
| | | ±200 | — | 1.0Ω - 9.76Ω 1.02MΩ - 5.6MΩ | | | | |
| | | ±400 | — | 5.62MΩ - 10MΩ | | | | |
| RK73HW3A/3A (2512) | 1W | ±100 | 10Ω - 1MΩ | 10Ω - 1MΩ | 200V (500V*) | 400V (500V*) | | |
| | | ±200 | — | 1.0Ω - 9.76Ω 1.02MΩ - 5.6MΩ | | | | |
| | | ±400 | — | 5.62MΩ - 10MΩ | | | | |

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

¹ 1H and 1F (1.0~9.1Ω, 1M~10MΩ) E-24 values only.

environmental applications

Performance Characteristics

| Parameter | Requirement Δ R (%+0.05Ω) | | 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/+125°C |
| Overload (Short time) | ±2% | ±1%: 1F ±0.5%: Another | Rated Voltage x 2.5 for 5 seconds (2B: Rated Voltage x 2 for 5 seconds) |
| Resistance to Soldering Heat | ±1%: 1F ~ W3A (10Ω ≤ R ≤ 1MΩ); ±3%: 1E ~ W3A (R < 10Ω, R > 1MΩ) | ±0.75%: 1F, 1H (10Ω < R < 1MΩ); ±1%: 1E ~ W3A (R < 10Ω, R > 1MΩ); ±0.5%: Another | 260°C ± 5°C, 10 seconds ± 1 second |
| Rapid Change of Temperature | ±1%: 1F ±0.5%: Another | ±0.5%: 1F ±0.3%: Another | -55°C (30 minutes), +125°C (30 minutes), 100 cycles |
| Moisture Resistance | ±2%: 1J, 2A, 2B ±3%: Another | ±0.75%: 1J, 2A, 2B; ±1.5%: 1F, ±1%: Another | 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%: Another | ±0.75%: 1J, 2A, 2B ±1%: Another | 70°C ± 2°C, 1000 hours, 1.5 hr ON, 0.5 hr OFF cycle |
| High Temperature Exposure | ±1% | ±0.5%: 1F ±0.3%: Another | +125°C, 1000 hours: 1F, 1H +155°C, 1000 hours: 1E, 1J, 2A, 2B, 2E, W2H, W3A |

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4/27/11