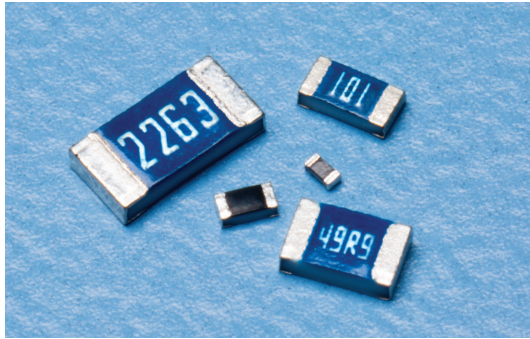




**THE DATASHEET OF
RK73G1ETTP1003F**

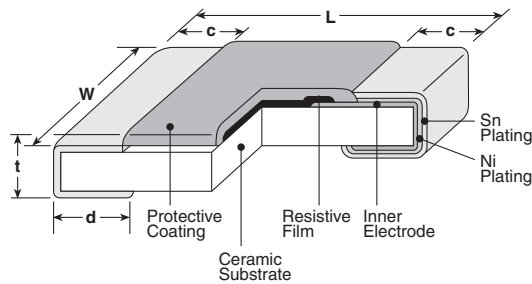




features

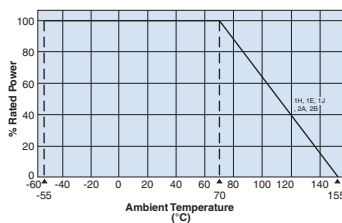
- Metal-glaze thick film resistor for surface mounting
- High precision resistor with T.C.R. of ± 50 ppm/°C and tolerance of $\pm 0.25\%$, $\pm 0.5\%$ or $\pm 1\%$
- Suitable for both flow and reflow solderings
- Products with lead-free terminations meet EU RoHS requirements. EU RoHS regulation is not intended for Pb-glass contained in electrode, resistor element and glass.
- AEC-Q200 Tested

dimensions and construction

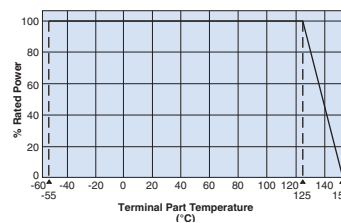


| Type (Inch Size Code) | Dimensions inches (mm) | | | | |
|--------------------------|--|-------------------------|--------------------------|--|--------------------------|
| | L | W | c | d | t |
| 1H (0201) | .024±.001 (0.6±0.03) | .012±.001 (0.3±0.03) | .004±.002 (0.1±0.05) | .006±.002 (0.15±0.05) | .009±.001 (0.23±0.03) |
| 1E (0402) | .039 ^{+0.004} _{-.002} (1.0 ^{+0.1} _{-0.05}) | .02±.002 (0.5±0.05) | .008±.004 (0.2±0.1) | .01 ^{+0.002} _{-.004} (0.25 ^{+0.05} _{-0.1}) | .014±.002 (0.35±0.05) |
| 1E AT (0402) | | | .01±.004 (0.25±0.1) | .012±.006 (0.3±0.15) | |
| 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) |
| 1J AT (0603) | | | .014±.006 (0.35±0.15) | .02±.008 (0.5±0.2) | |
| 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} _{-0.1}) | .02±.004 (0.5±0.1) |
| 2A AT (0805) | | | .018±.010 (0.45±0.25) | .024±.008 (0.6±0.2) | |
| 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} _{-0.1}) | .024±.004 (0.6±0.1) |
| 2B AT (1206) | | | .022±.014 (0.55±0.35) | .031±.008 (0.8±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.



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

| | | | | | | |
|--------------|----------------------------|--|-----------------------------|---|--|---|
| RK73G | 1J | | T | TD | 1003 | F |
| Type | Size | Characteristic | Termination Material | Packaging | Nominal Resistance | Tolerance |
| | 1H 1E 1J 2A 2B | Nil: Standard A: Heat shock resistance *1 | T: Sn (L:Sn/Pb*2) | TCM: 2mm pitch press paper *3 TPL - TP: 2mm pitch punch paper TD: 4mm pitch punch paper TE: 4mm pitch plastic embossed | 3 significant figures + 1 multiplier "R" indicates decimal on value <100Ω | C: $\pm 0.25\%$ D: $\pm 0.5\%$ F: $\pm 1\%$ |

*1 With type A, only T is available as the terminal surface material.
*2 With type 1H, only T is available as the terminal surface material.
The terminal surface material lead free is standard.
For further information on packaging, please refer to Appendix A

*3 Standard taping specification of 1H is TCM. Previously available "TC (10,000pcs/Reel)" is not recommended for new designs

applications and ratings

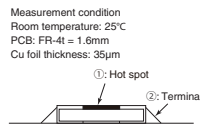
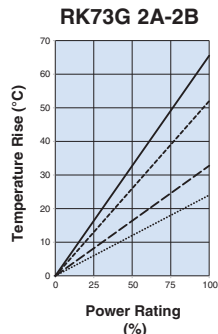
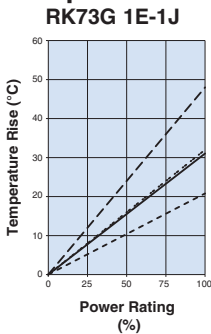
| Part Designation* | Power Rating | Rated Ambient Temp. | Rated Terminal Part Temp. | T.C.R. (ppm/°C) Max. | Resistance Range | | | Absolute Maximum Working Voltage | Absolute Maximum Overload Voltage | | |
|-------------------|--------------|---------------------|---------------------------|----------------------|--------------------------|---------------------|-------------------|----------------------------------|-----------------------------------|------|------|
| | | | | | New E-24, E-96 (C±0.25%) | E-24, E-96 (D±0.5%) | E-24, E-96 (F±1%) | | | | |
| RK73G1H (0201) | .05W | 70°C | 125°C | ±50 | — | 100Ω - 1MΩ** | 100Ω - 1MΩ** | 25V | 50V | | |
| RK73G1E (0402) | .10W | | | | | | | | | 50V | 100V |
| RK73G1J (0603) | .10W | | | | | | | | | 75V | 150V |
| RK73G2A (0805) | .125W | | | | | | | 100Ω - 1MΩ | 10Ω - 1MΩ | 150V | 200V |
| RK73G2B (1206) | .25W | | | | | | | | | 200V | 400V |

Operating Temperature Range: -55°C ~ +155°C

* Parentheses indicate EIA package size codes. ** RK73G1H available in E-24 decade values only

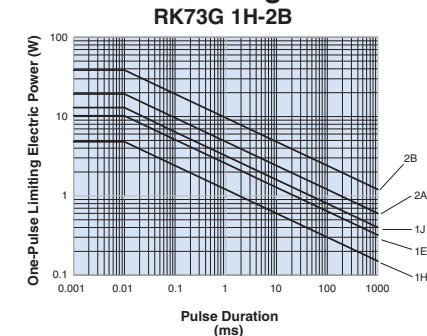
environmental applications

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 $\Delta R \pm(\%+0.1\Omega)$ | | Test Method |
|-----------------------------|--|--|--|
| | Limit | Typical | |
| Resistance | Within specified tolerance | — | 25°C |
| T.C.R. | Within specified T.C.R. | — | 1H: +25°C/+125°C, 1E, 1J, 2A, 2B: +25°C/-55°C and +25°C/+125°C |
| Overload (Short time) | ±2% | ±0.6% | Rated Voltage x 2.5 for 5 seconds (1E, 2B: Rated Voltage x 2 for 5 seconds) |
| Resistance to Solder Heat | ±1% | ±1%: 1H, ±0.4%: 1E, 1J, 2A, 2B | 260°C ± 5°C, 10 seconds ± 1 second |
| Rapid Change of Temperature | ±0.5%: Characteristic (Nil) Standard 1%: Characteristic (A) Heat Shock Resistance | ±0.3%: Characteristic (Nil) Standard 0.5%: Characteristic (A) Heat Shock Resistance | Characteristic (Nil) Standard -55°C (30 minutes), +125°C (30 minutes), 100 cycles Characteristic (A) Heat Shock Resistance -55°C (30 minutes), +125°C (30 minutes), 1000 cycles |
| Moisture Resistance | ±2%: 1J, 2A, 2B ±3%: 1H, 1E | ±0.6%: 1J, 2A, 2B; ±1%: 1H, 1E | 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%: 1H, 1E | ±0.6%: 1J, 2A, 2B; ±1%: 1H, 1E | 70°C ± 2°C, 1000 hours, 1.5 hr ON, 0.5 hr OFF cycle |
| High Temperature Exposure | ±1% | ±0.6% | +155°C, 1000 hours |

For Surface Temperature Rise Graph see Environmental Applications. Additional environmental applications can also be found at 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.

11/17/23

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