



features

- Superior to RK73B/RK73H series in surge/pulse withstanding voltage
- Untrimmed, superior surge/pulse and ESD withstanding
- Marking: White three-digit on wine red 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.
- AEC-Q200 Qualified: 0603(1J), 0805(2A), 1206(2B), 1210(2E), 2010(2H/W2H), 2512(3A/W3A)

dimensions and construction



| Type (Inch Size Code) | Dimensions inches (mm) | | | | |
|--------------------------|------------------------|-------------------------|------------------------|--|-------------------------|
| | L | W | c | d | t |
| SG731J (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) |
| SG732A (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} _{-.1}) | .02±.004 (0.5±0.1) |
| SG732B (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} _{-.1}) | .024±.004 (0.6±0.1) |
| SG732E (1210) | | .102±.008 (2.6±0.2) | .02±.012 (0.5±0.3) | | |
| SG732H (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) | |
| SG73W2H (2010) | .248±.008 (6.3±0.2) | .122±.008 (3.1±0.2) | | .016 ^{+0.008} _{-.004} (0.4 ^{+0.2} _{-.1}) | |
| SG733A (2512) | | | | .026±.006 (0.65±0.15) | |
| SG73W3A (2512) | | | | | |

New Part #

| SG73 | 2B | T | TD | 102 | K |
|------|--|--|---|--|--------------------|
| Type | Size | Termination Material | Packaging | Nominal Resistance | Tolerance |
| SG73 | 1J 2A 2B 2E W2H W3A 2H 3A | T: Sn L: SnPb: (NOT available in SG732H/W2H, SG733A/W3A) | TP: 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 | ±10%, ±20%: 2 significant figures + 1 multiplier "R" indicates decimal on value <10Ω | K: ±10% M: ±20% |

applications and ratings

| Part Designation | Power Rating @ 70°C | Rated Ambient Temp. | Rated Terminal Part Temp. | T.C.R. (ppm/°C) Max. | Resistance Range (E-12) (K±10%, M±20%) | Absolute Maximum Working Voltage | Absolute Maximum Overload Voltage | Operating Temp. Range |
|-------------------|---------------------|---------------------|---------------------------|----------------------|--|----------------------------------|-----------------------------------|-----------------------|
| SG731J (0603) | 0.1W | 70°C | 125°C | ±400 ±200 | 1Ω - 8.2Ω 10Ω - 1MΩ | 50V | 100V | -55°C to +155°C |
| SG732A (0805) | 0.125W | 70°C | 125°C | ±400 ±200 | 1Ω - 8.2Ω 10Ω - 1MΩ | 150V | 200V | |
| SG732B (1206) | .33W | 70°C | 125°C | ±400 ±200 | 1Ω - 8.2Ω 10Ω - 1MΩ | 200V | 400V | |
| SG732E (1210) | 0.5W | 70°C | 125°C | ±400 ±200 | 1Ω - 8.2Ω 10Ω - 1MΩ | | | |
| SG732H/W2H (2010) | 0.75W | 70°C | 125°C | ±400 ±200 | 1Ω - 8.2Ω 10Ω - 1MΩ | | | |
| SG733A/W3A (2512) | 1W | 70°C | 125°C | ±400 ±200 | 1Ω - 8.2Ω 10Ω - 1MΩ | | | |

Parentheses indicate EIA package size codes.

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

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.

environmental applications

Derating Curve



For resistors operated at an ambient temperature of 70°C or above, a power rating shall be derated in accordance with the 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 derating curve. Please refer to "Introduction of the derating curve based on the terminal part temperature" in the beginning of our catalog before use.

One-Pulse Limiting Electric Power



The maximum applicable voltage is equal to the max. overload voltage. Please contact factory for resistance characteristics of continuous applied pulse.

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. | — | +25°C/-55°C and +25°C/+125°C |
| Overload (Short time) | ±2% | ±0.5% | Rated Voltage x 2.5 for 5 seconds |
| Resistance to Solder Heat | ±1% | ±0.75% | 260°C ± 5°C, 10 seconds ± 1 second |
| Rapid Change of Temperature | ±0.5% | ±0.3% | -55°C (30 minutes), +125°C (30 minutes), 100 cycles |
| Moisture Resistance | ±3% | ±0.75% | 40°C ± 2°C, 90%~95%RH, 1000 hours; 1.5 hr ON, 0.5 hr OFF cycle |
| Endurance at 70°C | ±3% | ±0.75% | 70°C ± 2°C, 1000 hours, 1.5 hr ON, 0.5 hr OFF cycle |
| High Temperature Exposure | ±1% | ±0.3% | +155°C, 1000 hours |

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.

11/16/16