## Single Value Chip Resistor



The demand for high precision, high stability microchips for both military and industrial environments is increasing with the growth and sophistication of modern hybrid circuitry.

The RSK 22 series are single value resistor chips. They provide excellent long term stability $\pm 0.05 \%$ ( 2000 h , rated power, at $+70^{\circ} \mathrm{C}$ ) and low noise characteristics $<35 \mathrm{~dB}$.

FEATURES

- Small size 20 mil x 20 mil
- Low temperature coefficient $25 \mathrm{ppm} /{ }^{\circ} \mathrm{C}$
- Excellent stability 0.05 \% (2000 h, rated power at $+70^{\circ} \mathrm{C}$ )
- Wirebondable


RoHS complant GREEN (5-2008)*

TYPICAL PERFORMANCE

|  | ABS |
| :---: | :---: |
| TCR | $25 \mathrm{ppm} /{ }^{\circ} \mathrm{C}$ |
| TOL. | $0.1 \%$ |

## SCHEMATIC AND PATTERN



STANDARD ELECTRICAL SPECIFICATIONS

| TEST | SPECIFICATIONS | CONDITIONS |
| :--- | :---: | :---: |
| SERIES | ULTRAFILM ${ }^{\circledR}$ |  |
| Resistance range | $10 \Omega$ to $500 \mathrm{k} \Omega$ | $-55^{\circ} \mathrm{C}$ to $+155^{\circ} \mathrm{C}$ |
| Absolute TCR | $\pm 25 \mathrm{ppm} /{ }^{\circ} \mathrm{C}$ |  |
| Absolute tolerance | $\pm 0.1 \%, \pm 0.5 \%, \pm 1 \%$ |  |
| Power rating | 100 mW at $25^{\circ} \mathrm{C}, 50 \mathrm{~mW}$ at $+70^{\circ} \mathrm{C}, 25 \mathrm{~mW}$ at $+125^{\circ} \mathrm{C}$ |  |
| Stability | $\pm 0.05 \%$ typical, $\pm 0.1 \%$ maximum |  |
| Voltage coefficient | $<0.1 \mathrm{ppm} / \mathrm{V}$ |  |
| Working voltage | $100 \mathrm{~V}_{\mathrm{DC}}$ |  |
| Operating temperature range | $-55^{\circ} \mathrm{C}$ to $+155^{\circ} \mathrm{C}{ }^{(1)}$ |  |
| Storage temperature range | $-55^{\circ} \mathrm{C}$ to $+155^{\circ} \mathrm{C}$ | MIL at $+70^{\circ} \mathrm{C}$ under Pn |
| Noise | $<-35 \mathrm{~dB}$ typical |  |
| Thermal EMF | $0.01 \mu \mathrm{MV} /{ }^{\circ} \mathrm{C}$ |  |
| Shelf life stability | $<50 \mathrm{ppm}$ |  |

## Note:

${ }^{(1)}$ For temperature up to $200^{\circ} \mathrm{C}$, please contact factory.

* Please see document "Vishay Green and Halogen-Free Definitions (5-2008)" http://www.vishay.com/doc?99902


## DIMENSIONS



| DIMENSION | INCHES | MILLIMETERS |
| :--- | :---: | :---: |
| A | 0.02 | $0.55 \pm 0.10$ |
| B | 0.02 | $0.55 \pm 0.10$ |
| C | 0.004 | 0.10 |
| D | 0.004 | 0.10 |
| E | 0.015 | 0.40 maximum |

## MECHANICAL SPECIFICATIONS

| Resistive element | Nichrome |
| :--- | :---: |
| Passivation |  |
| Substrate material | Silicon Nitride |
| Bonding pads | Standard Silicon |
| Body | Aluminum |

## GLOBAL PART NUMBER INFORMATION

New Global Part Numbering: RSK22N100KD0016 (preferred part number format)


Historical Part Number example: RSK 22N 100K 0.5 \% R0016 (will continue to be accepted)


## Disclaimer

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