## Wirewound Resistors, Open Air, Current Sense, Low Value



## FEATURES

- Open air design
- Low resistance values for all types of current sensing, voltage division and pulse applications including switching and linear supplies, instrumentation and power amplifiers
- All welded construction
- Solid metal nickel-chrome or copper-nickel alloy resistive element
- Solderable terminations
- Very low inductance
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912


## Note

* This datasheet provides information about parts that are RoHS-compliant and/or parts that are non RoHS-compliant. For example, parts with lead (Pb) terminations are not RoHS-compliant. Please see the information / tables in this datasheet for details


## STANDARD ELECTRICAL SPECIFICATIONS

| MODEL | POWER RATING <br> $\boldsymbol{P}_{70}{ }^{\circ} \mathrm{C}$ <br> $\mathbf{W}$ | RESISTANCE RANGE <br> $\Omega$ | TOLERANCE <br> $\pm \%$ |
| :--- | :---: | :---: | :---: |
| SR3 | 3.0 | 0.0025 to 0.10 | $1,2,3,5,10$ |
| SR5 | 5.0 | 0.0025 to 0.05 | $1,2,3,5,10$ |


| TECHNICAL SPECIFICATIONS |  |  |
| :--- | :---: | :---: |
| PARAMETER | UNIT | SR RESISTOR CHARACTERISTICS |
| Temperature Coefficient |  | $\pm 400=0.0025 \Omega$ to $0.0199 \Omega ;$ |
| $+25^{\circ} \mathrm{C} /-55^{\circ} \mathrm{C} ;$ |  |  |
| $+25^{\circ} \mathrm{C} /+125^{\circ} \mathrm{C}$ | $\mathrm{ppm} /{ }^{\circ} \mathrm{C}$ | $\pm 300=0.02 \Omega$ to $0.049 \Omega ;$ |
| Operating Temperature Range |  | $\pm 250=0.05 \Omega$ to $0.99 \Omega ;$ |
| Maximum Continuous Current | ${ }^{\circ} \mathrm{C}$ | $\pm 200=0.1 \Omega$ and above |

## GLOBAL PART NUMBER INFORMATION

Global Part Numbering example: SR55L000JE66


DIMENSIONS in inches [millimeters]


| MODEL | DIMENSIONS in inches [millimeters] |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
|  | A | B | C | E | F |
| SR3 | $0.600+0.040 /-0.020$ |  |  |  |  |
|  | $[15.24+1.020 /-0.508]$ | 1.0 maximum | $0.125 \pm 0.030$ | $0.065+0.010 /-0.005$ | $0.040 \pm 0.002$ |
| SR5 | $0.800+0.040 /-0.020$ | $[25.4$ maximum $]$ | $[3.18 \pm 0.762]$ | $[1.65+0.254 /-0.127]$ | $[1.02 \pm 0.051]$ |
|  | $[20.32+1.020 /-0.508]$ |  |  |  |  |

## MATERIAL SPECIFICATIONS

Element: nickel-chrome or copper-nickel alloy depending on resistance value
Terminals: tinned copper
Encapsulation: none
Marking: none

DERATING


| PERFORMANCE |  |  |
| :--- | :--- | :---: |
| TEST | CONDITIONS OF TEST | TEST LIMITS |
| Temperature Cycling | $-55^{\circ} \mathrm{C}$ to $+125^{\circ} \mathrm{C}, 5$ cycles, 15 min at each extreme | $\pm(2.0 \%+0.0005 \Omega) \Delta R$ |
| Low Temperature Storage | $-65^{\circ} \mathrm{C}$ for 24 h | $\pm(0.5 \%+0.0005 \Omega) \Delta R$ |
| Mechanical Shock | 100 g's for $11 \mathrm{~ms}, 5$ pulses | $\pm(0.2 \%+0.0005 \Omega) \Delta R$ |
| Vibration | Frequency varied 10 Hz to 2000 Hz in $1 \mathrm{~min}, 3$ directions, 12 h | $\pm(0.2 \%+0.0005 \Omega) \Delta R$ |
| Load Life | 1000 h at rated power, $+70{ }^{\circ} \mathrm{C}, 1.5 \mathrm{~h}$ "ON", 0.5 h "OFF" | $\pm(2.75 \%+0.0005 \Omega) \Delta R$ |
| Resistance to Solder Heat | $+260^{\circ} \mathrm{C}$ solder, 10 s to 12 s dwell | $\pm(0.2 \%+0.0005 \Omega) \Delta R$ |
| Short Time Overload | $5 \times$ rated power for 5 s | $\pm(1.25 \%+0.0005 \Omega) \Delta R$ |
| Damp Heat | 103 B of MIL 202 F and test condition "D", <br> humidity chamber per 1300 h | $\pm(0.5 \%+0.0005 \Omega) \Delta R$ <br> no mechanical damage |

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