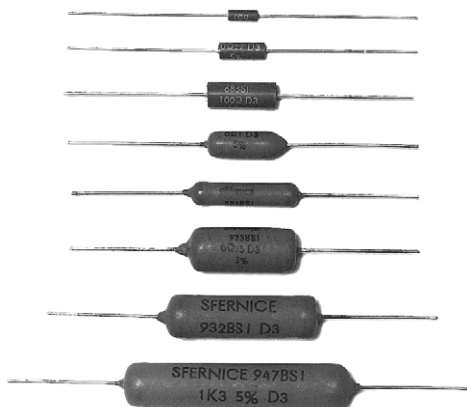


# Molded Wirewound Power Resistors Axial Leads

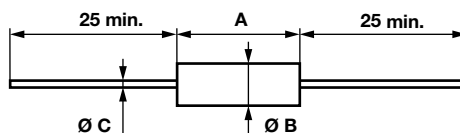


## FEATURES

- 2 W
- Excellent stability = typical drift  $\pm 1\%$  after 2000 h
- Low ohmic values =  $0.025\ \Omega$  available
- Electrical insulation
- Climatic protection
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)


RoHS  
COMPLIANT

## DIMENSIONS in millimeters



| MODEL | PROTECTION   |               |               |            |
|-------|--------------|---------------|---------------|------------|
|       | A            | Ø B           | Ø C $\pm 0.1$ | WEIGHT (g) |
| 63BSI | $10 \pm 0.2$ | $3.7 \pm 0.1$ | 0.6           | 0.45       |

## STANDARD ELECTRICAL SPECIFICATIONS

| MODEL | SIZE | RESISTANCE RANGE $\Omega$ | RATED POWER $P_{25\ ^\circ\text{C}}$ W | LIMITING ELEMENT VOLTAGE V | TOLERANCE $\pm \%$ | TEMPERATURE COEFFICIENT $\pm \text{ppm}/^\circ\text{C}$ |
|-------|------|---------------------------|----------------------------------------|----------------------------|--------------------|---------------------------------------------------------|
| 63BSI | 063  | 0.025 to 4K               | 2                                      | 120                        | 0.5, 1, 2, 5       | 100, 300                                                |

## TECHNICAL SPECIFICATIONS

| VISHAY SFERNICE SERIES     |                                      |                          | 63BSI                            |
|----------------------------|--------------------------------------|--------------------------|----------------------------------|
| Ohmic range in relation to | $\pm 100\ \text{ppm}/^\circ\text{C}$ | $\pm 0.5\%$<br>$\pm 5\%$ | 0.1 $\Omega$<br>4 k $\Omega$     |
| Temperature coefficient    | $\pm 300\ \text{ppm}/^\circ\text{C}$ | $\pm 1\%$<br>$\pm 5\%$   | 0.025 $\Omega$<br>< 0.1 $\Omega$ |

## MECHANICAL SPECIFICATIONS

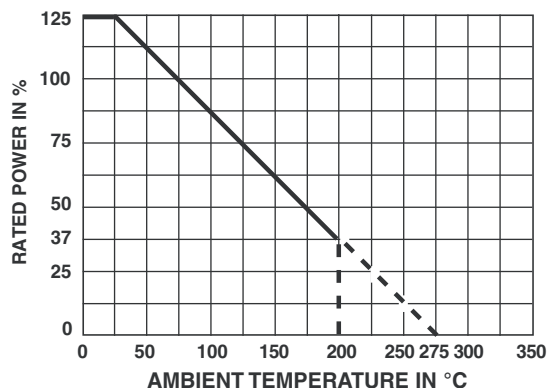
|                       |                     |
|-----------------------|---------------------|
| Mechanical Protection | Molded              |
| Resistive Element     | CuNi or CrNi        |
| Substrate             | Alumina             |
| Connections           | Sn/Ag/Cu 99/0.3/0.7 |

## ENVIRONMENTAL SPECIFICATIONS

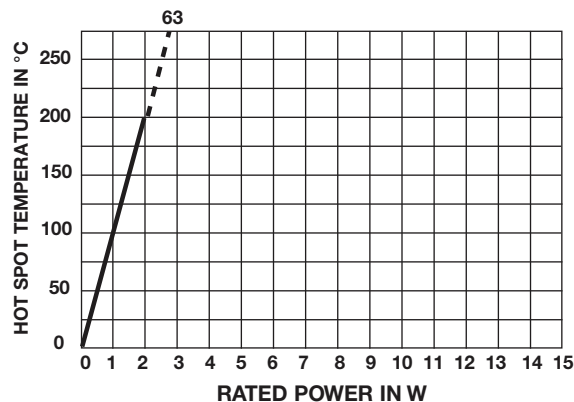
|                   |                                               |
|-------------------|-----------------------------------------------|
| Temperature Range | -55 $^\circ\text{C}$ to +275 $^\circ\text{C}$ |
| Climatic Category | 55/200/56                                     |

| PERFORMANCE                   |                                                                                                                    |                                                      |                                                     |
|-------------------------------|--------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|-----------------------------------------------------|
| TESTS                         | CONDITIONS                                                                                                         | REQUIREMENTS                                         | TYPICAL VALUES AND DRIFTS                           |
| Dielectric Strength           | IEC 60115-1<br>1000 V <sub>RMS</sub> for 923 to 947<br>500 V <sub>RMS</sub> for 58 to 523                          | ± (0.1 % + 0.05 Ω)                                   | ± (0.1 % + 0.05 Ω)                                  |
| Short Time Overload           | IEC 60115-1<br>5 P <sub>n</sub> / 5 s for P <sub>r</sub> < 5 W<br>10 P <sub>n</sub> / 5 s for P <sub>r</sub> ≥ 5 W | ± (0.2 % + 0.05 Ω)                                   | ± (0.1 % + 0.05 Ω)                                  |
| Endurance                     | IEC 60115-1<br>90' / 30' P <sub>r</sub> at 25 °C, 2000 h                                                           | ± (1 % + 0.05 Ω)                                     | ± (0.1 % + 0.05 Ω)                                  |
| Endurance at High Temperature | 250 h at 275 °C                                                                                                    | ± (0.5 % + 0.05 Ω)                                   | ± (0.3 % + 0.05 Ω)                                  |
| Thermal Shock                 | Load at 100 % P <sub>r</sub> followed<br>by cold temp. exposure<br>at -55 °C                                       | ± (0.2 % + 0.05 Ω)                                   | ± (0.1 % + 0.05 Ω)                                  |
| Climatic Sequence             | IEC 60115-1<br>-55 °C / +200 °C<br>5 cycles                                                                        | ± (0.5 % + 0.05 Ω)<br>Insulation resistance ≥ 100 MΩ | ± (0.3 % + 0.05 Ω)<br>Insulation resistance > 10 GΩ |
| Damp Heat, Steady State       | IEC 60115-1 / IEC 60068-2-78<br>56 days, 40 °C, 93 % RH                                                            | ± (0.5 % + 0.05 Ω)<br>Insulation resistance ≥ 100 MΩ | ± (0.3 % + 0.05 Ω)<br>Insulation resistance > 10 GΩ |
| Moisture Resistance           | MIL-STD-202<br>method 106                                                                                          | ± (0.2 % + 0.05 Ω)<br>Insulation resistance ≥ 100 MΩ | ± (13 % + 0.05 Ω)<br>Insulation resistance > 10 GΩ  |
| Shock                         | MIL-STD-202<br>100 g method 205 - test C                                                                           | ± (0.1 % + 0.05 Ω)                                   | ± (0.05 % + 0.05 Ω)                                 |
| Vibration                     | MIL-STD-202<br>method 204 - Test D: 20 g<br>10Hz / 2000 Hz                                                         | ± (0.1 % + 0.05 Ω)                                   | ± (0.05 % + 0.05 Ω)                                 |

## POWER RATING



## TEMPERATURE RISE



## MARKING

GEKA trademark, model, style, nominal resistance (in Ω), tolerance (in %), manufacturing date.  
Because of lack of space, small styles are marked with ohmic value (in Ω), and tolerance (in %) only.

| ORDERING INFORMATION |       |             |           |                         |           |                |
|----------------------|-------|-------------|-----------|-------------------------|-----------|----------------|
| BSI                  | 63    | U22         | 2 %       | ± 100 ppm/°C            | TR300     | e1             |
| MODEL                | STYLE | OHMIC VALUE | TOLERANCE | TEMPERATURE COEFFICIENT | PACKAGING | LEAD (Pb)-FREE |



| GLOBAL PART NUMBER INFORMATION |      |   |                                                                                                                                                                                                                                                                                                                                         |   |   |   |                                                                                  |   |                                                                                                                                                                                                                                                                              |   |   |                                          |   |   |
|--------------------------------|------|---|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|---|----------------------------------------------------------------------------------|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|------------------------------------------|---|---|
| B                              | S    | I | 0                                                                                                                                                                                                                                                                                                                                       | 6 | 3 | 2 | R                                                                                | 8 | 7                                                                                                                                                                                                                                                                            | 0 | F | R                                        | 2 | 2 |
| GLOBAL MODEL                   | SIZE |   | OHMIC VALUE                                                                                                                                                                                                                                                                                                                             |   |   |   | TOLERANCE                                                                        |   | PACKAGING                                                                                                                                                                                                                                                                    |   |   | SPECIAL                                  |   |   |
| BSI                            | 063  |   | <p>The first digits are significant figures and the last digit specifies the number of zeros to follow.<br/>R designates decimal point.</p> <p><b>2R870</b> = 2.87 <math>\Omega</math><br/><b>1R200</b> = 1.2 <math>\Omega</math><br/><b>10001</b> = 10 000 <math>\Omega</math><br/><b>R3300</b> = 0.33 <math>\Omega</math><br/>...</p> |   |   |   | <p><b>D</b> = 0.5 %<br/><b>F</b> = 1 %<br/><b>G</b> = 2 %<br/><b>J</b> = 5 %</p> |   | <p>Size 058:<br/><b>R26</b> = reel<br/>(5000 pieces)<br/>size 063:<br/><b>R22</b> = reel<br/>(3000 pieces)<br/>size 68, 516, 523:<br/><b>R17</b> = reel<br/>(1250 pieces)<br/>size 923, 932, 947:<br/><b>B19</b> = box<br/>(30 pieces)<br/><br/>Other packaging existing</p> |   |   | <p>As applicable<br/>Ex = <b>BP1</b></p> |   |   |



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