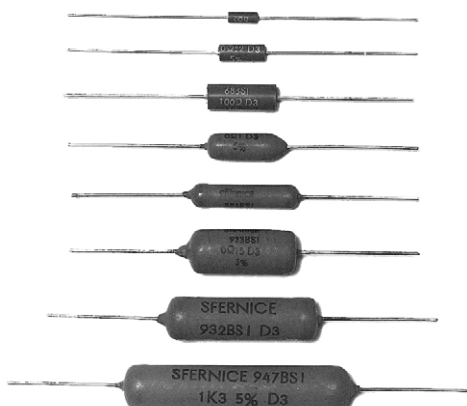


# Molded Wirewound Power Resistors Axial Leads

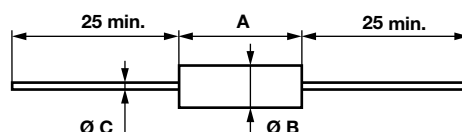


## FEATURES

- 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

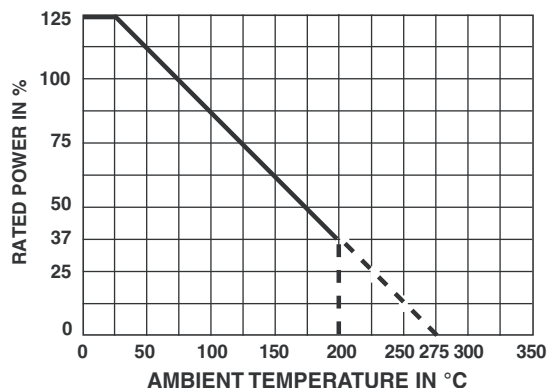
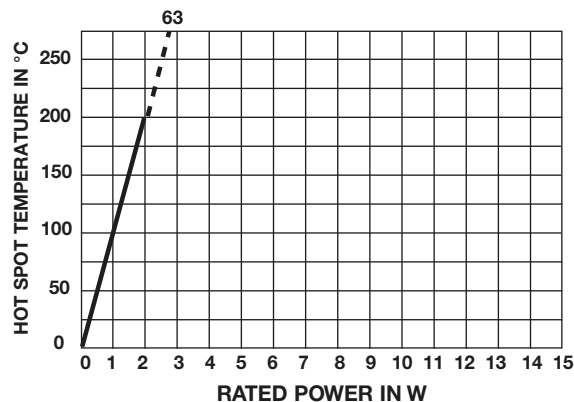
|                       |                     |
|-----------------------|---------------------|
| Mechanical Protection | Molded              |
| Resistive Element     | CuNi or CrNi        |
| Substrate             | Alumina             |
| Connections           | Sn/Ag/Cu 99/0.3/0.7 |

## 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                          | $\pm (0.1 \% + 0.05 \Omega)$                                   | $\pm (0.1 \% + 0.05 \Omega)$                                  |
| 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 | $\pm (0.2 \% + 0.05 \Omega)$                                   | $\pm (0.1 \% + 0.05 \Omega)$                                  |
| Endurance                     | IEC 60115-1<br>90' / 30' P <sub>r</sub> at 25 °C, 2000 h                                                           | $\pm (1 \% + 0.05 \Omega)$                                     | $\pm (0.1 \% + 0.05 \Omega)$                                  |
| Endurance at High Temperature | 250 h at 275 °C                                                                                                    | $\pm (0.5 \% + 0.05 \Omega)$                                   | $\pm (0.3 \% + 0.05 \Omega)$                                  |
| Thermal Shock                 | Load at 100 % P <sub>r</sub> followed<br>by cold temp. exposure<br>at -55 °C                                       | $\pm (0.2 \% + 0.05 \Omega)$                                   | $\pm (0.1 \% + 0.05 \Omega)$                                  |
| Climatic Sequence             | IEC 60115-1<br>-55 °C / +200 °C<br>5 cycles                                                                        | $\pm (0.5 \% + 0.05 \Omega)$<br>Insulation resistance ≥ 100 MΩ | $\pm (0.3 \% + 0.05 \Omega)$<br>Insulation resistance > 10 GΩ |
| Damp Heat, Steady State       | IEC 60115-1 / IEC 60068-2-78<br>56 days, 40 °C, 93 % RH                                                            | $\pm (0.5 \% + 0.05 \Omega)$<br>Insulation resistance ≥ 100 MΩ | $\pm (0.3 \% + 0.05 \Omega)$<br>Insulation resistance > 10 GΩ |
| Moisture Resistance           | MIL-STD-202<br>method 106                                                                                          | $\pm (0.2 \% + 0.05 \Omega)$<br>Insulation resistance ≥ 100 MΩ | $\pm (13 \% + 0.05 \Omega)$<br>Insulation resistance > 10 GΩ  |
| Shock                         | MIL-STD-202<br>100 g method 205 - test C                                                                           | $\pm (0.1 \% + 0.05 \Omega)$                                   | $\pm (0.05 \% + 0.05 \Omega)$                                 |
| Vibration                     | MIL-STD-202<br>method 204 - Test D: 20 g<br>10Hz / 2000 Hz                                                         | $\pm (0.1 \% + 0.05 \Omega)$                                   | $\pm (0.05 \% + 0.05 \Omega)$                                 |

**POWER RATING****TEMPERATURE RISE****MARKING**

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

| ORDERING INFORMATION |       |             |           |                                      |           |                |
|----------------------|-------|-------------|-----------|--------------------------------------|-----------|----------------|
| BSI                  | 63    | U22         | 2 %       | $\pm 100 \text{ ppm}/^\circ\text{C}$ | 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  |   | The first digits are significant figures and the last digit specifies the number of zeros to follow.<br>R designates decimal point.<br><br>2R870 = 2.87 Ω<br>1R200 = 1.2 Ω<br>10001 = 10 000 Ω<br>R3300 = 0.33 Ω<br>... |   |   |   | D = 0.5 %<br>F = 1 %<br>G = 2 %<br>J = 5 % |   | Size 058:<br>R26 = reel<br>(5000 pieces)<br>size 063:<br>R22 = reel<br>(3000 pieces)<br>size 68, 516, 523:<br>R17 = reel<br>(1250 pieces)<br>size 923, 932, 947:<br>B19 = box<br>(30 pieces)<br><br>Other packaging existing |   |   | As applicable<br>Ex = BP1 |   |  |



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