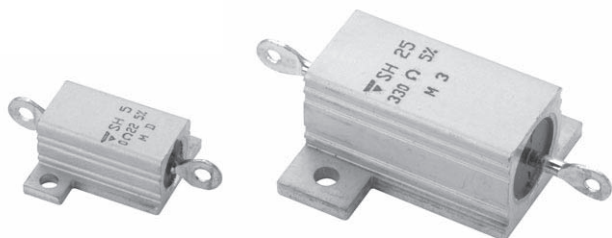


## Heatsink Encased Wirewound Power Resistors Industrial Applications



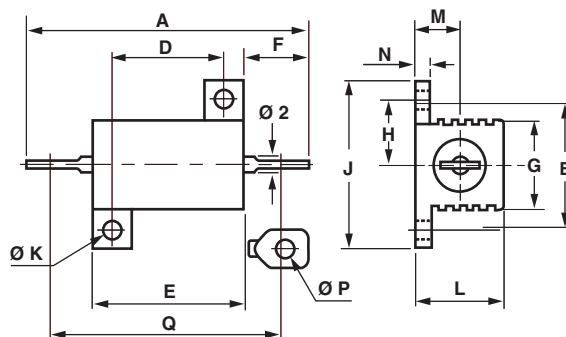
### FEATURES

- $\leq 50$  W at  $+ 25$  °C
- High power characteristics
- Utilize heatsink capability
- Good mechanical protection
- Industrialized product
- Material categorization: For definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)


**RoHS**  
COMPLIANT

Built for high power dissipation applications, these components have very good overall characteristics for industrial use under harsh environmental conditions.

### DIMENSIONS in millimeters



| SERIES | A          | B ± 0.2 | D ± 0.2 | E ± 0.5 | F          | G ± 1 | H ± 0.7 | J ± 0.5 | Ø K ± 0.1 | L MAX. | M ± 0.5 | N ± 0.3 | Ø P MIN. | Q          | WEIGHT g |
|--------|------------|---------|---------|---------|------------|-------|---------|---------|-----------|--------|---------|---------|----------|------------|----------|
| SH5    | 28.5 ± 1.5 | 12.5    | 11.3    | 16.3    | 6.8 ± 1.5  | 8.5   | 6.2     | 16.4    | 2.4       | 8.9    | 4.3     | 1.6     | 2.1      | 25.3 ± 1.5 | 3        |
| SH10   | 35.5 ± 1.5 | 15.9    | 14      | 19      | 7.9 ± 1.5  | 11    | 7.9     | 20.6    | 2.4       | 11     | 5.6     | 2       | 2.1      | 30.6 ± 1.5 | 8.8      |
| SH25   | 49 ± 1.3   | 19.8    | 18.3    | 28      | 11.1 ± 1.5 | 14    | 9.9     | 27.5    | 3.2       | 15     | 8       | 2.4     | 2.1      | 44.6 ± 1.3 | 16.5     |
| SH50   | 70.2 ± 1.4 | 21.4    | 39.7    | 50      | 11 ± 1.2   | 15.5  | 10.7    | 29.4    | 3.2       | 15     | 8       | 2.4     | 2.1      | 66.5 ± 1.4 | 30.8     |

### STANDARD ELECTRICAL SPECIFICATIONS

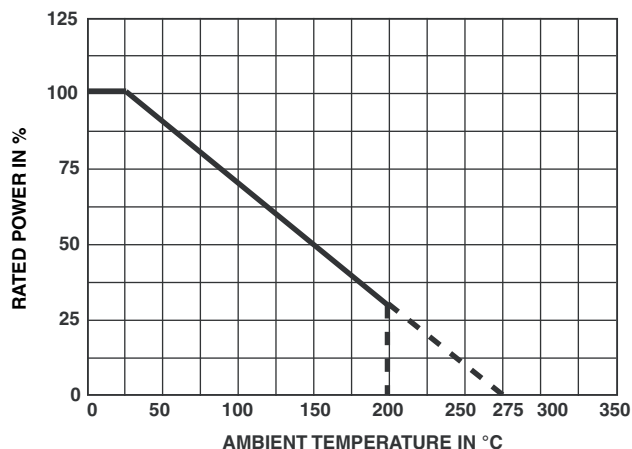
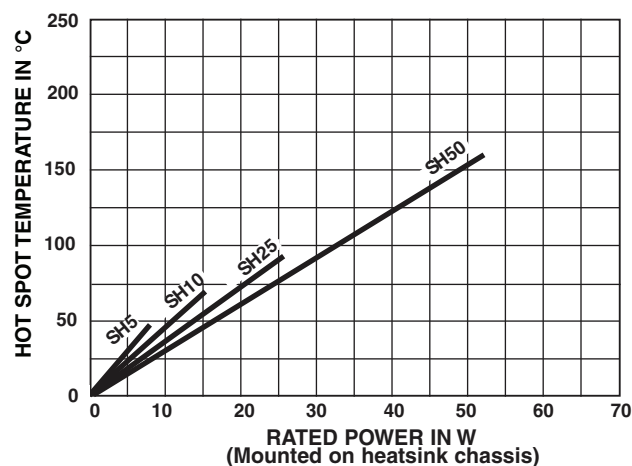
| MODEL | RESISTANCE RANGE $\Omega$ | RATED POWER $P_{25\text{ °C}}$ W | LIMITING ELEMENT VOLTAGE V | TOLERANCE ± % |
|-------|---------------------------|----------------------------------|----------------------------|---------------|
| SH5   | 0.1 to 3.3K               | 10                               | 160                        | 5             |
| SH10  | 0.1 to 15K                | 12.5                             | 250                        | 5             |
| SH25  | 0.1 to 33K                | 25                               | 550                        | 5             |
| SH50  | 0.1 to 51K                | 50                               | 1285                       | 5             |

### TECHNICAL SPECIFICATIONS

| VISHAY SFERNICE SERIES                                                                                    |          | SH5                  | SH10   | SH25                     | SH50   |
|-----------------------------------------------------------------------------------------------------------|----------|----------------------|--------|--------------------------|--------|
| Power Rating                                                                                              | at 25 °C | 10 W                 | 12.5 W | 25 W                     | 50 W   |
| Chassis mounted resistors:<br>413 cm <sup>2</sup> for SH5 and SH10, 536 cm <sup>2</sup> for SH25 and SH50 | at 70 °C | 8 W                  | 10 W   | 20 W                     | 40 W   |
| Unmounted resistors                                                                                       | at 25 °C | 4 W                  | 6 W    | 9 W                      | 12 W   |
|                                                                                                           | at 70 °C | 3.2 W                | 4.8 W  | 7.2 W                    | 9.6 W  |
| Dielectric Strength V <sub>RMS</sub>                                                                      |          | 800 V                | 1000 V | 2000 V                   | 2000 V |
| Insulation Resistance                                                                                     |          | > 10 <sup>4</sup> MΩ |        | > 3 x 10 <sup>4</sup> MΩ |        |
| Temperature Coefficient                                                                                   |          | ± 50 ppm/°C          |        | R <sub>n</sub> > 50 Ω    |        |
| Climatic Category                                                                                         |          | 55/200/56            |        |                          |        |
| Temperature Limits                                                                                        |          | - 55 °C              |        | + 200 °C                 |        |

**PERFORMANCE**

| TESTS              | CONDITIONS                             | TYPICAL DRIFTS                   |
|--------------------|----------------------------------------|----------------------------------|
| Momentary Overload | 5 $P_N$ /5 s                           | $\pm 0.5$ % max. + 0.05 $\Omega$ |
| Climatic Sequence  | - 55 °C + 200 °C<br>5 cycles           | $\pm 1$ % max. + 0.05 $\Omega$   |
| Load Life          | Nominal power $P_N$<br>1000 h at 25 °C | $\pm 1$ % max. + 0.05 $\Omega$   |

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

Vishay Sfernice trademark, model, style, nominal resistance (in  $\Omega$ ), tolerance (in %), manufacturing date.

**PACKAGING**

Bag of 10 units

**ORDERING INFORMATION**

|       |       |               |           |           |                |
|-------|-------|---------------|-----------|-----------|----------------|
| SH    | 25    | 10 k $\Omega$ | 5 %       | BA10      | e1             |
| MODEL | STYLE | OHMIC VALUE   | TOLERANCE | PACKAGING | LEAD (Pb)-FREE |

**SAP PART NUMBERING GUIDELINES**

|       |       |             |           |           |
|-------|-------|-------------|-----------|-----------|
| SH    | 25    | 10001       | J         | S03       |
| MODEL | STYLE | OHMIC VALUE | TOLERANCE | PACKAGING |



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