

# High Ohmic Value (up to 1.5 G $\Omega$ ), High Power Resistors (up to 10 W at 25 °C) Thick Film



## FEATURES

- High ohmic values up to 1.5 G $\Omega$
- Power rating up to 10 W at +25 °C
- Molded or coated
- Ceramic core
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)


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## DIMENSIONS in millimeters

The diagram illustrates the physical dimensions and specifications for HPS series resistors, divided into two styles: COATED and MOLDED.

**COATED Style Dimensions:**

- Lead Length:** 25 min. (minimum) on both sides of the body.
- Lead Diameter:**  $\varnothing E$ .
- Body Diameter:**  $\varnothing B$ .
- Body Length:**  $L$  max. (maximum).
- Mounting Hole Diameter:**  $\varnothing a \pm 0.02$ .
- Chamfer:** 45° chamfer, max. 0.25 mm deep.
- Base Diameter:** 4.

**MOLDED Style Dimensions:**

- Lead Length:** 25 min. (minimum) on both sides of the body.
- Lead Diameter:**  $\varnothing E$ .
- Body Diameter:**  $\varnothing B$ .

| SERIES AND STYLE | A             | $\varnothing B$ | $\varnothing E \pm 0.1$ | WEIGHT g | FINISH |
|------------------|---------------|-----------------|-------------------------|----------|--------|
| HPS58            | $6.5 \pm 0.2$ | $2.4 \pm 0.1$   | 0.6                     | 0.24     | Molded |
| HPS63            | $10 \pm 0.2$  | $3.7 \pm 0.1$   |                         | 0.29     |        |
| HPS68            | $15 \pm 0.2$  | $5.6 \pm 0.3$   | 0.8                     | 0.67     | Coated |
| HPS523           | $23 \pm 2.3$  | $5 \pm 0.3$     |                         | 1.23     |        |
| HPS923           | $23 \pm 2.5$  | $9 \pm 0.5$     |                         | 4.60     |        |
| HPS932           | $32 \pm 2.5$  | $9 \pm 0.5$     |                         | 5.27     |        |
| HPS947           | $47 \pm 2.5$  | $9 \pm 0.5$     |                         | 7.18     |        |

## STANDARD ELECTRICAL SPECIFICATIONS

| MODEL  | RESISTANCE RANGE $\Omega$ | RATED POWER $P_{25\text{ }^{\circ}\text{C}}$ W | LIMITING ELEMENT VOLTAGE V | TOLERANCE $\pm \%$ | TEMPERATURE COEFFICIENT $\pm \text{ppm}/^{\circ}\text{C}$ | CRITICAL RESISTANCE ( $\Omega$ ) | CLIMATIC CATEGORY              |
|--------|---------------------------|------------------------------------------------|----------------------------|--------------------|-----------------------------------------------------------|----------------------------------|--------------------------------|
| HPS58  | 200 to 100M               | 1                                              | 300                        | 0.5, 1, 2, 5, 10   | 150                                                       | 90K                              | -55 °C/<br>+200 °C/<br>56 days |
| HPS63  | 200 to 175M               | 2                                              | 700                        | 0.5, 1, 2, 5, 10   | 150                                                       | 245K                             |                                |
| HPS68  | 300 to 400M               | 3                                              | 1500                       | 0.5, 1, 2, 5, 10   | 150                                                       | 750K                             |                                |
| HPS523 | 800 to 650M               | 4                                              | 2000                       | 0.5, 1, 2, 5, 10   | 150                                                       | 1M                               |                                |
| HPS923 | 1K to 1G                  | 6                                              | 2500                       | 0.5, 1, 2, 5, 10   | 150                                                       | 1.041M                           |                                |
| HPS932 | 1K to 1G                  | 8                                              | 5000                       | 0.5, 1, 2, 5, 10   | 150                                                       | 3.125M                           |                                |
| HPS947 | 2K to 1.5G                | 10                                             | 8000                       | 0.5, 1, 2, 5, 10   | 150                                                       | 6.4M                             |                                |

## MARKING

GEKA trade-mark, series, style, nominal resistance (in  $\Omega$ ), tolerance (in %), letter P for TCR  $\pm 150 \text{ ppm}/^{\circ}\text{C}$ , manufacturing date. Because of lack of space, small styles are marked with ohmic value (in  $\Omega$ ), tolerance (in %) and letter P.

## ORDERING INFORMATION

| HPS   | 68   | 50 M $\Omega$ | 10 %      | 150 ppm/ $^{\circ}\text{C}$ | BL20      | e1             |
|-------|------|---------------|-----------|-----------------------------|-----------|----------------|
| MODEL | SIZE | OHMIC VALUE   | TOLERANCE | TEMPERATURE COEFFICIENT     | PACKAGING | LEAD (Pb)-FREE |



| GLOBAL PART NUMBER INFORMATION |                |   |                                                                                                                                                                                                                  |   |   |                                                        |   |                            |   |                                                                                                                                                                                               |   |   |               |   |
|--------------------------------|----------------|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|--------------------------------------------------------|---|----------------------------|---|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|---------------|---|
| H                              | P              | S | 0                                                                                                                                                                                                                | 6 | 8 | 5                                                      | 0 | 0                          | 5 | K                                                                                                                                                                                             | P | B | 1             | 5 |
| GLOBAL MODEL                   | STYLE          |   | OHMIC VALUE                                                                                                                                                                                                      |   |   | TOLERANCE                                              |   | TEMPERATURE COEFFICIENT    |   | PACKAGING                                                                                                                                                                                     |   |   | SPECIAL       |   |
| HPS                            | HPS: 58 to 947 |   | The first three digits are significant figures and the last digit specifies the number of zeros to follow. R designates decimal point.<br>1006 = 100 MΩ<br>5104 = 5.1 MΩ<br>3303 = 330 kΩ<br>5005 = 50 MΩ<br>... |   |   | D = 0.5 %<br>F = 1 %<br>G = 2 %<br>J = 5 %<br>K = 10 % |   | P = 150 ppm<br>K = 100 ppm |   | B15 = blister (20 pieces)<br>B19 = blister (30 pieces)<br>A18 = ammopack (400 pieces)<br>A20 = ammopack (500 pieces)<br>B17 = blister (25 pieces)<br>R10 = reel (500 pieces)<br>as applicable |   |   | As applicable |   |



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