

# High Ohmic Values (up to 100 G $\Omega$ ), High Voltage Resistors (up to 50 kV) Thick Film Technology

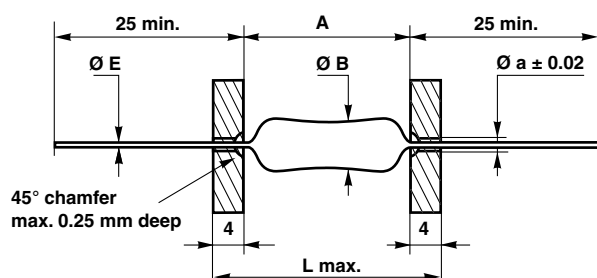


## FEATURES

- Core: high purity ceramic
- Coating: epoxy
- Termination: standard lead material is solder coated copper
- Climatic category: -55 °C / +155 °C / 56 days
- High ohmic values: up to 100 G $\Omega$
- High voltage application: up to 50 kV
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)


**RoHS**  
COMPLIANT

## DIMENSIONS in millimeters



| SERIES | A         | Ø B       | Ø E ± 0.1 | WEIGHT IN g |
|--------|-----------|-----------|-----------|-------------|
| 58     | 7 ± 0.2   | 1.6 ± 0.2 | 0.6       | 0.24        |
| 63     | 8.5 ± 0.5 | 2.2 ± 0.2 |           | 0.29        |
| 68     | 14 ± 1    | 3.5 ± 0.3 | 0.8       | 0.67        |
| 523    | 23 ± 2    | 4.5 ± 0.3 |           | 1.23        |
| 547    | 47 ± 2    | 4.5 ± 0.3 |           | 4.60        |
| 729    | 29 ± 2    | 6.5 ± 0.5 |           | 5.27        |
| 747    | 47 ± 2    | 4.5 ± 0.5 |           | 7.18        |
| 923    | 23 ± 2    | 8.5 ± 0.5 |           |             |
| 932    | 32 ± 2    |           |           |             |
| 947    | 47 ± 2    |           |           |             |
| 972    | 72 ± 2    |           |           |             |
| 9100   | 100 ± 2   |           |           |             |

## STANDARD ELECTRICAL SPECIFICATIONS

| MODEL   | RESISTANCE RANGE $\Omega$ | RATED POWER $P_{70^\circ\text{C}}$ W | LIMITING ELEMENT VOLTAGE V | TOLERANCE $\pm \%$ | TEMPERATURE COEFFICIENT $\pm \text{ppm}/^\circ\text{C}$ | CRITICAL RESISTANCE ( $\Omega$ ) |
|---------|---------------------------|--------------------------------------|----------------------------|--------------------|---------------------------------------------------------|----------------------------------|
| HTS58   | 200 to 200M               | 0.25                                 | 500                        | 0.5, 1, 2, 5, 10   | 150                                                     | 1M                               |
| HTS63   | 1K to 500M                | 0.5                                  | 1K                         | 0.5, 1, 2, 5, 10   | 150                                                     | 2M                               |
| HTS68   | 1K to 2.5G                | 1                                    | 2K                         | 0.5, 1, 2, 5, 10   | 150                                                     | 4M                               |
| HTS523  | 1K to 5G                  | 1                                    | 5K                         | 0.5, 1, 2, 5, 10   | 150                                                     | 25M                              |
| HTS547  | 1K to 50G                 | 1.5                                  | 15K                        | 0.5, 1, 2, 5, 10   | 150                                                     | 150M                             |
| HTS729  | 1K to 15G                 | 2                                    | 10K                        | 0.5, 1, 2, 5, 10   | 150                                                     | 50M                              |
| HTS747  | 1K to 30G                 | 2.5                                  | 15K                        | 0.5, 1, 2, 5, 10   | 150                                                     | 90M                              |
| HTS923  | 1K to 15G                 | 2                                    | 8K                         | 0.5, 1, 2, 5, 10   | 150                                                     | 32M                              |
| HTS932  | 1K to 30G                 | 2.5                                  | 15K                        | 0.5, 1, 2, 5, 10   | 150                                                     | 90M                              |
| HTS947  | 1K to 50G                 | 3                                    | 20K                        | 0.5, 1, 2, 5, 10   | 150                                                     | 133.3M                           |
| HTS972  | 1K to 100G                | 4                                    | 30K                        | 0.5, 1, 2, 5, 10   | 150                                                     | 225M                             |
| HTS9100 | 1K to 100G                | 5                                    | 50K                        | 0.5, 1, 2, 5, 10   | 150                                                     | 500M                             |



## TECHNICAL SPECIFICATIONS

| SERIES AND STYLES                                                                      |         | HTS 58 | HTS 63 | HTS 68 | HTS 523 | HTS 547 | HTS 729 | HTS 747 | HTS 923 | HTS 932 | HTS 947  | HTS 972 | HTS 9100 |
|----------------------------------------------------------------------------------------|---------|--------|--------|--------|---------|---------|---------|---------|---------|---------|----------|---------|----------|
| Power Rating at +70 °C                                                                 |         | 0.25 W | 0.5 W  | 1 W    | 1 W     | 1.5 W   | 2 W     | 2.5 W   | 2 W     | 2.5 W   | 3 W      | 4 W     | 5 W      |
| Ohmic Range in Relation to<br>• Temperature Coefficient<br>± 150 ppm/°C<br>• Tolerance | ± 0.5 % | 200 Ω  | 1 kΩ   | 1 kΩ   | 1 kΩ    | 1 kΩ    | 1 kΩ    | 1 kΩ    | 1 kΩ    | 1 kΩ    | 1 kΩ     | 1 kΩ    | 1 kΩ     |
|                                                                                        | ± 1 %   | 100 MΩ | 100 MΩ | 100 MΩ | 100 MΩ  | 100 MΩ  | 100 MΩ  | 100 MΩ  | 100 MΩ  | 100 MΩ  | 100 MΩ   | 100 MΩ  | 100 MΩ   |
|                                                                                        | ± 2 %   | 1 kΩ   | 1 kΩ   | 1 kΩ   | 1 kΩ    | 1 kΩ    | 1 kΩ    | 1 kΩ    | 1 kΩ    | 1 kΩ    | 1 kΩ     | 1 kΩ    | 1 kΩ     |
|                                                                                        | ± 5 %   | 200 MΩ | 500 MΩ | 2.5 GΩ | 5 GΩ    | 10 GΩ   | 10 GΩ   | 10 GΩ   | 10 GΩ   | 10 GΩ   | 10 GΩ    | 10 GΩ   | 10 GΩ    |
|                                                                                        | ± 10 %  |        |        |        |         | 1 kΩ    | 1 kΩ    | 1 kΩ    | 1 kΩ    | 1 kΩ    | 1 kΩ     | 1 kΩ    | 1 kΩ     |
| Limiting Element Voltage                                                               |         | 0.5 kV | 1 kV   | 2 kV   | 5 kV    | 15 kV   | 10 kV   | 15 kV   | 8 kV    | 15 kV   | 20 kV    | 30 kV   | 50 kV    |
| Critical Resistance                                                                    |         | 1 MΩ   | 2 MΩ   | 4 MΩ   | 25 MΩ   | 150 MΩ  | 50 MΩ   | 90 MΩ   | 32 MΩ   | 90 MΩ   | 133.3 MΩ | 225 MΩ  | 500 MΩ   |

## MARKING

GEKA trade-mark, series, style, nominal resistance (in Ω), tolerance (in %), letter P for TCR ± 150 ppm/°C, manufacturing date. Because of lack of space, small styles are marked with ohmic value (in Ω), tolerance (in %) and letter P.

## ORDERING INFORMATION

|                           |      |             |           |                         |           |                |
|---------------------------|------|-------------|-----------|-------------------------|-----------|----------------|
| HTS                       | 63   | 1M27        | 0.5 %     | 150 ppm/°C              | AM500     | e1             |
| MODEL                     | SIZE | OHMIC VALUE | TOLERANCE | TEMPERATURE COEFFICIENT | PACKAGING | LEAD (Pb)-FREE |
| P: Standard: ± 150 ppm/°C |      |             |           |                         |           |                |

## GLOBAL PART NUMBER INFORMATION

|                                 |                 |                                                                                                                                                                                                  |                                                        |                            |                                                                                                                                                                                             |               |  |
|---------------------------------|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|--|
| H T S 0 0 6 3 1 2 7 4 D P A 2 0 |                 |                                                                                                                                                                                                  |                                                        |                            |                                                                                                                                                                                             |               |  |
| GLOBAL MODEL                    | STYLE           | OHMIC VALUE                                                                                                                                                                                      | TOLERANCE                                              | TEMPERATURE COEFFICIENT    | PACKAGING                                                                                                                                                                                   | SPECIAL       |  |
| HTS                             | HTS: 58 to 9100 | The first three digits are significant figures and the last digit specifies the number of zeros to follow. R designates decimal point.<br>5104 = 5.1 MΩ<br>3303 = 330 kΩ<br>1276 = 127 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 = ammpack (400 pieces)<br>A20 = ammpack (500 pieces)<br>B17 = blister (25 pieces)<br>R10 = reel (500 pieces)<br>as applicable | As applicable |  |



## Disclaimer

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Vishay"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay's knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and / or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein.

Except as expressly indicated in writing, Vishay products are not designed for use in medical, life-saving, or life-sustaining applications or for any other application in which the failure of the Vishay product could result in personal injury or death. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay. Product names and markings noted herein may be trademarks of their respective owners.

# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Vishay:](#)

[HTS09471004DPB19](#) [HTS09471003DPB19](#) [HTS09471006DPB19](#) [HTS09471005DPB19](#) [HTS09471007FPB19](#)