

# High Ohmic Values (up to 100 GΩ), High Voltage Resistors (up to 50 kV) Thick Film Technology

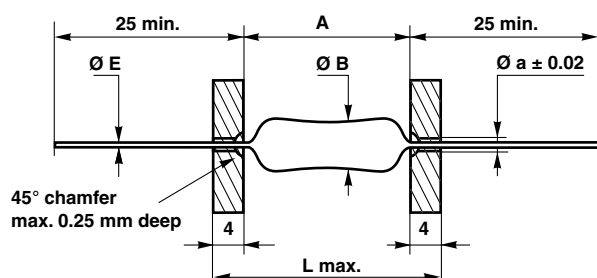


## FEATURES

- 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 GΩ
- 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)


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## 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<br>Ω | RATED POWER<br>P <sub>70 °C</sub><br>W | LIMITING ELEMENT VOLTAGE<br>V | TOLERANCE<br>± % | TEMPERATURE COEFFICIENT<br>± ppm/°C | CRITICAL RESISTANCE<br>(Ω) |
|---------|-----------------------|--|-------------------------------|------------------|-------------------------------------|----------------------------|
| 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 |  |



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