

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



### FEATURES

- RoHS for most values, please consult us
- 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)


**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 Ω	RATED POWER $P_{70^{\circ}\text{C}}$ W	LIMITING ELEMENT VOLTAGE V	TOLERANCE ± %	TEMPERATURE COEFFICIENT ± ppm/°C	CRITICAL RESISTANCE (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 • Temperature Coefficient ± 150 ppm/°C • Tolerance	± 0.5 %	200 Ω 100 MΩ	1 kΩ 100 MΩ	1 kΩ 100 MΩ	1 kΩ 100 MΩ	1 kΩ 100 MΩ	1 kΩ 100 MΩ	1 kΩ 100 MΩ	1 kΩ 100 MΩ	1 kΩ 100 MΩ	1 kΩ 100 MΩ	1 kΩ 100 MΩ
	± 1 %		1 kΩ 250 MΩ	1 kΩ 500 MΩ	1 kΩ 500 MΩ	1 kΩ 1 GΩ	1 kΩ 1 GΩ	1 kΩ 1 GΩ	1 kΩ 1 GΩ	1 kΩ 1 GΩ	1 kΩ 1 GΩ	1 kΩ 1 GΩ
	± 2 %		1 kΩ	1 kΩ	1 kΩ	1 kΩ 10 GΩ	1 kΩ 10 GΩ	1 kΩ 10 GΩ	1 kΩ 10 GΩ	1 kΩ 10 GΩ	1 kΩ 10 GΩ	1 kΩ 10 GΩ
	± 5 %	1 kΩ 200 MΩ	1 kΩ 500 MΩ	1 kΩ 2.5 GΩ	1 kΩ 5 GΩ							
	± 10 %					1 kΩ 50 GΩ	1 kΩ 15 GΩ	1 kΩ 30 GΩ	1 kΩ 15 GΩ	1 kΩ 30 GΩ	1 kΩ 50 GΩ	1 kΩ 100 GΩ
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							





## 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.

## Material Category Policy

**Vishay Intertechnology, Inc. hereby certifies that all its products that are identified as RoHS-Compliant fulfill the definitions and restrictions defined under Directive 2011/65/EU of The European Parliament and of the Council of June 8, 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (EEE) - recast, unless otherwise specified as non-compliant.**

**Please note that some Vishay documentation may still make reference to RoHS Directive 2002/95/EC. We confirm that all the products identified as being compliant to Directive 2002/95/EC conform to Directive 2011/65/EU.**

**Vishay Intertechnology, Inc. hereby certifies that all its products that are identified as Halogen-Free follow Halogen-Free requirements as per JEDEC JS709A standards. Please note that some Vishay documentation may still make reference to the IEC 61249-2-21 definition. We confirm that all the products identified as being compliant to IEC 61249-2-21 conform to JEDEC JS709A standards.**