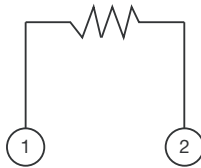


High Value, High Voltage Precision SIP Thin Film Resistor, Through Hole Network


SCHEMATIC

FEATURES

- High nominal precision resistors (value range 50K to 10M)
- Highly accurate resistance tolerance (up to $\pm 0.01\%$)
- Conformal coating flame resistant (UL 94 V-0) rating
- Ultra low TCR (± 5 ppm/ $^{\circ}$ C)
- High voltage
- Flame resistant (UL 94 V-0 rating)
- HVPS2 voltage rating up to 1800 V
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912


Note

* This datasheet provides information about parts that are RoHS-compliant and / or parts that are non RoHS-compliant. For example, parts with lead (Pb) terminations are not RoHS-compliant. Please see the information / tables in this datasheet for details

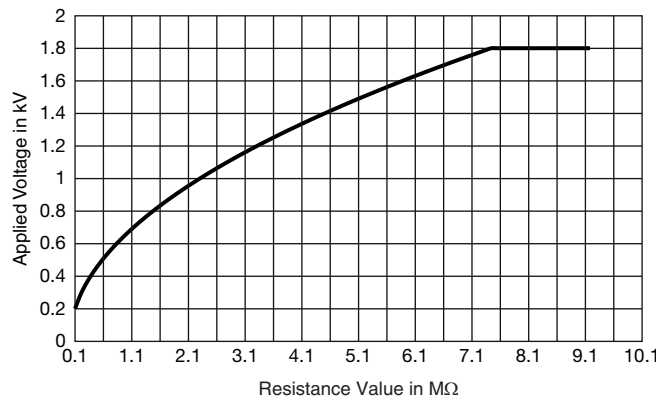
APPLICATIONS

- Precise instrumentation (medical, test etc.)
- Precision amplifiers

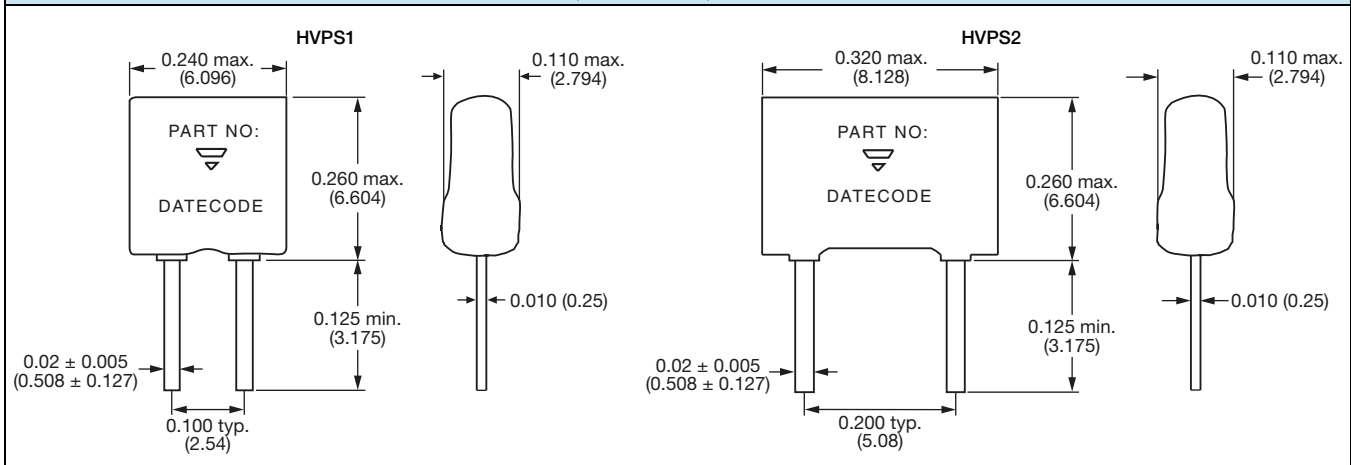
STANDARD ELECTRICAL SPECIFICATIONS		
TEST	SPECIFICATIONS	CONDITIONS
Material	Passivated nichrome	-
Pin/Lead Number	2	-
Resistance Range	50 000 Ω to 5000 k Ω (HVPS1) 100 000 Ω to 10 000 k Ω (HVPS2)	-
TCR: Absolute	5 ppm/ $^{\circ}$ C to 25 ppm/ $^{\circ}$ C	-55 $^{\circ}$ C to +125 $^{\circ}$ C
TCR: Tracking	-	-
Tolerance: Absolute	$\pm 0.01\%$ to $\pm 1.0\%$	Maximum at +70 $^{\circ}$ C
Tolerance: Ratio	-	-
Power Rating: Resistor	125 mW (HVPS1) 400 mW (HVPS2)	-
Power Rating: Package	-	-
Stability: Absolute	$\Delta R \pm 0.05\%$	2000 h at +70 $^{\circ}$ C
Stability: Ratio	-	-
Voltage Coefficient	< 1.0 ppm/V	-
Working Voltage	250 V (HVPS1) up to 1800 V (HVPS2) ⁽¹⁾	-
Operating Temperature Range	-55 $^{\circ}$ C to +125 $^{\circ}$ C	-
Storage Temperature Range	-	-
Noise	< - 30 dB	-
Thermal EMF	< 0.1 μ V/ $^{\circ}$ C	-
Shelf Life Stability: Absolute	$\Delta R \pm 0.01\%$	1 year at +25 $^{\circ}$ C
Shelf Life Stability: Ratio	-	-

Note

⁽¹⁾ See chart

HVPS2 MAX. APPLIED VOLTAGE AT 0.400 W VERSUS RESISTANCE VALUE

HVPS2 VOLTAGE RATING BY VALUE

WORKING VOLTAGE	RESISTANCE RANGE
200	100K to 400K
400	401K to 900K
600	901K to 1.6M
800	1.6M to 2.5M
1000	2.5M to 3.6M
1200	3.6M to 4.9M
1400	4.9M to 6.4M
1600	6.4M to 8.1M
1800	8.1M to 10M

DIMENSIONS AND IMPRINTING in inches (millimeters)




MECHANICAL SPECIFICATIONS	
Resistive Element	Passivated nichrome
Substrate Material	Alumina
Body	Epoxy coated
Terminals	Copper alloy
Tin/Lead Option	Sn60 - Sn63
Lead (Pb)-free Option	Sn96.5, Ag3.0, Cu0.5
Tin/Lead and Lead (Pb)-free Finish	Hot solder dip

GLOBAL PART NUMBER INFORMATION

New Global Part Numbering: HVPS1E1003QUF

H	V	P	S	1	E	1	0	0	3	Q	U	F	
H	V	P	S	2	S	Y	2	0	0	3	T	U	F

GLOBAL MODEL (3 or 4 digits)	TCR	RESISTANCE	TOLERANCE	PACKAGING
HVPS1 HVPS2 (tin lead) HVPS1S HVPS2S (lead (Pb)-free) (e1)	E = 25 ppm/°C D = 15 ppm/°C Y = 10 ppm/°C Z = 5 ppm/°C	First 3 digits are significant figures. Last digit specifies the number of zeros to follow. e.g.: 1001 = 1K 1002 = 10K 1005 = 10M	A = 0.05 % B = 0.1 % D = 0.5 % F = 1.0 % Q = 0.02 % T = 0.01 %	UF = tubed

Historical Part Number example: HVPS1E5004B (for reference purposes only)

HVPS1	E	5004	B
SERIES	TCR CHARACTERISTICS	RESISTANCE	TOLERANCE



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.

Hyperlinks included in this datasheet may direct users to third-party websites. These links are provided as a convenience and for informational purposes only. Inclusion of these hyperlinks does not constitute an endorsement or an approval by Vishay of any of the products, services or opinions of the corporation, organization or individual associated with the third-party website. Vishay disclaims any and all liability and bears no responsibility for the accuracy, legality or content of the third-party website or for that of subsequent links.

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.