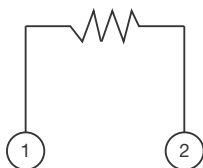


High Value, High Voltage Precision SIP Thin Film Resistor, Through Hole Network



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/ $^{\circ}\text{C}$)
- 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


RoHS*
Available

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

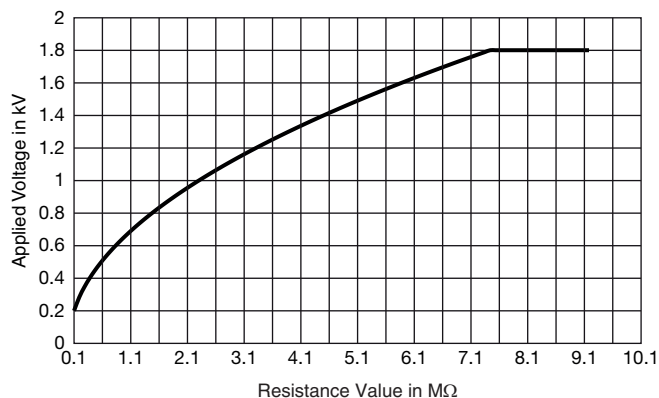
APPLICATIONS

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

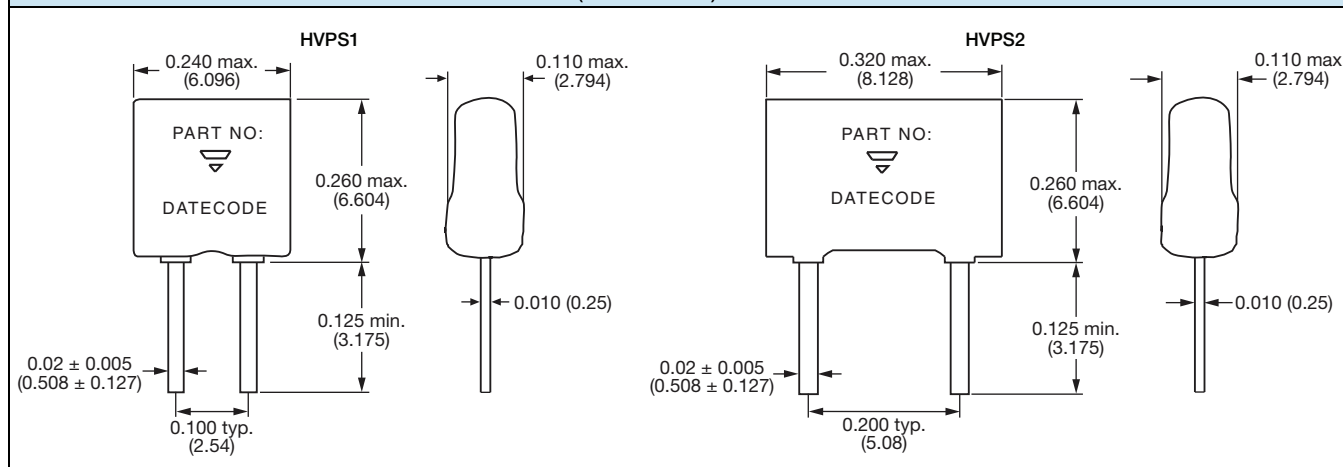
STANDARD ELECTRICAL SPECIFICATIONS		
TEST	SPECIFICATIONS	CONDITIONS
Material	Passivated nichrome	-
Pin/Lead Number	2	-
Resistance Range	50 000 Ω to 5000 k Ω (HVPS1) 100 000 Ω to 10 000 k Ω (HVPS2)	-
TCR: Absolute	5 ppm/ $^{\circ}\text{C}$ to 25 ppm/ $^{\circ}\text{C}$	-55 $^{\circ}\text{C}$ to +125 $^{\circ}\text{C}$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

HVPS1
HVPS2
(tin lead)

HVPS1S
HVPS2S
(lead (Pb)-free)
(e1)

TCR

E = 25 ppm/°C
D = 15 ppm/°C
Y = 10 ppm/°C
Z = 5 ppm/°C

RESISTANCE

First 3 digits are
significant figures.
Last digit specifies
the number of zeros
to follow.

e.g.: 1001 = 1K
1002 = 10K
1005 = 10M

TOLERANCE

A = 0.05 %
B = 0.1 %
D = 0.5 %
F = 1.0 %
Q = 0.02 %
T = 0.01 %

PACKAGING

UF = tubed

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

HVPS1	E	5004	B
SERIES	TCR CHARACTERISTICS	RESISTANCE	TOLERANCE



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