

HVC Series

High Resistance, Thick Film Chip Resistors



- Resistances from 10M to 1T Ohms
- Power Rating 0.05 to 1.5 Watts
- Resistance Tolerances to $\pm 0.25\%$
- TCR's to ± 25 ppm/ $^{\circ}\text{C}$
- Non-Magnetic
- High Value Thick Film Resistance Element
- Sizes, 0402, 0603, 0805, 1206, 1210, 2512, 4020
- Special High Temperature Version to 300 $^{\circ}\text{C}$ (H)
(See ordering Information below)

SPECIFICATIONS

Type	0402 ⁵	0603 ⁶	0805 ⁶	1206	1210	2512	4020	
Power Rating (W) ⁴	0.05	0.10	0.125	0.25	0.35	1.0 ¹	2.0 ¹	
Working Voltage (VAC)	Trimmed	30	75	100	200	300	1500	4000
	Untrimmed ($\geq 5\%$)	60	150	200	400	600	2000	6000
Resistance Range (Ω)	Tolerances Available (%) Temperature Coefficients Available (\pm ppm/ $^{\circ}\text{C}$) ² Voltage Coefficients Available (ppm / V) ³							
10M - 100M	5 / 10 / 20% 50, 100 500 ppm/V	1/5/10/20% 50, 100 500 ppm/V	.5/1/5/10/ 20% 50, 100 500 ppm/V	.5/1/5/10/ 20% 25, 50, 100 250 ppm/V	.5/1/5/10/20% 25, 50, 100 25 ppm/V	.5/1/5/10/20% 25, 50, 100 25 ppm/V	.25/.5/1/5/10% 25, 50, 100 10 ppm/V	
>100M - 500M	5 / 10 / 20% 100, 250 1000 ppm/V	2/5/10/20% 100, 250 500 ppm/V	2/5/10/20% 100, 250 500 ppm/V	2/5/10/20% 50, 100, 250 500 ppm/V	2/5/10/20% 50, 100, 250 250 ppm/V	1/5/10/20% 25, 50, 100 50 ppm/V	.5/1/5/10/20% 25, 50, 100 25 ppm/V	
>500M - 1G	5 / 10 / 20% 250, 500 1000 ppm/V	5 / 10 / 20% 250, 500 500 ppm/V	5 / 10 / 20% 250, 500 500 ppm/V	5 / 10 / 20% 100, 250 500 ppm/V	5 / 10 / 20% 100, 250 250 ppm/V	1/5/10/20% 100, 250 50 ppm/V	1/5/10/20% 25, 50, 100 25 ppm/V	
>1G - 10G	10 / 20 / 30% 1000, 2000 2000 ppm/V	5/10/20/30% 500, 1000 1000 ppm/V	5 / 10 / 20% 500, 1000 1000 ppm/V	5 / 10 / 20% 500, 1000 500 ppm/V	5 / 10 / 20% 250, 500 250 ppm/V	2/5/10/20% 100, 250 100 ppm/V	2/5/10/20% 50, 100 50 ppm/V	
>10G - 100G	10 / 20 / 30% 2000, 3000 5000 ppm/V	10 / 20 / 30% 1000, 2000 3000 ppm/V	10 / 20 / 30% 1000, 2000 3000 ppm/V	10 / 20 / 30% 1000, 2000 1000 ppm/V	5 / 10 / 20% 500, 1000 500 ppm/V	5 / 10 / 20% 250, 500 250 ppm/V	5/10/20/30% 100, 250 100 ppm/V	
>100G - 1T	On Request	On Request	See HVS	See HVS	10 / 20 / 30% 1000, 2000 2000 ppm/V	10 / 20 / 30% 500, 1000 1000 ppm/V	10 / 20 / 30% 500 / 1000 500 ppm/V	

1) Solder pads must have sufficient heat conduction

2) TCR in ppm/K; +25 $^{\circ}\text{C}$ to +125 $^{\circ}\text{C}$; TCR below standard TCR (highest value) and values >100G; +25 $^{\circ}\text{C}$ to +85 $^{\circ}\text{C}$

3) VCR: typical values, all negative, not for all TCR values available

4) Continuous operating voltage: $V \leq \sqrt{P \cdot R}$ or max. working voltage (the lower value)

5) Best tolerance for High Temp version is 5%

6) Best tolerance for High Temp version is 2%

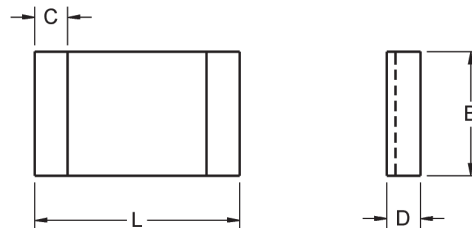


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Specification	Value		
Temperature Range	-55°C to +155°C (Standard) -55°C to +300°C (High Temperature Version, TCR valid +25°C to +125°C)		
Climatic Category	55 / 155 / 56		
Solderability	250°C, 3s		
Max. Soldering Temperature	260°C, 10s		
Long Term Stability	Max ΔR		
	<1 GΩ	1 GΩ - 10 GΩ	>10 GΩ
Storage 125°C, 1000h	<1%	<2%	<5%
Load Life 70°C, 1000h	<0.5%	<1%	<2%
Maximum Voltage, 1000h	<0.5%	<1%	<2%



Type	Dimensions (mm)			
	L	B	D	C
HVC 0402 / HVC 0402H	0.95 ±0.10 / -0.05	0.48 ±0.10 / -0.05	0.28 ±0.1 / -0.05	0.10 +0.1 / -0.05
HVC 0603 / HVC 0603H	1.50 +0.15 / -0.05	0.80 +0.15 / -0.05	0.40 +0.15 / -0.05	0.20 +0.2 / -0.1
HVC 0805 / HVC 0805H	2.00 +0.15 / -0.05	1.25 +0.15 / -0.05	0.40 +0.15 / -0.05	0.30 +0.2 / -0.1
HVC 1206 / HVC 1206H	3.20 +0.15 / -0.05	1.50 +0.2 / -0.05	0.40 +0.15 / -0.05	0.30 +0.2 / -0.1
HVC 1210 / HVC 1210H	3.20 +0.15 / -0.05	2.50 +0.2 / -0.05	0.50 +0.15 / -0.05	0.80 ±0.2
HVC 2512 / HVC 2512H	6.30 +0.15 / -0.05	3.50 +0.2 / -0.05	0.60 +0.15 / -0.05	0.90 ±0.2
HVC 4020 / HVC 4020H	10.2 +0.15 / -0.05	5.10 +0.2 / -0.05	0.60 +0.15 / -0.05	0.90±0.2

Packaging:

Bulk or Blister tape to IEC 60286-3

Tape width 8mm / Reel Diameter 180 or 330mm
 Minimum quantity Bulk / 100 pieces per value
 (30pcs per value for sizes 2512 & 4020)
 Minimum quantity Tape & Reel / 500 pieces per value
 (Note: Except size 0402 / 1000 pieces per value)

Ordering Information

Standard Part Description: Part Type - Resistance - Tolerance - TCR

Example: HVC 0603 100M Ohms 5% 50ppm
 (Note: if no TCR is specified, the highest value will be supplied)

High Temperature Part Description (H): Part Type H - Resistance - Tolerance - TCR

Example: HVC 0603H 100M Ohms 5% 50ppm
 (Note: if no TCR is specified, the highest value will be supplied)

Power Derating Curve

