



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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# 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  $\pm 25$  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 <sup>5</sup>	0603 <sup>6</sup>	0805 <sup>6</sup>	1206	1210	2512	4020	
Power Rating ( W ) <sup>4</sup>	0.05	0.10	0.125	0.25	0.35	1.0 <sup>1</sup>	2.0 <sup>1</sup>	
Working Voltage ( VAC )	Trimmed	30	75	100	200	300	1500	4000
	Untrimmed ( $\geq 5\%$ )	60	150	200	400	600	2000	6000
Resistance Range ( $\Omega$ )	Tolerances Available ( % ) Temperature Coefficients Available ( $\pm$ ppm/ $^{\circ}\text{C}$ ) <sup>2</sup> Voltage Coefficients Available ( ppm / V ) <sup>3</sup>							
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%

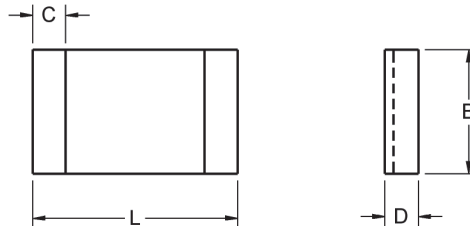


# HVC Series

High Resistance, Thick Film Chip Resistors



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

