

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 $\pm 25 \text{ ppm}/^\circ\text{C}$
- Non-Magnetic
- High Value Thick Film Resistance Element
- Sizes, 0402, 0603, 0805, 1206, 1210, 2512, 4020
- Special HT Version to 300°C

SPECIFICATIONS

Type	0402	0603	0805	1206	1210	2512	4020	
Power Rating (W) ¹	0.050	0.1	0.125	0.25	0.35	1.00 ²	1.50 ²	
Working Voltage (VAC)	Trimmed	30	75	100	200	300	1000	4000
	Un-Trimmed ($\geq 5\%$)	60	150	200	400	600	2000	6000
Resistance Range (Ω)	Tolerances Available (%) Temperature Coefficients Available ($\pm \text{ ppm}/^\circ\text{C}$) Voltage Coefficients Available ($\text{ ppm } / \text{ V}$)							
10M - 100M	5 to 20% 50, 100 500ppm/V	1 to 20% 50, 100 500ppm/V	0.5 to 20% 50, 100 500ppm/V	0.5% to 20% 25, 50, 100 250ppm/V	0.5% to 20% 25, 50, 100 50ppm/V	0.5% to 20% 25, 50, 100 25ppm/V	0.25% to 10% 25, 50, 100 10ppm/V	
>100M - 500M	5% to 20% 100, 250 1000ppm/V	2% to 20% 100, 250 500ppm/V	2% to 20% 100, 250 500ppm/V	2% to 20% 50, 100, 250 500ppm/V	2% to 20% 50, 100, 250 250ppm/V	1% to 20% 25, 50, 100 50ppm/V	0.5% to 20% 25, 50, 100 25ppm/V	
>500M - 1G	5% to 20% 250, 500 1000ppm/V	5% to 20% 250, 500 1000ppm/V	5% to 20% 250, 500 1000ppm/V	5% to 20% 100, 250 1000ppm/V	5% to 20% 100, 250 250ppm/V	1% to 20% 100, 250 50ppm/V	1% to 20% 25, 50, 100 25ppm/V	
>1G - 10G	10% to 30% 2000 2000ppm/V	5% to 30% 500, 1000 2000ppm/V	5% to 20% 500, 1000 2000ppm/V	5% to 20% 500, 1000 2000ppm/V	5% to 20% 250, 500 500ppm/V	2% to 20% 250, 500 100ppm/V	2% to 20% 50, 100 50ppm/V	
>10G - 100G	10% to 30% 3000 5000ppm/V	10% to 30% 2000, 3000 5000ppm/V	10% to 30% 2000, 3000 5000ppm/V	10% to 30% 1000, 2000 2000ppm/V	5% to 20% 500, 1000 1000ppm/V	5% to 20% 250, 500 250ppm/V	5% to 30% 100, 250 100ppm/V	
>100G - 1T	On Request	On Request	See HVS	See HVS	10% to 30% 1000, 2000 2000ppm/V	10% to 20% 500, 1000 500ppm/V	10% to 30% 500 / 1000 500ppm/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 $>100\text{G}$; $+25^\circ\text{C}$ to $+85^\circ\text{C}$

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

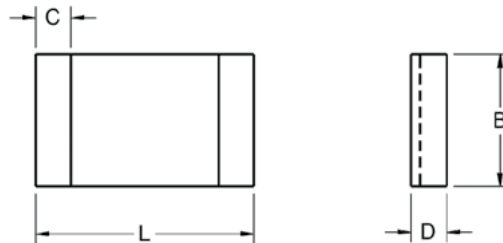


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Specification	Value		
Temperature Range	-55°C to +155°C (Standard) -55°C to +300°C (HT Version, TCR valid +25°C to +125°C)		
Climactic Category	55 / 155 / 56		
Solderability	250°C, 3s		
Max. Soldering Temperature	260°C, 10s		
Long Term Stability	Max 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			
	L	B	D	C
HVC 0402	0.040 ±0.002 [1.04 ±0.05]	0.020 ±0.002 [0.5 ±0.05]	0.012 ±0.002 [0.3 ±0.05]	0.004 +0.004 / -0.002 [0.1 +0.1 / -0.05]
HVC 0603	0.060 +0.006 / -0.002 [1.5 +0.15 / -0.05]	0.030 +0.008 / -0.002 [0.8 +0.2 / -0.05]	0.016 +0.006 / -0.002 [0.4 +0.15 / -0.05]	0.008 +0.008 / -0.004 [0.2 +0.2 / -0.1]
HVC 0805	0.080 +0.006 / -0.002 [2.0 +0.15 / -0.05]	0.050 +0.006 / -0.002 [1.25 +0.15 / -0.05]	0.016 +0.006 / -0.002 [0.4 +0.15 / -0.05]	0.012 +0.008 / -0.004 [0.3 +0.2 / -0.1]
HVC 1206	0.126 +0.006 / -0.002 [3.2 +0.15 / -0.05]	0.060 +0.008 / -0.002 [1.5 +0.2 / -0.05]	0.016 +0.006 / -0.002 [0.4 +0.15 / -0.05]	0.012 +0.008 / -0.004 [0.3 +0.2 / -0.1]
HVC 1210	0.126 +0.006 / -0.002 [3.2 +0.15 / -0.05]	0.098 +0.008 / -0.002 [2.5 +0.2 / -0.05]	0.020 +0.006 / -0.002 [0.5 +0.15 / -0.05]	0.032 ±0.008 [0.8 ±0.2]
HVC 2512	0.250 +0.006 / -0.002 [6.3 +0.15 / -0.05]	0.138 +0.008 / -0.002 [3.5 +0.2 / -0.05]	0.024 +0.006 / -0.002 [0.6 +0.15 / -0.05]	0.035 ±0.008 [0.9 ±0.2]
HVC 4020	0.400 +0.006 / -0.002 [10.2 +0.15 / -0.05]	0.200 +0.008 / -0.002 [5.1 +0.2 / -0.05]	0.024 +0.006 / -0.002 [0.6 +0.15 / -0.05]	0.035 ±0.008 [0.9 ±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
- Minimum quantity Tape & Reel / 1000 pieces per value

Ordering Information

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

Example: HVC 0603 100M Ohms 5% 50ppm Tape

(Note: if no TCR is specified, the highest value will be supplied)

Power Derating Curve

