

# HVC Series

High Resistance, Thick Film Chip Resistors



- Resistances from 10M to 1T Ohms
- Power Rating 0.05 to 0.8 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 HT Version to 300 $^{\circ}\text{C}$

## SPECIFICATIONS

| Type                            | 0402   | 0603                                   | 0805                                   | 1206                                    | 1210                                   | 2512                                   | 4020                                   |      |
|---------------------------------|--|--|--|---|--|--|--|------|
| Power Rating ( W ) <sup>1</sup> | 0.050  | 0.075                                  | 0.125                                  | 0.25                                    | 0.35                                   | 0.60                                   | 0.80                                   |      |
| Working Voltage ( VAC )         | Trimmed  | 30                                     | 75                                     | 100                                     | 200                                    | 300                                    | 1000                                   | 4000 |
|                                 | Un-Trimmed   | 90                                     | 200                                    | 300                                     | 600                                    | 900                                    | 2000                                   | 6000 |
| Resistance Range ( $\Omega$ )   | Tolerances Available ( % )<br>Temperature Coefficients Available ( $\pm$ ppm/ $^{\circ}\text{C}$ )<br>Voltage Coefficients Available ( ppm / V ) |  |  |   |  |  |  |      |
| 10M - 100M                      | 5% to 20%<br>100, 250<br><500ppm/V   | 1% to 20%<br>100, 250<br><250ppm/V     | 0.5% to 20%<br>50, 100<br><100ppm/V    | 0.5% to 20%<br>25, 50, 100<br><100ppm/V | 0.5% to 20%<br>25, 50, 100<br><50ppm/V | 0.5% to 20%<br>25, 50, 100<br><10ppm/V | 0.25% to 10%<br>25, 50, 100<br><5ppm/V |      |
| >100M - 500M                    | 5% to 20%<br>250, 500<br><1000ppm/V  | 2% to 20%<br>100, 250<br><500ppm/V     | 2% to 20%<br>100, 250<br><250ppm/V     | 2% to 20%<br>50, 100, 250<br><100ppm/V  | 2% to 20%<br>50, 100, 250<br><100ppm/V | 1% to 20%<br>25, 50, 100<br><25ppm/V   | 0.5% to 20%<br>25, 50, 100<br><10ppm/V |      |
| >500M - 1G                      | 5% to 20%<br>250, 500<br><1000ppm/V  | 5% to 20%<br>250, 500<br><500ppm/V     | 5% to 20%<br>250, 500<br><250ppm/V     | 5% to 20%<br>100, 250<br><250ppm/V      | 5% to 20%<br>100, 250<br><100ppm/V     | 1% to 20%<br>100, 250<br><25ppm/V      | 1% to 20%<br>25, 50, 100<br><10ppm/V   |      |
| >1G - 10G                       | 10% to 30%<br>1000, 2000<br><2000ppm/V   | 5% to 30%<br>500, 1000<br><2000ppm/V   | 5% to 20%<br>500, 1000<br><1000ppm/V   | 5% to 20%<br>500, 1000<br><1000ppm/V    | 5% to 20%<br>250, 500<br><500ppm/V     | 2% to 20%<br>250, 500<br><100ppm/V     | 2% to 20%<br>50, 100<br><25ppm/V       |      |
| >10G - 100G                     | -  | 10% to 30%<br>1000, 2000<br><5000ppm/V | 10% to 30%<br>1000, 2000<br><2000ppm/V | 10% to 30%<br>1000, 2000<br><2000ppm/V  | 5% to 20%<br>500, 1000<br><1000ppm/V   | 5% to 20%<br>250, 500<br><250ppm/V     | 5% to 30%<br>100, 250<br><100ppm/V     |      |
| >100G - 1T                      | -  | 10% to 30%<br>3000<br><5000ppm/V       | 10% to 30%<br>3000<br><5000ppm/V       | 10% to 30%<br>3000<br><5000ppm/V        | 5% to 30%<br>1000, 2000<br><2000ppm/V  | 5% to 20%<br>500, 1000<br><500ppm/V    | 5% to 30%<br>250, 500<br><250ppm/V     |      |

<sup>1</sup> W @ 70  $^{\circ}\text{C}$ , 0W @ 155  $^{\circ}\text{C}$

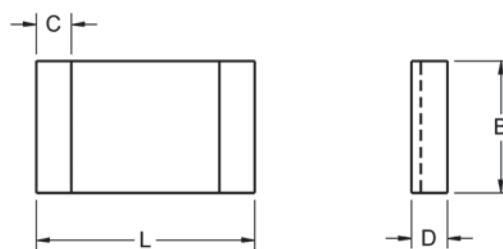


# HVC Series

High Resistance, Thick Film Chip Resistors



| Specification              | Value  |              |        |
|----------------------------|--|--------------|--------|
| Temperature Range          | -55°C to +155°C (Standard)<br>-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%    |
| Maximum Voltage, 1000h     | ±0.5%  | ±1%          | ±2%    |



| Type     | Dimensions                                      |   |  |   |
|----------|---|---|--|---|
|          | L   | B   | D  | C   |
| HVC 0402 | 0.040 ±0.002<br>[ 1.04 ±0.05 ]                  | 0.020 ±0.002<br>[ 0.5 ±0.05 ]                   | 0.012 ±0.002<br>[ 0.3 ±0.05 ]                  | 0.004 +0.004 / -0.002<br>[ 0.1 +0.1 / -0.05 ] |
| HVC 0603 | 0.060 +0.006 / -0.002<br>[ 1.5 +0.15 / -0.05 ]  | 0.030 +0.008 / -0.002<br>[ 0.8 +0.2 / -0.05 ]   | 0.016 +0.006 / -0.002<br>[ 0.4 +0.15 / -0.05 ] | 0.008 +0.008 / -0.004<br>[ 0.2 +0.2 / -0.1 ]  |
| HVC 0805 | 0.080 +0.006 / -0.002<br>[ 2.0 +0.15 / -0.05 ]  | 0.050 +0.006 / -0.002<br>[ 1.25 +0.15 / -0.05 ] | 0.016 +0.006 / -0.002<br>[ 0.4 +0.15 / -0.05 ] | 0.012 +0.008 / -0.004<br>[ 0.3 +0.2 / -0.1 ]  |
| HVC 1206 | 0.126 +0.006 / -0.002<br>[ 3.2 +0.15 / -0.05 ]  | 0.060 +0.008 / -0.002<br>[ 1.5 +0.2 / -0.05 ]   | 0.016 +0.006 / -0.002<br>[ 0.4 +0.15 / -0.05 ] | 0.012 +0.008 / -0.004<br>[ 0.3 +0.2 / -0.1 ]  |
| HVC 1210 | 0.126 +0.006 / -0.002<br>[ 3.2 +0.15 / -0.05 ]  | 0.098 +0.008 / -0.002<br>[ 2.5 +0.2 / -0.05 ]   | 0.020 +0.006 / -0.002<br>[ 0.5 +0.15 / -0.05 ] | 0.032 ±0.008<br>[ 0.8 ±0.2 ]                  |
| HVC 2512 | 0.250 +0.006 / -0.002<br>[ 6.3 +0.15 / -0.05 ]  | 0.138 +0.008 / -0.002<br>[ 3.5 +0.2 / -0.05 ]   | 0.024 +0.006 / -0.002<br>[ 0.6 +0.15 / -0.05 ] | 0.035 ±0.008<br>[ 0.9 ±0.2 ]                  |
| HVC 4020 | 0.400 +0.006 / -0.002<br>[ 10.2 +0.15 / -0.05 ] | 0.200 +0.008 / -0.002<br>[ 5.1 +0.2 / -0.05 ]   | 0.024 +0.006 / -0.002<br>[ 0.6 +0.15 / -0.05 ] | 0.035 ±0.008<br>[ 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 Number - 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

