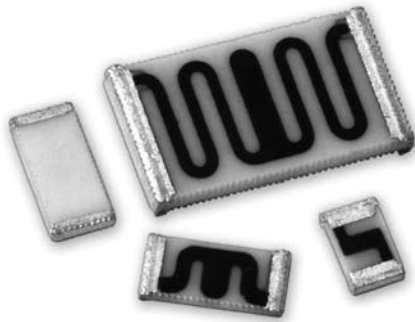


HVC Series

Precision High-Value High-voltage Wraparound Chip



FEATURES

- High value chip resistors in thick film technology
- Low temperature and voltage dependency (low TCR and VCR)
- High working voltage up to 6000V
- Suitable for high vacuum applications—no organics
- Contact areas: Nickel-barrier/matte tin
- Wraparound terminals

SERIES SPECIFICATIONS

| Series | Type | Wattage ¹ P ₇₀ (mW) | Oper. Voltage (V) std. untrimmed (≥5%) | | Resistance Range | Tolerance | TCR ^{2,3} (ppm) | VCR ² (ppm) |
|------------|------|--|---|------|---------------------|-----------|-----------------------------|---------------------------|
| HVC0402--- | 0402 | 50 | 30 | 60 | 100k-100M | 5-10% | 50, 100 | 500 |
| | | | | | >100M-1G | 5-20% | 250, 500 | 1000 |
| | | | | | >1G-10G | 10-30% | 1000, 2000 | 2000 |
| HVC0603--- | 0603 | 100 | 75 | 150 | 100k-100M | 1-10% | 50, 100 | 500 |
| | | | | | >100M-1G | 5-20% | 250, 500 | 1000 |
| | | | | | >1G-10G | 5-20% | 500, 1000 | 2000 |
| HVC0805--- | 0805 | 125 | 200 | 400 | 100K-100M | 0.5-10% | 25, 50, 100 | 100 |
| | | | | | >100M-1G | 2-20% | 50, 100, 250 | 250 |
| | | | | | >1G-10G | 5-20% | 250, 500 | 500 |
| | | | | | >10G-100G | 10-30% | 1000, 2000 | 2000 |
| HVC1206--- | 1206 | 250 | 600 | 1000 | 100K-100M | 0.5-10% | 25, 50, 100 | 50 |
| | | | | | >100M-1G | 2-20% | 50, 100, 250 | 100 |
| | | | | | >1G-10G | 5-20% | 50, 100, 250 | 250 |
| | | | | | >10G-100G | 10-30% | 250, 500, 1000 | 1000 |
| HVC1210--- | 1210 | 350 | 800 | 1200 | 100K-100M | 0.5-10% | 25, 50, 100 | 50 |
| | | | | | >100M-1G | 1-20% | 25, 50, 100 | 50 |
| | | | | | >1G-10G | 2-20% | 25, 50, 100 | 100 |
| | | | | | >10G-100G | 5-30% | 500, 1000 | 500 |
| HVC2010--- | 2010 | 500 | 1500 | 2000 | 100K-100M | 0.5-10% | 25, 50, 100 | 25 |
| | | | | | >100M-1G | 1-20% | 25, 50, 100 | 50 |
| | | | | | >1G-10G | 2-20% | 25, 50, 100 | 100 |
| | | | | | >10G-100G | 5-30% | 250, 500 | 250 |
| HVC2512--- | 2512 | 1000 | 2000 | 3000 | 100K-100M | 0.5-10% | 25, 50, 100 | 10 |
| | | | | | >100M-1G | 1-20% | 25, 50, 100 | 25 |
| | | | | | >1G-10G | 2-20% | 25, 50, 100 | 50 |
| | | | | | >10G-100G | 5-30% | 100, 250, 500 | 100 |
| HVC4020--- | 4020 | 1500 | 4000 | 6000 | 100k-100M | 0.25-10% | 25, 50, 100 | 5 |
| | | | | | >100M-1G | 0.5-20% | 25, 50, 100 | 10 |
| | | | | | >1G-10G | 1-20% | 25, 50, 100 | 10 |
| | | | | | >10G-100G | 2-30% | 50, 100, 250 | 50 |
| | | | | | >100G-1T | 5-30% | 250/500 | 250 |

1. At continuous power dissipation the dimensions of the solder pads have to be capable of sufficient heat conduction.

2. Not all TCR/VCR combinations available in all resistance values

3. HVC2512 and HVC4020 10M-10G TCR's available: 10ppm and 15ppm

HVC Series

Precision High-Value High-voltage Wraparound Chip

CHARACTERISTICS

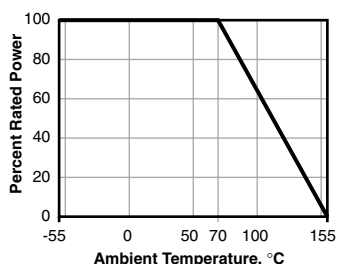
| | | | | |
|------------------------------|----------------------------------|--------|-------|-------|
| Operating temp. range | -55°C ~ +155°C | | | |
| Climatic category | 55/155/56, acc. to EN 60068-1 | | | |
| Solderability | 250°C, 3s, acc. to EN 60068-2-58 | | | |
| Max. soldering temp. | 260°C, 10s, acc. to IEC 68-2-58 | | | |
| Long term stability | | <1G | <10G | ≥10G |
| | Load Life 70°C/1000h | <0.25% | <0.5% | <1% |
| | Storage 125°C/1000h | <0.5% | <1% | <2% |
| | Max. Voltage/1000h | <0.5% | <1% | <2% |
| Short term overload | 2.5*P70 / 5 sec. | <1G | <10G | ≥10G |
| | | <0.25% | <0.5% | <0.5% |
| Damp heat | 56d/40°C/96%: ΔR <0.5% | | | |

Data not specified according to EN 140401-802 (CECC 40401-802)

TERMINAL DETAILS

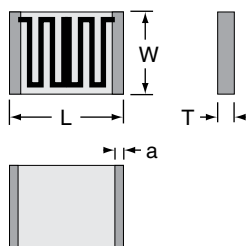
| | |
|--|--|
| Base Metal | PdAg |
| Termination Finish | 100% electroplated matte Sn100 |
| Thickness of Finish | 5 microns |
| Barrier Material between Base Metal and Finish | Porosity-free Ni (5-8 microns thickness) |
| Baking/Annealing Process after Sn Plating | 150°C; > 4 hours |
| Peak Process Body Temperature (Classification Temperature) and Maximum Time | 260°C for 10 seconds |

Derating



DIMENSIONS

(mm)



| Size | Power Rating (mW) | L | W | T | a |
|-------------|-------------------|-----------------|----------------|----------------|--------------|
| 0402 | 50 | 1.04 ±.05 | 0.50 ±.05 | 0.30 ±.05 | 0.1 +.1/-.05 |
| 0603 | 100 | 1.50 +.15/-.05 | 0.80 +.15/-.05 | 0.40 +.15/-.05 | 0.2 +.2/-.1 |
| 0805 | 125 | 2.00 +.15/-.05 | 1.25 +.15/-.05 | 0.40 +.15/-.05 | 0.3 +.2/-.1 |
| 1206 | 250 | 3.20 +.15/-.05 | 1.50 +.2/-.05 | 0.40 +.15/-.05 | 0.3 +.2/-.1 |
| 1210 | 350 | 3.20 +.15/-.05 | 2.50 +.2/-.05 | 0.50 +.15/-.05 | 0.8 ±.2 |
| 2010 | 500 | 5.10 +.15/-.05 | 2.50 +.2/-.05 | 0.60 +.20/-.1 | 1.2 ±.2 |
| 2512 | 1000 | 6.30 +.15/-.05 | 3.50 +.2/-.05 | 0.60 +.15/-.05 | 0.9 ±.2 |
| 4020 | 1500 | 10.20 +.20/-.05 | 5.10 +.2/-.05 | 0.60 +.20/-.1 | 0.9 ±.2 |

HOW TO ORDER

Standard Part Numbers

| | | |
|-----------------|-----------------|-----------------|
| HVC0402E5006KET | HVC0603T2505FET | HVC1206T1004JET |
| HVC0402N5007KET | HVC0603T5004FET | HVC1206T1005JET |
| HVC0402T1004JET | HVC0603T5005FET | HVC1206T1006JET |
| HVC0402T1005JET | HVC0603Z5006JET | HVC1206Z2504JET |
| HVC0402T1006JET | HVC0805E1008KET | HVC1206T2505JET |
| HVC0402T2504JET | HVC0805T1004JET | HVC1206Z2506JET |
| HVC0402T2505JET | HVC0805T1005JET | HVC1206T5004JET |
| HVC0402Z2506JET | HVC0805T1006JET | HVC1206T5005JET |
| HVC0402T5004JET | HVC0805T2504JET | HVC1206Z5007KET |
| HVC0402T5005JET | HVC0805T2505JET | HVC1206Z1007JET |
| HVC0603N1007KET | HVC0805Z2506JET | HVC1206Z1008KET |
| HVC0603N5007KET | HVC0805T5004JET | HVC1206Z5006JET |
| HVC0603T1004FET | HVC0805T5005JET | HVC2512T1004JET |
| HVC0603T1005FET | HVC0805E5007JET | HVC2512T1005JET |
| HVC0603T1006FET | HVC0805Z1007JET | HVC2512T1006JET |
| HVC0603T2504FET | HVC0805Z5006JET | HVC2512T1007JET |

RoHS Compliant

| Series | Package Size | (ppm) TCR | Ohms | Tolerance | Tape & Reel |
|-----------------|------------------|---|----------------------------|--|-------------|
| High Voltage | Wrap Around Chip | W = 25 V = 50 T = 100 Z = 250 E = 500 N = 1000 U = 2000 | 1004 = 1MΩ 5006 = 500MΩ | D = 0.50% F = 1% G = 2% J = 5% K = 10% M = 20% P = 30% | 500 pc/reel |
| HVC2512T1008KET | HVC2512T5007JET | HVC4020V2505JET | | | |
| HVC2512T2504JET | HVC4020V1004JET | HVC4020V2506JET | | | |
| HVC2512T2505JET | HVC4020V1005JET | HVC4020Z2508KET | | | |
| HVC2512T2506JET | HVC4020V1006JET | HVC4020V5004JET | | | |
| HVC2512T5004JET | HVC4020V1007JET | HVC4020V5005JET | | | |
| HVC2512T5005JET | HVC4020V1008KET | HVC4020V5006JET | | | |
| HVC2512T5006JET | HVC4020V2504JET | HVC4020V5007JET | | | |

rev 6/20-3

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