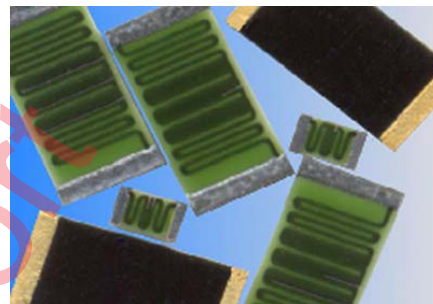


- Features:**
- Absolute voltage ratings up to 25,000 volts
 - Ohmic values to 50G
 - Available with wire bondable terminations
 - Tight tolerances to 0.1%
 - Utilizes fine film resistor deposition technology
 - Superior pulse handling capabilities
 - Low TCR to 25 ppm/°C
 - Low VCR to 1 ppm/volt
 - Very low noise
 - Ultra high stability
 - Custom sizes available
 - Standard HVC parts are unmarked
 - RoHS compliant / lead-free



Electrical Specifications

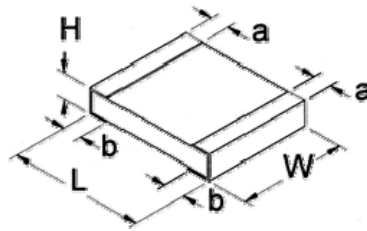
| Type | Package Type | Power Rating (3) (Watts) @ 70°C | Maximum Working Voltage (1) | Absolute Maximum Voltage (2) | Resistive Temperature Coefficient | Ohmic Range (Ω) and Tolerance | | | | | | | |
|---------|--------------|---------------------------------|-----------------------------|------------------------------|--|--|--|--|---|---|---|---|---|
| | | | | | | 0.1% | 0.25% | 0.5% | 1% | 2% | 5% | 10% | 20% |
| HVC0603 | 0603 | 0.06W | 400V | 5KV | ± 50 ppm/°C ± 100 ppm/°C ± 200 ppm/°C | | | 10K - 10M 10K - 10M 10K - 10M | 10K - 100M 10K - 500M 10K - 500M | 10K - 500M 10K - 1G 10K - 1G | 10K - 500M 10K - 1G 10K - 1G | 10K - 500M 10K - 1G 10K - 1G | 10K - 500M 10K - 1G 10K - 50G |
| HVC0805 | 0805 | 0.2W | 600V | 10KV | ± 50 ppm/°C ± 100 ppm/°C ± 200 ppm/°C | | | 10K - 10M 10K - 10M 10K - 10M | 10K - 500M 10K - 10M 10K - 1G | 10K - 500M 10K - 1G 10K - 1G | 10K - 500M 10K - 1G 10K - 10G | 10K - 500M 10K - 1G 10K - 10G | 10K - 500M 10K - 1G 10K - 50G |
| HVC1206 | 1206 | 0.33 | 1200V | 15KV | ± 25 ppm/°C ± 50 ppm/°C ± 100 ppm/°C ± 200 ppm/°C | 1M - 10M 100K - 10M 10K - 10M 10K - 10M | 1M - 100M 100K - 100M 10K - 100M 10K - 100M | 1M - 100M 100K - 500M 10K - 500M 10K - 500M | 1M - 100M 100K - 500M 10K - 1G 10K - 1G | 1M - 100M 100K - 500M 10K - 1G 10K - 10G | 1M - 100M 100K - 500M 10K - 1G 10K - 10G | 1M - 100M 100K - 500M 10K - 1G 10K - 10G | 1M - 100M 100K - 500M 10K - 1G 10K - 10G |
| HVC2010 | 2010 | 1W | 1,700V | 20KV | ± 25 ppm/°C ± 50 ppm/°C ± 100 ppm/°C ± 200 ppm/°C | 1M - 10M 100K - 10M 10K - 10M 10K - 10M | 1M - 100M 100K - 100M 10K - 100M 10K - 100M | 1M - 100M 100K - 500M 10K - 500M 10K - 500M | 1M - 100M 100K - 500M 10K - 1G 10K - 10G | 1M - 100M 100K - 500M 10K - 1G 10K - 10G | 1M - 100M 100K - 500M 10K - 1G 10K - 10G | 1M - 100M 100K - 500M 10K - 1G 10K - 10G | 1M - 100M 100K - 500M 10K - 1G 10K - 10G |
| HVC2512 | 2512 | 2W | 2,500V | 25KV | ± 25 ppm/°C ± 50 ppm/°C ± 100 ppm/°C ± 200 ppm/°C | 1M - 100M 100K - 100M 10K - 100M 10K - 100M | 1M - 500M 100K - 500M 10K - 500M 10K - 500M | 1M - 500M 100K - 1G 10K - 1G 10K - 10G | 1M - 500M 100K - 1G 10K - 10G 10K - 10G | 1M - 500M 100K - 1G 10K - 10G 10K - 10G | 1M - 500M 100K - 1G 10K - 10G 10K - 10G | 1M - 500M 100K - 1G 10K - 50G 100K - 50G | 1M - 500M 100K - 1G 10K - 50G 100K - 50G |
| HVC3512 | 3512 | 3W | 3,500V | 40KV | ± 25 ppm/°C ± 50 ppm/°C ± 100 ppm/°C ± 200 ppm/°C | 1M - 100M 100K - 100M 10K - 100M 10K - 100M | 1M - 500M 100K - 500M 10K - 1G 10K - 500M | 1M - 500M 100K - 1G 10K - 1G 10K - 10G | 1M - 500M 100K - 1G 10K - 10G 10K - 10G | 1M - 500M 100K - 1G 10K - 10G 10K - 10G | 1M - 500M 100K - 1G 10K - 10G 10K - 10G | 1M - 500M 100K - 1G 10K - 50G 100K - 50G | 1M - 500M 100K - 1G 10K - 50G 100K - 50G |

(1) The continuous maximum voltage applied cannot exceed the maximum power rating and is ohmic value dependent.

(2) To achieve, the terminals must be properly isolated from each other with appropriate potting material.

(3) Contact factory for higher power ratings: 0805: 0.2W 1206:0.33W 2010: 1W 2512: 2W

Note: Other case sizes and tolerances are available.



| Mechanical Specifications | | | | | | |
|---------------------------|---------------------|-----------------|-------------------------|----------------------|-------------------------|--------|
| Type / Code | L Body Length | W Body Width | H Body Height (Max.) | a Top Termination | b Bottom Termination | Unit |
| HVC0603 | 0.063 + 0.01/-0.005 | 0.031 ± 0.005 | 0.02 | 0.010 ± 0.005 | 0.012 ± 0.008 | inches |
| | 1.60 + 0.25/-0.13 | 0.79 ± 0.13 | 0.51 | 0.25 ± 0.13 | 0.30 ± 0.20 | mm |
| HVC0805 | 0.079 + 0.01/-0.005 | 0.050 ± 0.005 | 0.025 | 0.010 ± 0.005 | 0.013 ± 0.008 | inches |
| | 2.01 + 0.25/-0.13 | 1.27 ± 0.13 | 0.64 | 0.25 ± 0.13 | 0.33 ± 0.20 | mm |
| HVC1206 | 0.126 + 0.01/-0.005 | 0.063 ± 0.005 | 0.03 | 0.010 ± 0.005 | 0.020 ± 0.010 | inches |
| | 3.20 + 0.25/0.13 | 1.60 ± 0.13 | 0.76 | 0.25 ± 0.13 | 0.51 ± 0.25 | mm |
| HVC2010 | 0.2 + 0.01/-0.005 | 0.100 ± 0.005 | 0.03 | 0.018 ± 0.010 | 0.020 ± 0.010 | inches |
| | 5.08 + 0.25/-0.13 | 2.54 ± 0.13 | 0.76 | 0.46 ± 0.25 | 0.51 ± 0.25 | mm |
| HVC2512 | 0.25 + 0.01/-0.005 | 0.125 ± 0.005 | 0.03 | 0.020 ± 0.010 | 0.024 ± 0.010 | inches |
| | 6.35 + 0.25/-0.13 | 3.18 ± 0.13 | 0.76 | 0.51 ± 0.25 | 0.61 ± 0.25 | mm |
| HVC3512 | 0.35 + 0.01/-0.005 | 0.125 ± 0.005 | 0.03 | 0.020 ± 0.010 | 0.024 ± 0.010 | inches |
| | 8.89 + 0.25/-0.13 | 3.18 ± 0.13 | 0.76 | 0.51 ± 0.25 | 0.61 ± 0.25 | mm |

Power Derating Curve:



| Performance Characteristics | | |
|-----------------------------------|---|---|
| Test | Test Method | Acceptable Parameter |
| Load Life | MIL-STD-202G Method 108A Test Condition D | $\Delta R = 2\%$ |
| Temperature Cycle (Thermal Shock) | MIL-STD-202G Method 107G Test Condition A | $\Delta R = 0.02\%$ |
| Resistance to Soldering Heat | IPC/EIA J-STD-002A Paragraph 4.2.4 | IPC/EIA J-STD-002A Paragraph 4.2.4.4 |
| Solderability | IPC/EIA J-STD-002A Paragraph 4.2.2 | IPC/EIA J-STD-002A Paragraph 4.2.2.4.2 |
| Short Time Overload | MIL-PRF-55342H Pg. 32, Paragraph 4.8.6 | MIL-PRF-55342H Pg 11, Paragraph 3.12 |

Operating Temperature Range: -55°C to +150°C

How to Order

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| H | V | C | B | 2 | 5 | 1 | 2 | F | K | C | 1 | 0 | M | 0 |

| Product Series | | Size | Power | Tolerance | | Packaging | | | TCR | | Resistance Value | |
|----------------|--|------|-------|-----------|------|-----------|------------------------|------------------|----------|------|------------------|--|
| Code | Description | | | Code | Tol | Code | Description | Size | Quantity | Code | ppm | Four characters with the multiplier used as the decimal holder. 10 Kohm = 10K0 1 Mohm = 1M00 10 Gohm = 10G0 |
| HVCB | Solderable wraparound (100% matte tin) | 0603 | 0.06W | D | 0.5% | T | 7" reel - paper tape | 0603, 0805 | 5,000 | E | 25 | |
| HVCG | Wire bondable (gold) | 1206 | 0.33W | F | 1% | T | 7" reel - plastic tape | 1206, 2010 | 4,000 | C | 50 | |
| HVCS | Solderable single surface (Sn/Pb) | 2010 | 1W | G | 2% | K | 7" reel - paper tape | 0603, 0805, 1206 | 1,000 | D | 100 | |
| HVCZ | Solderable single surface (100% matte tin) | 3512 | 3W | K | 10% | D | 7" reel - paper tape | 0603, 0805, 1206 | 500 | L | 200 | |
| | | | | | | | 7" reel - plastic tape | 2010, 2512, 3512 | | | | |
| B | Bulk | | | M | 20% | B | Bulk | All Sizes | 1,000 | | | |

Legacy Part Number (before January 3, 2011):

| SEI Type & Termination | | Size | TCR | Nominal Resistance | Tolerance | Packaging | | | |
|------------------------|---|--|-----|--|-----------|------------------|---------|------------------------|------|
| HVCB | | 1206 | T2 | 100M | 5% | R | | | |
| Code | Termination | TCR | | Tol | | SEI Types | Pkg Qty | Description | Code |
| HVCB | Solderable wraparound 100% matte tin | T0 = 200ppm T1 = 100ppm T2 = 50ppm T9 = 25ppm | | ± 0.5% ± 1% ± 2% ± 5% ± 10% ± 20% | | 0603, 0805 | 5,000 | 7" reel - paper tape | R |
| HVCG | Wire bondable (gold) | | | | | 1206, 2010 | 4,000 | 7" reel - plastic tape | R |
| HVCS | Solderable single surface (Sn/Pb) | | | | | 2512 | 2,000 | 7" reel - plastic tape | |
| | | | | | | 0603, 0805, 1206 | 1,000 | 7" reel - paper tape | I |
| HVCZ | Solderable single surface 100% matte tin | | | | | 2010, 2512, 3512 | 500 | 7" reel - plastic tape | D |
| | | | | | | 0603, 0805, 1206 | 500 | 7" reel - paper tape | |
| | | | | | | 2010, 2512, 3512 | 1,000 | 7" reel - plastic tape | |
| | | | | | | All Types | 1,000 | Bulk | A |