

Advantages

- Highest voltage ratings available in a surface mount resistor (up to 20,000 Volts).
- Replace leaded thru-hole resistors with surface mount resistors saving assembly and board space costs.
- Replace multiple resistor arrays with a single resistor.

Our patented Micropen® precision printing technology provides a superior surface mount resistor with the highest voltage ratings available in the industry. These ultra high voltage resistors also meet Ohmcraft's superior electrical

- Voltage Ratings to 20,000 Volts
- Resistance Values to 50 Gigohms
- Ultra High Stability
- Very Low Noise
- Tolerances to 1%
- TCR to 100 ppm/°C

Electrical Specifications—Minimum Ohmic Value for Specified Voltage Rating

Case Size	Voltage Rating (volts)								
	3,000	4,000	6,000	8,000	10,000	12,000	14,000	16,000	20,000
2010	≥ 90M	≥ 160M	≥ 360M	NA	NA	NA	NA	NA	NA
2512	Note ¹	≥ 120M	≥ 250M	≥ 450M	≥ 700M	NA	NA	NA	NA
3512	Note ¹	≥ 85M	≥ 200M	≥ 330M	≥ 525M	≥ 750M	≥ 1,000M	NA	NA
4020	Note ¹	Note ¹	≥ 150M	≥ 250M	≥ 400M	≥ 575M	≥ 775M	≥ 1,000M	NA
5020	Note ¹	Note ¹	≥ 90M	≥ 160M	≥ 250M	≥ 360M	≥ 490M	≥ 640M	≥ 1,000M

Note ¹: For these values and package size, refer to our standard HVC series.

Due to the high voltage ratings, these resistors must be potted upon assembly.

For other configurations or requirements, consult factory.

How to Order

UHVC	+		+		+		+		+	
Type		Case Size		TCR		Value		Tolerance		Termination
Ultra High-Voltage Chips		2010 2512 3512 4020 5020		K ±100ppm/°C L ±200ppm/°C		Resistance value expressed as a four digit number, where the first three numbers are the significant value, and the fourth number is the number of zeroes.		F ±1.0% G ±2.0% J ±5.0% K ±10% (untrimmed) L ±20% (untrimmed)		T Solderable wraparound matte tin Sn99.9 on nickel barrier, RoHS B Solderable wraparound Sn63Pb37 solder over nickel barrier

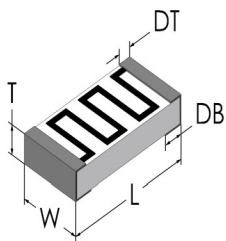
Packaging options: Bulk, Tape & Reel or Flat Pack



Chip Dimensions

Wrap-around

B and T Terminations



Case Size	Length	Width	Thickness (Max.)	DT	DB	Units
2010	0.200 +0.01/-0.005	0.100 ±0.005	0.030	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
2512	0.250 +0.01/-0.005	0.125 ±0.005	0.030	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
3512	0.350 +0.01/-0.005	0.125 ±0.005	0.030	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
4020	0.400 +0.01/-0.005	0.200 ±0.005	0.030	0.025 ±0.010	0.030 ±0.010	inches
	10.16 +0.25/-0.13	5.08 ±0.13	0.76	0.64 ±0.25	0.76 ±0.25	mm
5020	0.500 +0.01/-0.005	0.200 ±0.005	0.030	0.030 ±0.010	0.030 ±0.010	inches
	12.70 +0.25/-0.13	5.08 ±0.13	0.76	0.76 ±0.25	0.76 ±0.25	mm

Typical Performance Characteristics

Test	Maximum ΔR
Short Time Overload	0.5%
Load Life	0.5%
Temperature Cycle	0.5%
Moisture Resistance	0.5%
Shock	0.25%
Vibration	0.25%
Dielectric Withstanding Voltage	0.25%
Resistance to Soldering Heat	0.25%

Parameter	Typical
Operating Temperature	-55°C to 150°C
TCR	Measured from 25°C to 75°C
Resistance Value	Measured at 1000 VDC for custom test voltages consult factory

Tape and Reel Specifications

Parts are packaged in accordance with EIA-481 tape and reel specifications.

Material Construction

Resistive Element	Thick Film
Substrate	96% Alumina
Encapsulation	Epoxy
Termination	Tin over nickel barrier, lead solder over nickel barrier.

Custom Configurations Available Upon Request

Please consult with our knowledgeable sales staff for help specifying custom parts to meet your needs:

E: sales@ohmcraft.com

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