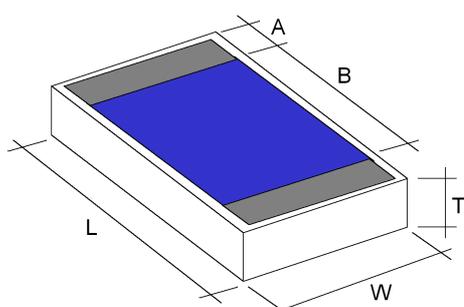




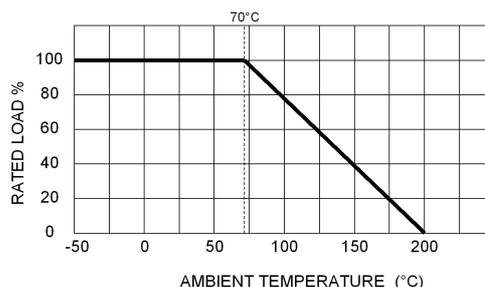
High Voltage Chip Resistors / Low Noise Chip Resistors Series HVC

High Voltage Chip Resistors HVC Series combine proprietary Fine Line Thick Film Technology and design to achieve a new level of high voltage ratings and stability in SMD chip resistors. Nicrom's technology features a longer, high aspect ratio trace of lower resistivity film compared to traditional thick film chip resistors.

Compared to standard chip resistors Nicrom's HVC Series provides unmatched performances and design efficiency resulting in lower voltage coefficients and temperature coefficients, lower noise, tighter tolerances, higher stability, higher resistance values and higher voltage ratings. Wire bondable gold terminations and custom configurations available.



Derating Curve



Model-Size	Wattage @ 70°C	Max. Continuous Oper. Voltage	Dimensions in millimeters [Dimensions in inches]				
			L	W	T (max.)	A	B (min.)
0603	0.10	600	1.60 ± 0.20 [0.063 ± 0.008]	0.80 ± 0.10 [0.031 ± 0.004]	0.50 [0.020]	0.25 ± 0.10 [0.010 ± 0.004]	0.80 [0.032]
1206	0.30	1'500	3.25 ± 0.20 [0.128 ± 0.008]	1.60 ± 0.20 [0.063 ± 0.008]	0.70 [0.028]	0.45 ± 0.20 [0.018 ± 0.008]	1.95 [0.077]
2010	0.50	2'200	5.10 ± 0.20 [0.200 ± 0.008]	2.50 ± 0.20 [0.098 ± 0.008]	0.80 [0.032]	0.55 ± 0.20 [0.022 ± 0.008]	3.70 [0.146]
2512	1.00	3'000	6.40 ± 0.20 [0.252 ± 0.008]	3.20 ± 0.20 [0.126 ± 0.008]	0.80 [0.032]	0.65 ± 0.20 [0.026 ± 0.008]	5.00 [0.200]
4020	1.50	4'000	10.16 ± 0.20 [0.400 ± 0.008]	5.08 ± 0.20 [0.200 ± 0.008]	0.80 [0.032]	1.00 ± 0.20 [0.040 ± 0.008]	7.50 [0.295]
5020	2.00	5'000	12.70 ± 0.20 [0.500 ± 0.008]	5.08 ± 0.20 [0.200 ± 0.008]	0.80 [0.032]	2.00 ± 0.30 [0.079 ± 0.012]	8.00 [0.315]
8020	2.50	7'000	20.32 ± 0.20 [0.800 ± 0.008]	5.08 ± 0.20 [0.200 ± 0.008]	1.00 [0.040]	2.00 ± 0.30 [0.079 ± 0.012]	15.60 [0.615]
10020	3.00	11'000	25.40 ± 0.20 [1.000 ± 0.008]	5.08 ± 0.20 [0.200 ± 0.008]	1.00 [0.040]	2.00 ± 0.30 [0.079 ± 0.012]	20.70 [0.815]

Characteristics

Resistance Values	from 1KΩ to as high as 100GΩ on all models (to 1TΩ on request)
Tolerances	0.05%, 0.1%, 0.25%, 0.5%, 1%, 2%, 5%, 10%, 20% (0.05% available to 10G, 0.25% to 100G on request)
Temperature Coefficients*	5, 10, 15, 25, 50 and 100 ppm/°C (10 ppm/°C available to 10G, 25 ppm/°C to 100G on request)
Operating Temperature	-55 ... + 200°C (extended temperature range to 350°C available)
Insulation Resistance	> 10'000 MΩ 500 Volt 25 °C 75% relative humidity
Dielectric Strength	> 1'000 Volt 25 °C 75% relative humidity
Thermal Shock	Δ R/R < 0.1% typ., 0.50% max. MIL Std. 202, method 107 Cond. C IEC 68 - 2 - 14
Overload	Δ R/R < 0.1% typ., 0.50% max. 1,5 x Pnom, 5 sec (do not exceed max. voltage)
Moisture Resistance	Δ R/R < 0.1% typ., 0.50% max. MIL Std. 202, method 106 IEC 68 - 2 - 3
Load Life	Δ R/R < 0.1% typ., 0.50% max. 1000 hours at rated power IEC 115 - 1
Encapsulation	Screen Printed Silicone Core Material Al ₂ O ₃ (96%)
Solder Pads Material	Silver (PdAg) / Bondable Gold / Tinned Resistor Material Ruthenium Oxide
Termination Style	Flip-chip single side termination (standard) or 3-sided wraparound termination available (option W)

* Temperature Coefficient referenced to 25°C, ΔR taken at +125°C.

Voltage Coefficients of Resistance

Type	Resistance Range	VCR (- ppm/V)*	Type	Resistance Range	VCR (- ppm/V)*	Type	Resistance Range	VCR (- ppm/V)*
0603	1K .. 3M	< 16.00	2512	1K .. 30M	< 0.80	8020	1K .. 60M	< 0.30
	3M .. 30M	< 80.00		30M .. 300M	< 4.00		60M .. 600M	< 1.50
	30M .. 300M	< 150.00		300M .. 3G	< 7.00		600M .. 6G	< 2.50
1206	1K .. 10M	< 3.20	4020	1K .. 30M	< 0.60	10020	1K .. 80M	< 0.20
	10M .. 100M	< 15.00		30M .. 300M	< 3.00		80M .. 800M	< 1.00
	100M .. 1G	< 29.00		300M .. 3G	< 6.00		800M .. 8G	< 1.80
2010	1K .. 20M	< 1.30	5020	1K .. 40M	< 0.40	*Typical values. Voltage coefficient of resistance strongly depends on the resistance value, consult factory for details.		
	20M .. 200M	< 6.00		40M .. 400M	< 2.00			
	200M .. 2G	< 12.00		400M .. 4G	< 3.60			