

HV06 Series High Voltage Resistors

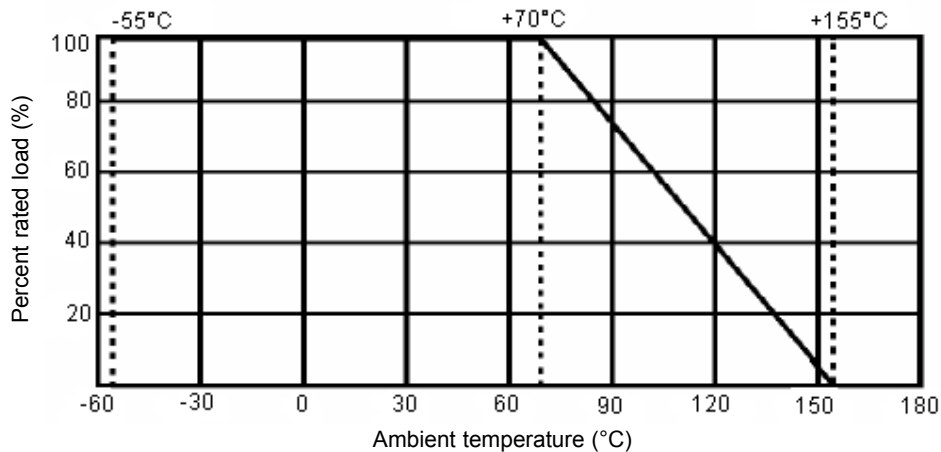


Specification Table

Type	Power Rating (W)	Maximum Working Voltage (V)	Maximum Overload Voltage (V)	Temperature Range (°C)	Ambient Temperature (°C)
HV06	0.125	400	1000	-55 to +155	70

Power Rating:

Resistors shall have a power rating based on continuous full load operation at an ambient temperature of 70°C. For temperature in excess of 70°C, the load shall be derated.



Nominal Resistance

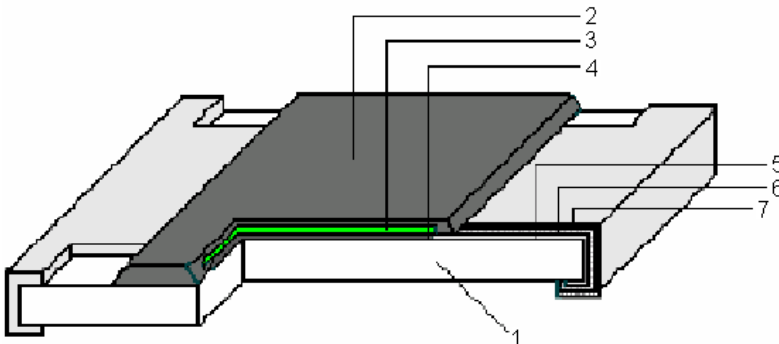
Effective figures of nominal resistance shall be in accordance with E-24 and E-96 series for 1 % and E-24 series for 2 % and 5 %



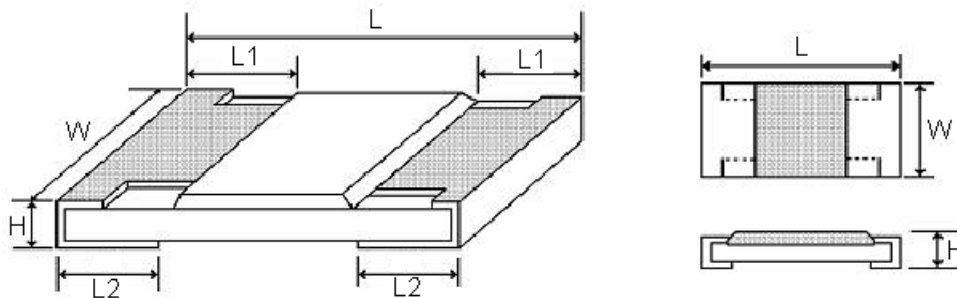
HV06 Series High Voltage Resistors



Construction:



1. High purity alumina substrate.
2. Protective covering.
3. Resistive covering.
4. Termination inner (Ag/Pd).
5. Termination (between) Ni plating.
6. Termination (outer) Sn plating.



Dimensions : Millimetres

Dimensions

Type	L ± 0.15	W + 0.15 - 0.10	H ± 0.10	L1 ± 0.20	L2 ± 0.20
HV06	3.10	1.55	0.55	0.45	0.45

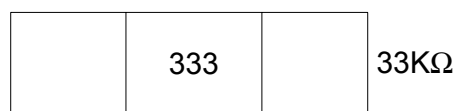
Dimensions : Millimetres

Power Rating

Type	Power Rating at 70°C (W)	Tolerance %	Resistance Range (Ω)	Standard Series
HV06	0.125 (1/8)	± 5	100K to 10M	E-24

Marking on the Resistors

A. $\pm 5\%$ Tolerance : the first two digits are significant figures of resistance and the third one denoted number of zeros.



HV06 Series High Voltage Resistors



Performance specification

Characteristics	Limits	Test Methods (JIS C 5201-1)
Temperature coefficient	± 200 PPM/°C	Natural resistance change per temperature degree centigrade $R2-R1 / R1 (t2-t1) \times 10^6$ (PPM/°C). R1 : Resistance value at room temperature (t1) R2 : Resistance value at room temperature plus 100°C (t2). Test pattern : Room temperature(t1), Room temperature +100°C(t2)
Short time overload	$\Delta R \leq \pm(2.0\%+0.1\Omega)$ maximum	Permanent resistance change after the application of a potential of 2.5 times RCWV for 5 seconds.
Humidity (steady state)	$\Delta R \leq \pm(3.0\%+0.1\Omega)$ maximum	Temporary resistance change after 1000 hours exposure in a humidity test chamber controlled at $40\pm 2^\circ\text{C}$ and 90 to 95% relative humidity
Terminal bending	$\pm (1.0\% + 0.05\Omega)$ maximum	Twist of Test Board : Y/X = 3/90 mm for 60 seconds
Temperature cycling	5%: $\Delta R \leq \pm(1.0\%+0.05\Omega)$ maximum	Resistance change after continuous 5 cycles for duty cycles specified below Step 1 : 30 minutes at $-55\pm 3^\circ\text{C}$ Step 2 : 10 to 15 minutes at room temperature Step 3 : 30 minutes at $155\pm 2^\circ\text{C}$ Step 4 : 10 to 15 minutes at room temperature
Load life in humidity	$\Delta R \leq \pm(3.0\%+0.1\Omega)$ maximum	Resistance change after 1000 hours (1.5 hours "on", 0.5 hour "off") at RCWV in a humidity chamber controlled at $40^\circ\text{C} \pm 2^\circ\text{C}$ and 90 to 95 % relative humidity
Load life	$\Delta R \leq \pm(3.0\%+0.1\Omega)$ maximum	Permanent resistance change after 1000 hours operating at RCWV with duty cycle of (1.5 hours "on", 0.5 hour "off") at $70^\circ\text{C} \pm 2^\circ\text{C}$ ambient.
Solderability	95 % coverage minimum	Test temperature of solder : $245 \pm 3^\circ\text{C}$ Dipping time in solder : 2 to 3 seconds
	Go up tin rate bigger than half of end pole.	Reflow: <p>The graph shows a reflow temperature profile. The y-axis represents temperature in degrees Celsius, ranging from 50 to 250. The x-axis represents time. Key points on the curve include: a warm-up phase reaching 150°C, a hot-up phase reaching 180°C, and a soldering phase peaking at 230°C. The peak value temperature is specified as 245°C to 250°C. Time intervals are marked: 90 ± 30s for the warm-up phase, 20 ± 10s for the hot-up phase, and a period for the solder time.</p>



HV06 Series High Voltage Resistors



Resistance Preferred Value Range

E6	E12	E24	E96	E6	E12	E24	E96	E6	E12	E24	E96
10	10	10	10.0				21.5				46.4
			10.2	22	22	22	22.1	47	47	47	47.5
			10.5				22.6				48.7
			10.7				23.2				49.9
		11	11.0				23.7			51	51.1
			11.3			24	24.3				52.3
			11.5				24.9				53.6
			11.8				25.5				54.9
	12	12	12.1				26.1	56	56	56	56.2
			12.4				27.7				57.6
			12.7		27	27	27.4				59.0
		13	13.0				28.0				60.4
			13.3				28.7			62	61.9
			13.7				29.4				63.4
			14.0			30	30.1				64.9
			14.3				30.9				66.5
			14.7				31.6	68	68	68	68.1
15	15	15	15.0				32.4				69.8
			15.4	33	33	33	33.2				71.5
			15.8				34.0				73.2
		16	16.2				34.8			75	75.0
			16.5				35.7				76.8
			16.9			36	36.5				78.7
			17.4				37.4				80.6
			17.8				38.3	82	82	82	82.5
	18	18	18.2		39	39	39.2				84.5
			18.7				40.2				86.6
			19.1				41.2				88.7
			19.6				42.2			91	90.9
		20	20.0			43	43.2				93.1
			20.5				44.2				95.3
			21.0				45.3				97.6

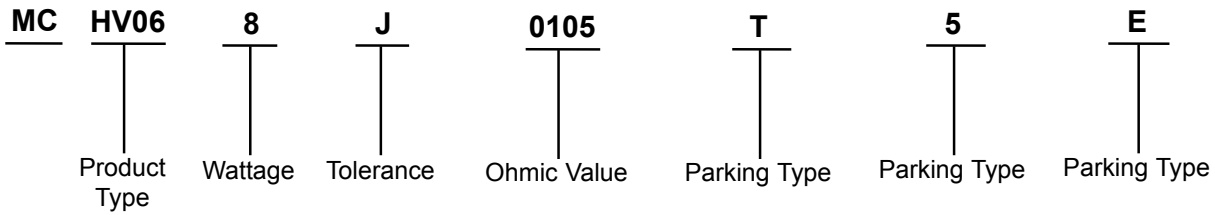
Above values in accordance with IEC Publication 63 (1963) and BS2488



HV06 Series High Voltage Resistors



Part Number Explanation:



- Product Type** : HV06 = Type.
- Wattage** : W8 = 1/8W.
- Tolerance** : J = ±5%.
- Ohmic Value** : Where R = Ohms = Ω.
K = Kiloohms = KΩ.
M = Megaohms = MΩ.
And replaces the decimal point.
eg: 1R5 = 1.5Ω.
4K7 = 4.7KΩ.
6M8 = 6.8MΩ.
- Parking Type** : T = T/R Packing.
- Packing Quantity** : 5 = 5000 pieces.
- Special** : E = Lead Free.

Stocked Values

Tolerance	Wattage (W)	Preferred Value Range	Range Value
1%	0.063	E96	1R5 - 1M
1%	0.1	E24	1R5 - 1M
1%	0.125	E24	10R - 1M



HV06 Series High Voltage Resistors



Notes:

International Sales Offices:



AUSTRALIA - Farnell
Tel No: ++61 1300 361 005
Fax No: ++61 1300 361 225



FINLAND - Farnell
Tel No: ++358 9 560 7780
Fax No: ++358 9 345 5411



ITALY - Farnell
Tel No: ++39 02 93 995 200
Fax No: ++39 02 93 995 300



SPAIN - Farnell
Tel No: 901 20 20 80
Fax No: 901 20 20 90



AUSTRIA - Farnell
Tel No: ++43 662 2180 680
Fax No: ++43 662 2180 670



FRANCE - Farnell
Tel No: ++33 474 68 99 99
Fax No: ++33 474 68 99 90



MALAYSIA - Farnell-Newark
Tel No: ++60 3 7873 8000
Fax No: ++60 3 7873 7000



SWEDEN - Farnell
Tel No: ++46 8 730 50 00
Fax No: ++46 8 83 52 62



BELGIUM - Farnell
Tel No: ++32 3 475 2810
Fax No: ++32 3 227 3648



GERMANY - Farnell
Tel No: ++49 89 61 39 39 39
Fax No: ++49 89 613 59 01



NETHERLANDS - Farnell
Tel No: ++31 30 241 7373
Fax No: ++31 30 241 7333



SWITZERLAND - Farnell
Tel No: ++44 204 64 64
Fax No: ++44 204 64 54



BRAZIL - Farnell-Newark
Tel No: ++55 11 4066 9400
Fax No: ++55 11 4066 9410



HONG KONG - Farnell-Newark
Tel No: ++852 2268 9888
Fax No: ++852 2268 9899



NEW ZEALAND - Farnell
Tel No: 0800 90 80 80
Fax No: 0800 90 80 81



UK - Farnell
Tel No: ++44 8701 200 200
Fax No: ++44 8701 200 201



CHINA - Farnell-Newark
Tel No: ++86 10 6238 5152
Fax No: ++86 10 6238 5022



HUNGARY - Farnell
Tel No: ++44 870 1200 208
Fax No: ++44 870 1200 209



NORWAY - Farnell
Tel No: 800 146 70
Fax No: 800 146 76



UK - CPC
++44 8701 202 530
++44 8701 202 531



CZECH REPUBLIC - Farnell
Tel No: ++44 870 1200 208
Fax No: ++44 870 1200 209



INDIA - Farnell
Tel No: ++44 870 1200 208
Fax No: ++44 870 1200 209



PORTUGAL - Farnell
Tel No: ++34 93 475 8804
Fax No: ++34 93 474 5288



USA - Newark
Tel No: 800 463 9275



DENMARK - Farnell
Tel No: ++45 44 53 66 44
Fax No: ++45 44 53 66 06



IRELAND - Farnell
Tel No: ++353 1 830 9277
Fax No: ++353 1 830 9016



RUSSIA - Farnell
Tel No: ++44 870 1200 208
Fax No: ++44 870 1200 209



EXPORT - Farnell
Tel No: ++44 8701 200 208
Fax No: ++44 8701 200 209

For enquiries from all other markets



ESTONIA - Farnell
Tel No: ++358 9 560 7780
Fax No: ++358 9 345 5411



ISRAEL - Farnell
Tel No: ++180 937 0015
Fax No: ++180 937 0014



SINGAPORE - Farnell-Newark
Tel No: ++65 6788 0200
Fax No: ++65 6788 0300

<http://www.farnell.com>
<http://www.newark.com>
<http://www.cpc.co.uk>

Disclaimer This data sheet and its contents (the "Information") belong to the Premier Farnell Group (the "Group") or are licensed to it. No licence is granted for the use of it other than for information purposes in connection with the products to which it relates. No licence of any intellectual property rights is granted. The Information is subject to change without notice and replaces all data sheets previously supplied. The Information supplied is believed to be accurate but the Group assumes no responsibility for its accuracy or completeness, any error in or omission from it or for any use made of it. Users of this data sheet should check for themselves the Information and the suitability of the products for their purpose and not make any assumptions based on information included or omitted. Liability for loss or damage resulting from any reliance on the Information or use of it (including liability resulting from negligence or where the Group was aware of the possibility of such loss or damage arising) is excluded. This will not operate to limit or restrict the Group's liability for death or personal injury resulting from its negligence. SPC Multicomp is the registered trademark of the Group. © Premier Farnell plc 2008.

