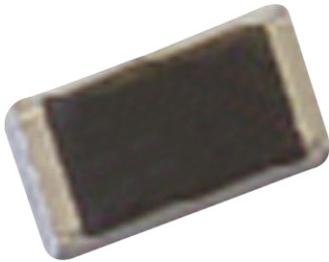


MCHV05 Series High Voltage Resistors

multicomp PRO

**RoHS
Compliant**

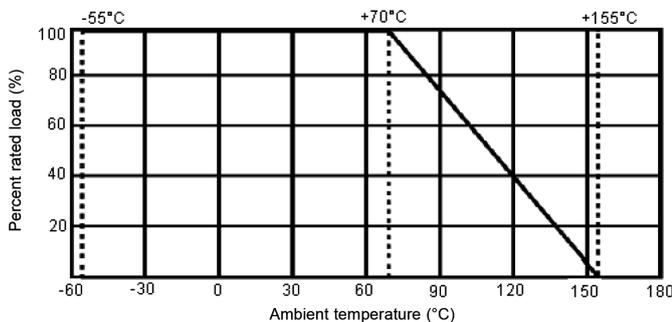


Specifications

Power Rating	: 0.1W
Working Voltage	: 300V (Max.)
Overload Voltage	: 800V (Max.)
Temperature Range	: -55°C to +155°C
Ambient Temperature	: +70°C

Power Rating

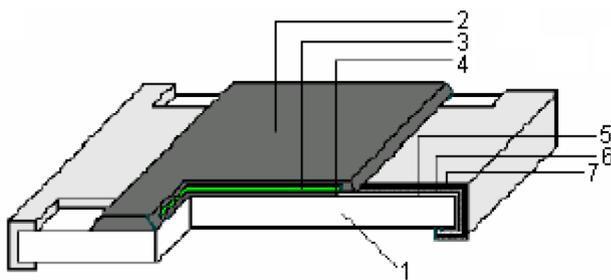
Resistors shall have a power rating based on continuous load operation at an ambient temperature of 70°C. For temperature in excess of 70°C, The load shall be derate.



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%.

Construction



1. High Purity Alumina Substrate.
2. Protective covering.
3. Protective covering.
4. Resistive covering.
5. Termination inner (Ag/Pd).
6. Termination (between) Ni plating.
7. Termination (outer) Sn plating.

Power Rating

Type	Power Rating at 70°C (W)	Tolerance %	Resistance Range (Ω)	Standard Series
MCHV05	0.1 (1/10)	±5	100k to 10M	E-24

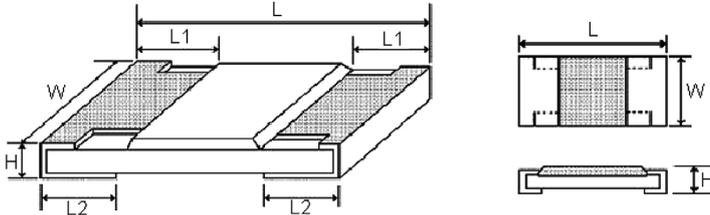
Newark.com/multicomp-pro
Farnell.com/multicomp-pro
Element14.com/multicomp-pro

multicomp PRO

MCHV05 Series High Voltage Resistors

multicomp PRO

Diagram



Dimensions

Type	L ±0.15	W +0.15 - 0.10	H ± 0.1	L1 ± 0.2	L2 ± 0.2
MCHV05	2	1.25	0.55	0.4	0.4

Dimensions : Millimetres

Marking on the Resistors

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

	105		1MΩ
--	-----	--	-----

Performance specifications

Characteristics	Limits	Test Methods (JIS C 5202)
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	$\Delta R \leq \pm(2\% + 0.1\Omega)$ Maximum	Permanent resistance change after the application of a potential of 2.5 times RCWV for 5 seconds.
Humidity (Steady State)	$\Delta R \leq \pm(3\% + 0.1\Omega)$ Maximum	Temporary resistance change after 1000 hours exposure in a humidity test chamber controlled at 40 ±2°C and 90 to 95% relative humidity.
Terminal Bending	$\Delta R \leq \pm(1\% + 0.05\Omega)$ Maximum	Twist of Test Board : Y/X = 3/90 mm for 60 seconds.
Temperature Cycling	5% : $\Delta R \leq \pm(1\% + 0.05\Omega)$ maximum	Resistance change after continuous 5 cycles for duty cycles specified below Step 1 : 30 minutes at -55 ±3°C Step 2 : 10 to 15 minutes at room temperature Step 3 : 30 minutes at 155 ±2°C Step 4 : 10 to 15 minutes at room temperature
Load Life in Humidity	$\Delta R \leq \pm(3\% + 0.01\Omega)$ Maximum	Resistance change after 1000 hours (1.5 hours "on", 0.5 hour "off") at RCWV in a humidity chamber controlled at 40°C ±3°C and 90 to 95% relative humidity.

Newark.com/multicomp-pro
 Farnell.com/multicomp-pro
 Element14.com/multicomp-pro

multicomp PRO

MCHV05 Series

High Voltage Resistors



Characteristics	Limits	Test Methods (JIS C 5202)
Load Life	$\Delta R \leq \pm(3\% + 0.01\Omega)$ Maximum	Permanent resistance change after 1000 hours operating at RCWV, with duty cycle 1.5 hours "on", 0.5 hour "off" at 70°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:

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	56.2
			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



MCHV05 Series

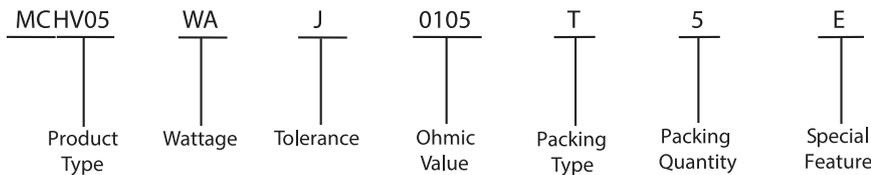
High Voltage Resistors



E6	E12	E24	E96	E6	E12	E24	E96	E6	E12	E24	E96
		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	82.5
	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

Part Number Explanation



- Product Type : MCHV05 type.
- Wattage : W4 = 1/10W.
- 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.
- Packing Type T = T/R Packing.
- Packing Quantity 5 = 5000 pieces
- Special Feature 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

Important Notice : This data sheet and its contents (the "Information") belong to the members of the AVNET group of companies (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. Multicomp Pro is the registered trademark of Premier Farnell Limited 2019.

