

Type HVD Ultra-Precision Voltage Dividers

Voltage Ratings up to 5kVDC • Ratio Tol.: 0.05% • Ratio TC: 5 ppm/°C or 10 ppm/°C

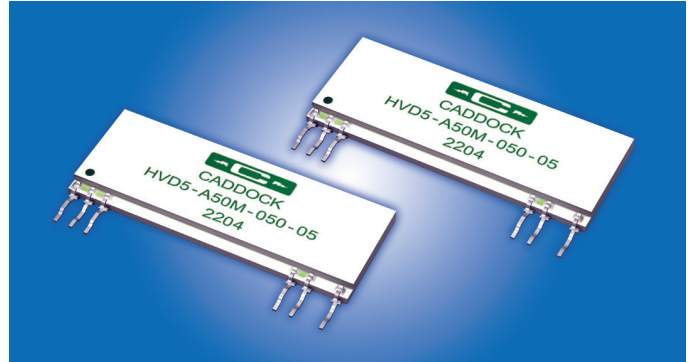
Type HVD Ultra-Precision Voltage Divider Networks

These monolithic voltage divider networks that have ceramic-sandwich construction, offer ultra-precision performance combined with a robust transient-tolerant design for applications with continuous voltage ratings up to 5000 Volts DC. The Standard Ratio Tolerance is 0.05% with Ratio TC options of 5 ppm/°C and 10 ppm/°C.

Type HVD voltage dividers are ideal for precise DC voltage division applications in Test & Measurement Instruments, Medical Equipment, Industrial Equipment, Materials Analysis and Laboratory Equipment.

For higher precision applications; Ratio Tolerance as tight as 0.01% and Ratio TC as low as 2 ppm/°C, see the Type USVD2 Voltage Dividers.

For Voltage Dividers designed for AC Power Quality Monitoring/Metering applications, see the Type VMN Voltage Divider Networks.



Part Number	V _{max} Maximum Continuous Operating Voltage (VDC)	Voltage Divider Ratio RT : R2	Resistance			Ratio Tolerance (RT : R2)	Ratio TC (RT : R2)	Ratio VC (RT : R2)
			R1	R2	RT = R1 + R2			
HVD5-A10M-050-05	1500	1,000 : 1	9.99 Meg	10 K	10 Meg	0.05%	5 ppm/°C	0.02 ppm/V
HVD5-A10M-050	1500	1,000 : 1	9.99 Meg	10 K	10 Meg	0.05%	10 ppm/°C	0.02 ppm/V
HVD5-B10M-050-05	1500	100 : 1	9.90 Meg	100 K	10 Meg	0.05%	5 ppm/°C	0.02 ppm/V
HVD5-B10M-050	1500	100 : 1	9.90 Meg	100 K	10 Meg	0.05%	10 ppm/°C	0.02 ppm/V
HVD5-A20M-050-05	2500	1,000 : 1	19.98 Meg	20 K	20 Meg	0.05%	5 ppm/°C	0.02 ppm/V
HVD5-A20M-050	2500	1,000 : 1	19.98 Meg	20 K	20 Meg	0.05%	10 ppm/°C	0.02 ppm/V
HVD5-B20M-050-05	2500	100 : 1	19.80 Meg	200 K	20 Meg	0.05%	5 ppm/°C	0.02 ppm/V
HVD5-B20M-050	2500	100 : 1	19.80 Meg	200 K	20 Meg	0.05%	10 ppm/°C	0.02 ppm/V
HVD5-A50M-050-05	5000	1,000 : 1	49.95 Meg	50 K	50 Meg	0.05%	5 ppm/°C	0.04 ppm/V
HVD5-A50M-050	5000	1,000 : 1	49.95 Meg	50 K	50 Meg	0.05%	10 ppm/°C	0.04 ppm/V
HVD5-B50M-050-05	5000	100 : 1	49.50 Meg	500 K	50 Meg	0.05%	5 ppm/°C	0.04 ppm/V
HVD5-B50M-050	5000	100 : 1	49.50 Meg	500 K	50 Meg	0.05%	10 ppm/°C	0.04 ppm/V

Specifications:

Ratio Tolerance (RT:R2): 0.05%
Ratio Tolerance measured at +23°C ±2°C with 100 Volts DC applied to the divider

Ratio TC (RT:R2): 5 ppm/°C or 10 ppm/°C, referenced to +25°C, ΔR taken at -40°C and +85°C

Ratio Voltage Coefficient (RT:R2): See Table.
Ratio VC measured at 10% to 100% of V_{max}.

Absolute Tolerance: ±0.1% for all resistors, measured at +23°C ±2°C.

Absolute TC: 30 ppm/°C, referenced to +25°C, ΔR taken at -40°C and +85°C

Voltage Rating (V_{max}): Maximum continuous Operating Voltage (DC) applied to the divider, see Table

Overtolerance: 1.5 times V_{max}, applied to RT for 5 seconds, ratio change 0.02% max.

Ratio Stability under Load: Change In Ratio, with V_{max}. (DC) applied to the Divider.

At +85°C, Initial 1,000 hours, ratio change 0.020% max.

At +50°C, Initial 1,000 hours, ratio change 0.015% max.

Shelf Stability: Ratio Stability less than 50 ppm/year

Thermal Shock: Mil-Std-202. Method 107, Cond. A, except min. temp is -40°C, ratio change 0.02% max.

Operating Temperature: -40°C to +85°C

Terminal Finish: Sn/Ag Solder

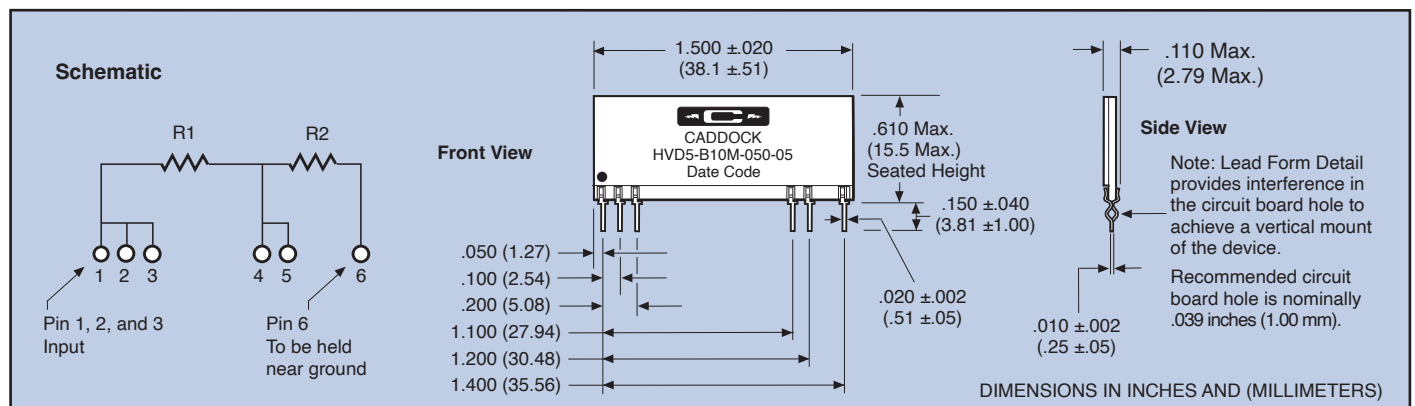
Custom performance available in these Type HVD Voltage Dividers

These Type HVD Voltage Dividers, with the same total resistance value (10 Meg, 20 Meg, and 50 Meg), can be manufactured with a custom R2 Resistance Value, to provide a custom Voltage Divider Ratio between 100:1 and 1,000:1.

Or, to optimize the cost of the device, a lower voltage rating, a reduced ratio tolerance of 0.10% or looser, a Ratio TC of 10ppm/°C or looser, and/or a reduced operating temperature range can be specified.

These specific devices will be assigned and marked with a unique Part Number and are available with an MOQ of 1000 pieces.

For assistance, contact Caddock Applications Engineering by phone (541-496-0700) or email: caddock@caddock.com



CADDOCK ELECTRONICS, INC.
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