

# D SERIES

## Microsize High Voltage Biasing Supply

The D Series of high voltage power supplies is designed to meet the needs of customers with low-profile applications. These ultra-compact modules are adapted to controlling photo detectors that require high-bias voltages and currents. D Series PCB-mount high-voltage power supplies feature a lightweight design, state-of-the-art surface-mount technology, and five-sided metal enclosures.

- 4 models from 0 to 1kV through 0 to 6kV
- 1, 2, 4 or 6 watts of output power
- 15 or 24 Volts DC Input
- Low profile and lightweight
- PCB flat mounting
- Adjustable from 0 to full output
- Tight line/load regulation
- Output current limit protection
- Low ripple (<0.02% peak to peak)
- Buffered voltage and current monitoring



### Typical applications for the D Series include:

- |                                |                               |
|--------------------------------|-------------------------------|
| Avalanche Photo Diodes (APD)   | Image Intensifiers (II)       |
| Electrostatic Chuck (E-chuck)  | Insulator Testing             |
| E-Beam Lithography and Welding | Lithography                   |
| Focused Ion Beam (FIB)         | Microchannel Plates (MCP)     |
| Gas Chromatography             | Photodiodes (PD)              |
| Geiger Muller Tubes (GM Tubes) | Photomultiplier Tubes (PMT)   |
| General Laboratory             | Scanning Electron Microscopes |
| High Voltage Testing           | Spectrometer                  |

Please contact UltraVolt's customer service department for an analysis of your requirements.

PARAMETERS	SPECIFICATIONS	UNITS
Input voltage $V_{in}$ (pins 2 & 3)	15VDC $\pm 1.5V$ or 24VDC $\pm 2V$ , according to type	VDC
Input current	Example for a 15VDC, output 6000V, 1mA model: inhibition mode: 27mA at no load & HV = 6000V 46mA, at full load < 630mA	-
Polarity	fixed positive or negative	-
Output Voltage	0 to 1000      0 to 2000      0 to 4000      0 to 6000	VDC
Output Power	1   2   4   6   1   2   4   6   1   2   4   6   1   2   4   6	W
Output Current	1   2   4   6   0.5   1   2   3   0.25   0.5   1   1.5   0.17   0.33   0.67   1	mA
Programming (pins 4 & 6)	Via external voltage source 0 to +5V $\pm 0.1\%$ at full scale, and input impedance = 94k $\Omega$	-
Max. output current $I_{out}$	Limited to 110% of nominal current	-
Load voltage regulation	$\pm 0.01\%$ of full output voltage for no load to full load	-
Line voltage regulation	$\pm 0.01\%$ of full output voltage over specified input voltage range	-
Residual ripple	< 0.02% peak-to-peak at full load	-
Temperature coefficient	100	PPM/ $^{\circ}C$
Output HV monitoring (pin 7) {still operating in inhibition mode}	Analog 0 to +5V buffered output signal, accuracy $\pm 0.2\%$ Output impedance = 1k $\Omega$ Temperature coefficient: 50ppm/ $^{\circ}C$ for $\leq 4kV$ units, 100ppm/ $^{\circ}C$ for 6kV units	-
Output current monitoring (pin 5) {still operating in inhibition mode}	Analog 0 to +5V buffered output signal, accuracy $\pm 2\%$ Output impedance = 1k $\Omega$ Temperature coefficient: 100ppm/ $^{\circ}C$	-
HV ON/OFF (pin 1)	To disable (opened remote interlock) or enable (closed remote interlock)	-
Operating temperature	-10 to +65, Full load, Max Eout, Case Temp	$^{\circ}C$
Storage temperature	-10 to +70	$^{\circ}C$
Safeguards	<ul style="list-style-type: none"> <li>• Protected against reverse <math>V_{in}</math></li> <li>• Auto inhibition if <math>T_{case} &gt; 75^{\circ}C</math></li> <li>• Soft start feature: the start is guaranteed with no overshoot</li> <li>• HV setting internally limited to 5.3V</li> </ul>	-

Specifications subject to change without notice.



Making High Voltage Easier!®

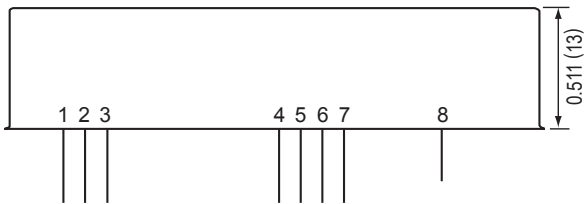
Higher Service, Higher Performance, Higher Reliability

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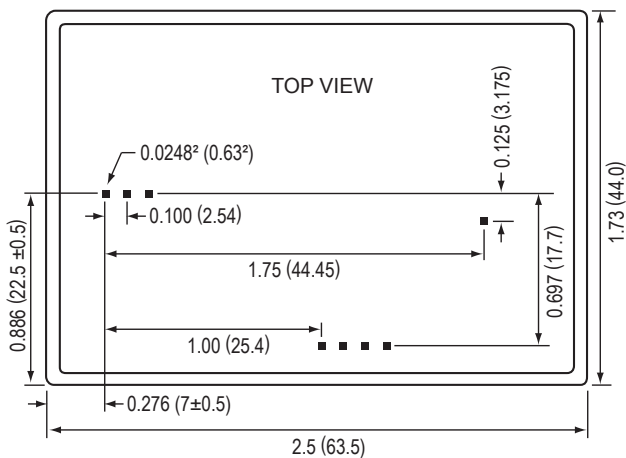
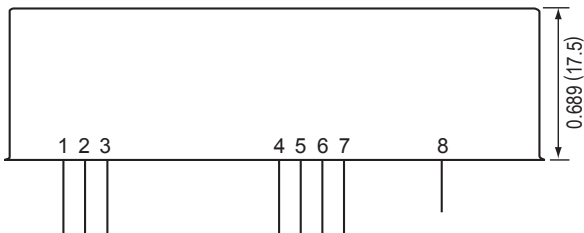
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## Microsize High Voltage Biasing Supply

1-4KV, 1-4W



1-4KV, 6W AND 1-6KV, 1-6W



CONNECTIONS	
PIN	FUNCTION
1	Enable/Disable
2	Power Ground
3	Positive Power Input
4	Signal Ground
5	Iout Monitor
6	Remote Adjust Input
7	Eout Monitor
8	HV Output

### CONSTRUCTION

Tin Steel Plate, thickness 0.5mm  
Insulation: fully potted in an epoxy resin

### SIZE

Volume:  
1-4kV, 1-4W: 2.21 in<sup>3</sup> (36.2cc)  
1-4kV, 6W and 1-6kV, 1-6W: 2.97 in<sup>3</sup> (48.6cc)  
Weight:  
1-4kV, 1-4W: 2.54 oz (72g)  
1-4kV, 6W and 1-6kV, 1-6W: 3.00 oz (85g)

### TOLERANCE

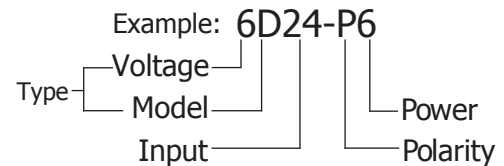
Overall  $\pm 0.0118$ " (0.3)  
Pin to pin  $\pm 0.0039$ " (0.1)  
Case to pin  $\pm 0.0591$ " (1.5)

### NOTES

Standard case length, width, and height specs are  $\pm 0.050$ " (1.27)  
Pin length  $> 0.24$ " (6), spacing 0.1" (2.54)

### ORDERING INFORMATION

Type	0 to 1,000 VDC Output	1D
	0 to 2,000 VDC Output	2D
	0 to 4,000 VDC Output	4D
	0 to 6,000 VDC Output	6D
Input	15VDC Nominal	15
	24VDC Nominal	24
Power	Watts Output	1
	Watts Output	2
	Watts Output	4
	Watts Output	6
Case	Tin Steel Case	(Standard)
Polarity	Positive Output	-P
	Negative Output	-N



Non-RoHS compliant units are available. Please contact the factory for more information.

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\*The D Series is not available in all territories. Please contact an UltraVolt Applications Engineer for details concerning sales in your area.



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1800 Ocean Avenue, Ronkonkoma, NY 11779  
Phone: 1-631-471-4444 Fax: 1-631-471-4696 www.ultravolt.com