

# US SERIES

## Microsize, Micropower High Voltage Power Supply

At only 0.35in<sup>3</sup> (5.75cc), the highly-compact microsize US Series is specially designed to meet the needs of design engineers working with commercial, military, industrial, and research applications. These modules allow customers with critical size requirements access to voltages up to 500V.

- 4 models from 0 to 200V, 300V, 400V, or 500V
- 100 milliwatts of output power
- Tight line/load regulation
- Arc and short circuit protection
- 5 or 12 Volts DC Input
- TTL enable/disable
- Miniature and lightweight
- PCB flat mounting
- Temperature coefficient of 50ppm/°C
- Optional flying lead for HV output



- Low ripple
- Low noise due to metal shielding
- 2.5V reference

Typical applications for the US Series include the following:

Bias Supplies	Fiber-optic Telecommunications
Avalanche Photo Diodes (APD)	Particle Physics
Silicon Photomultipliers (SiPM)	Laser Range Finders

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

PARAMETER	SPECIFICATION				UNITS
Input voltage $V_{in}$ (pins 1 & 2)	5VDC $\pm 0.5$ or 12 to 15 $\pm 0.5$				VDC
Input current	Inhibition mode: $< 5$ at full output voltage, full load:				mA
	$< 65$ (200Vout)	$< 60$ (300Vout)	$< 55$ (400Vout)	$< 50$ (500Vout)	mA
Polarity	Fixed positive or negative				
Output Voltage	0 to 200	0 to 300	0 to 400	0 to 500	VDC
Output Current	500	330	250	200	$\mu$ A
HV setting (pin 3)	Via external potentiometer, minimum resistance 10k $\Omega$ or Via external voltage source 0/2.5V $\pm 0.5\%$ at full scale, and input impedance $> 1M\Omega$				-
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	$< 0.01\%$ peak-to-peak at full output voltage and current				-
Temperature coefficient	$< 50$				PPM/°C
Output HV monitoring (pin 2)	0/2.5V signal Accuracy : $\pm 0.2\%$ Output impedance : 1k $\Omega$				-
Output reference voltage (pin 4 - optional)	2.5V $\pm 0.5\%$ , TC: 50ppm/°C, Max. output current : 1mA				-
HV power ON/OFF (pin 5)	ON: 0 volt, connected to ground OFF: not connected Open collector compatible				-
Operating temperature	-10 to +65, Full load, Max Eout, Case Temp				°C
Storage temperature	-40 to +70				°C
Safeguards	Output current internally limited Soft start feature: the start is guaranteed with no overshoot				-

Specifications subject to change without notice.



Making High Voltage Easier!®

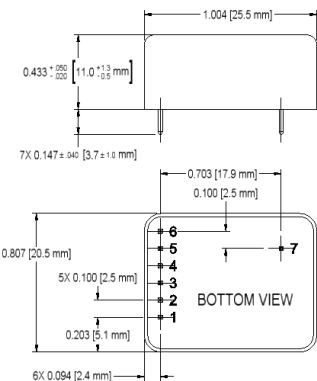
Higher Service, Higher Performance, Higher Reliability

©2011, UltraVolt Inc. All rights reserved.

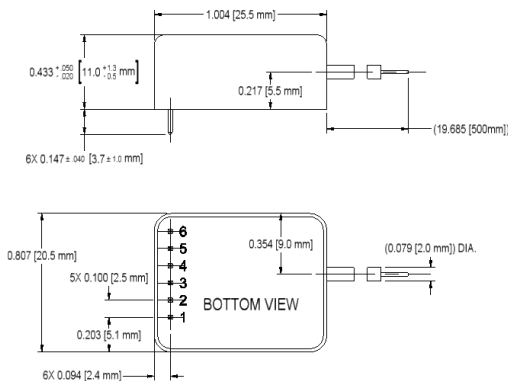
# US SERIES

## Microsize, Micropower High Voltage Power Supply

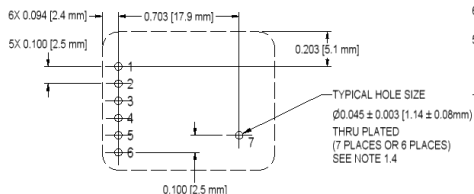
STANDARD



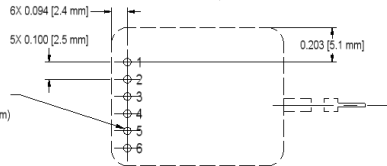
WITH -WS OPTION



PCB MOUNTING (TOP VIEW)



PCB MOUNTING (TOP VIEW)



CONNECTIONS	
PIN	FUNCTION
1	Positive Power Input
2	Power Ground
3	Remote Adjust Input
4	+2.5VDC Reference Output
5	Enable/Disable
6	Eout Monitor
7	HV Output

Note: Mounting tabs must be connected to ground.



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

### CONSTRUCTION

Steel, tin plated, thickness 0.02" (0.5)  
Insulation: fully potted in an epoxy resin

### SIZE

Volume: 0.351in<sup>3</sup> (5.750cc)  
Weight: 0.459oz (13g)

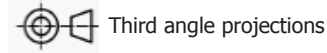
### TOLERANCE

Overall ±0.030" (0.76)  
Pin to Pin ±0.015" (0.38)  
Case to Pin ±0.030" (0.76)

### NOTES

Pin length > 0.078" (2), spacing 0.1" (2.54)  
Optional lead: coaxial cable (RG178), diameter = 0.079" (2), length = 19.685" (500)

### DRAWING VIEWS



ORDERING INFORMATION		
Type	0 to 200 VDC Output	0.2US
	0 to 300 VDC Output	0.3US
	0 to 400 VDC Output	0.4US
	0 to 500 VDC Output	0.5US
Input	5VDC Nominal	5
	12VDC Nominal	12
Power	Watts Output	0.1
Case	Steel, Tin Plated Case	(Standard)
Polarity	Positive Output	-P
	Negative Output	-N
Option	Output voltage lead wire	-WS

Example: 0.5US5-P0.1-WS



Popular accessories ordered with this product include the PCB-CONN-US.



Rev. F 2/14

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



Making High Voltage Easier!®

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