Advanced Energy®

ULTRAVOLT® US SERIES

MICRO-SIZED HIGH VOLTAGE POWER SUPPLIES

Single-output micro-sized HV modules

Measuring only 5.75 cc (0.35 in³), the highly compact, micro-sized US series is specially designed to meet the needs of design engineers working with commercial, military, industrial, and medical applications. These modules allow access to voltages up to 500 V for customers with size-critical requirements.

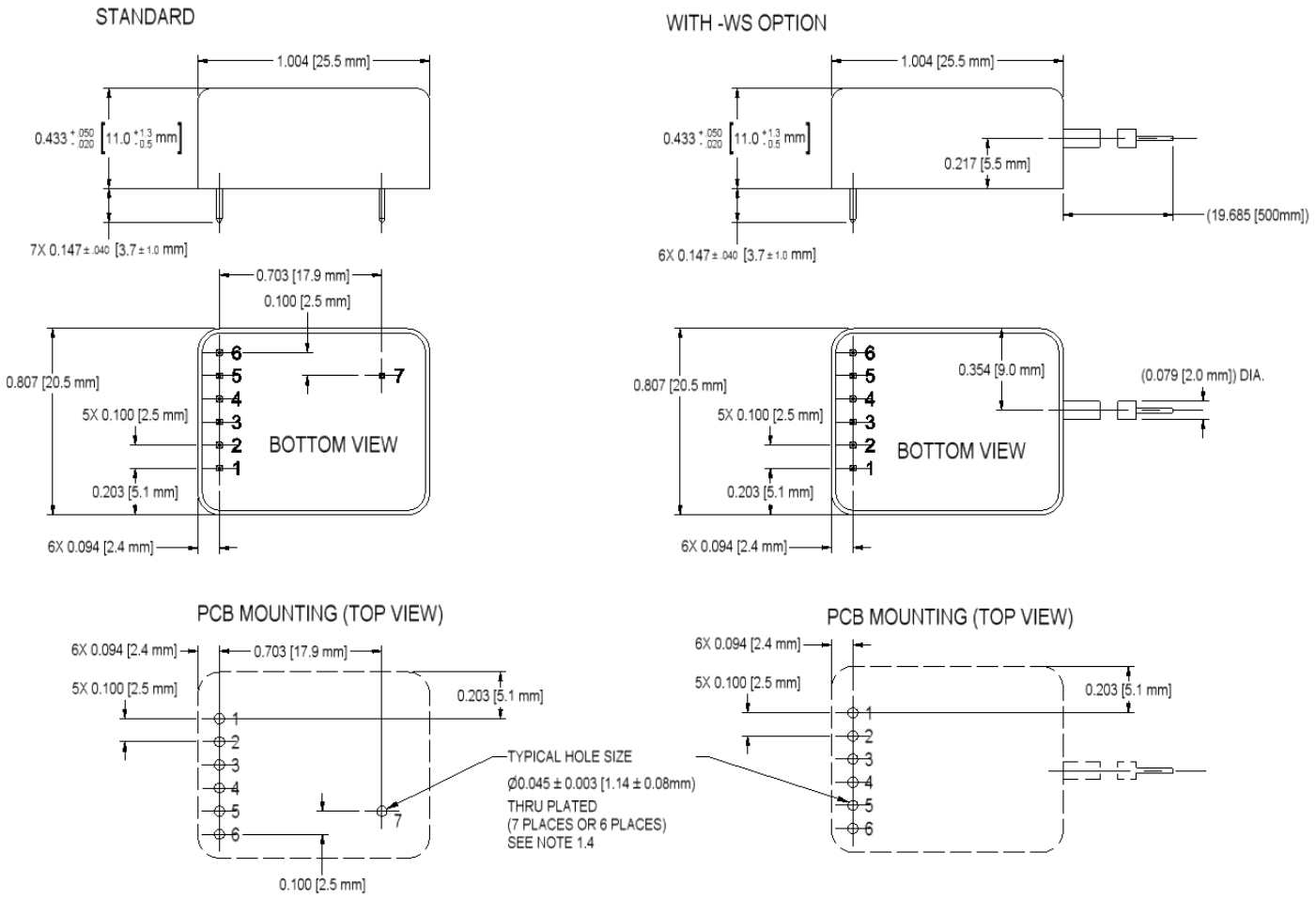
Features

- Micro-sized: 5.75 cc
- Lightweight: 13 g
- PCB flat mounting: 11 mm height
- 4 models from 0 to 200 V to 500 V
- 100 mW output power
- Low ripple < 0.01% peak to peak
- Tight line/load regulation < ±0.01%
- Low temperature coefficient < ±50 ppm per °C
- Programmable HV output ±0.5% F.S.
- Output arc and short circuit protection
- 5, 9 or 12 VDC Input
- Precision 2.5 V reference
- TTL enable/disable/inhibit
- Output voltage monitor
- Metal case for low radiated noise
- Optional flying lead for HV output

Typical Applications

- Small, lightweight, portable devices
- Fiber-optic telecom detectors
- Particle physics detectors
- Laser range finder detectors
- Thin-film bias
- Avalanche photo diodes (APD)
- Silicon photomultipliers (SiPM)
- Multi-pixel photon counter (MPPC)
- Ionization detectors
- Ultrasonic transducers
- Small PZT drivers
- ATE leakage testing
- Bias supplies

PARAMETER	SPECIFICATIONS				UNITS
Input Voltage Vin	5 VDC ±0.5 or 12 to 15 ±0.5				VDC
Input Current	Inhibition mode: < 5 at full output voltage, full load:				mA
	< 65 (200 Vout)	< 60 (300 Vout)	< 55 (400 Vout)	< 50 (500 Vout)	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	µA
HV Setting	Via external potentiometer, minimum resistance 10 kΩ or via external voltage source 0/2.5V ±0.5% at full scale, and input impedance > 1 MΩ				-
Load Voltage Regulation	±0.01% of full output voltage for no load to full load				-
Line Voltage Regulation	±0.01% of full output voltage over specified input voltage range				-
Residual Ripple	< 0.01% pk to pk at full output voltage and current				-
Temperature Coefficient	< 50				PPM/°C
Output HV Monitoring	0/2.5 V signal				-
	Accuracy: ±0.2% F.S.				
	Output impedance: 1 kΩ				
Output Reference Voltage	2.5 V ±0.5%, TC: 50 ppm/°C, max output current: 1 mA				-
HV Power ON/OFF	ON: 0 V, 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				



Note: Drawing views: third angle projections.

PHYSICAL SPECIFICATIONS

Construction	Steel, tin-plated, thickness 0.5 mm (0.02″)
	Insulation: fully potted in RTV
Volume	5.750 cc (0351 in³)
Weight	13 g (0.459 oz)
Pin Length	> 2 mm (0.078″), spacing 2.54 mm (0.1″)
Optional Lead	Coaxial cable (RG178), diameter 2 mm (0.079″), length 500 mm (19.685″)

CONNECTIONS

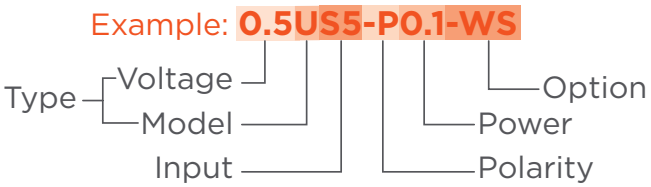
Pin	Function
1	POSITIVE POWER INPUT
2	POWER GROUND
3	REMOTE ADJUST INPUT
4	+2.5 VDC REFERENCE OUTPUT
5	ENABLE/DISABLE
6	EOUT MONITOR
7	HV OUTPUT

Mounting tabs must be connected to ground.

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	5 VDC Nominal	5
	12 VDC Nominal	12
Power	W Output	0.1
Case	Steel, Tin-plated Case	(Standard)
Polarity	Positive Output	-P
	Negative Output	-N
Option	Output Voltage Lead Wire	-WS

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



IEC-60950-1

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

The US series is not available in all territories. Please contact Advanced Energy ford details concerning sales in your area.

For international contact information, visit advanced-energy.com.