



ULTRAVOLT® XS SERIES
EXTRA-SMALL HIGH VOLTAGE BIASING SUPPLIES





Single-output micro-sized HV modules

The XS series of extra-small high voltage power supplies is the smallest regulated DC-to-DC high voltage power supply for applications that require a bias voltage ranging from 0 to 100 V. Measuring only 1.3 cc (0.08 in³), these modules are ideal for use in size-critical applications.

Features

- › Extra-small size: 1.3 cc
- › Lightweight: 5 g
- › PCB flat mounting: 11 mm height
- › Output from 0 to 100 V
- › 100 mW output power
- › Low ripple (< 50 mV peak to peak)
- › Tight line/load regulation < ±0.01%
- › Low temperature coefficient < ±50 ppm per °C
- › Programmable HV output ±2.0% F.S.
- › Output current limit protection
- › 5 or 9 VDC Input
- › Metal case for low radiated noise

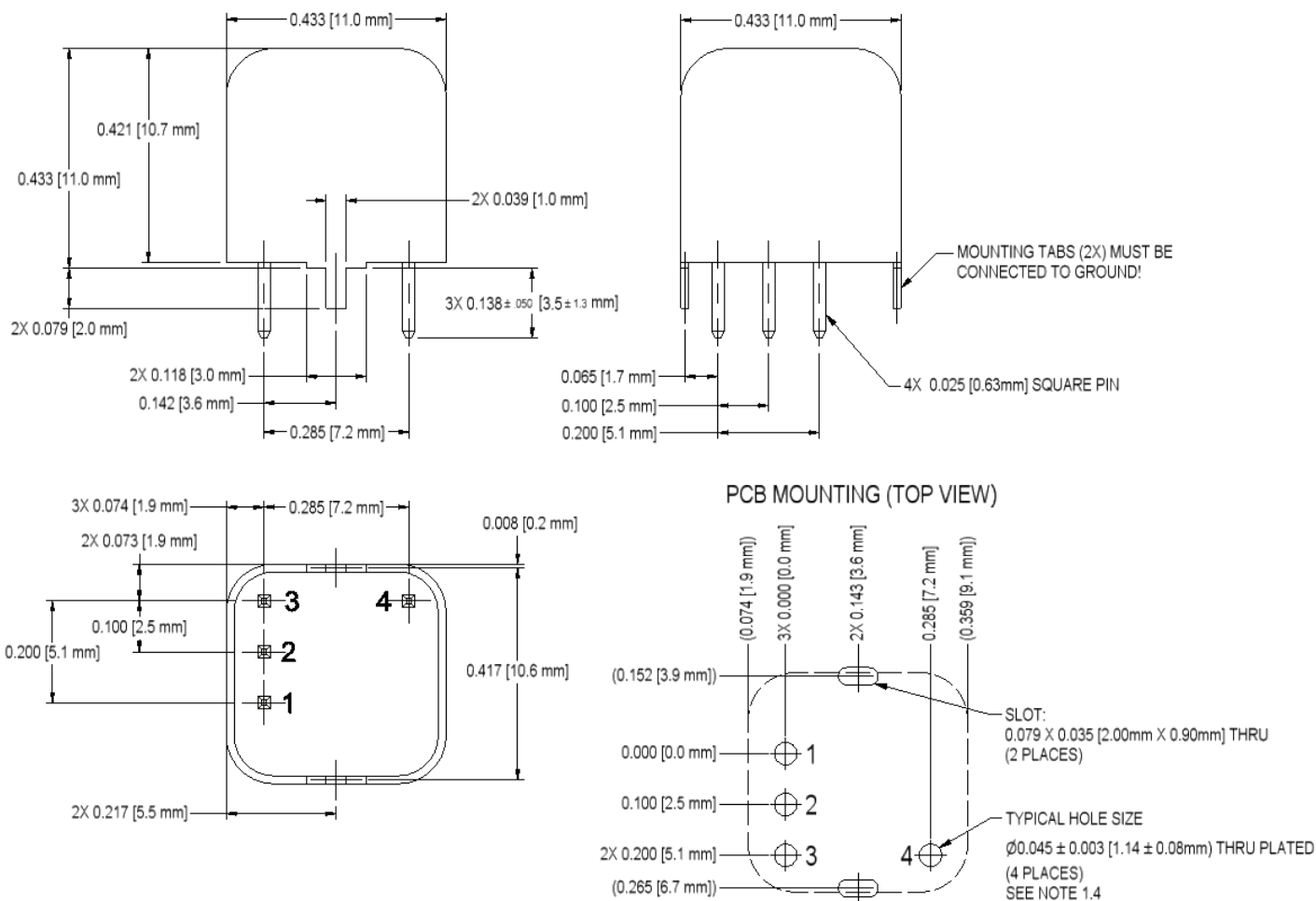
Typical Applications

- › Small, lightweight, portable devices
- › Thin-film bias
- › Avalanche photo diodes (APD)
- › Silicon photomultipliers (SiPM)
- › Multi-pixel photon counters (MPPC)
- › Ultrasonic transducers
- › Small PZT drivers
- › ATE leakage testing
- › Bias supplies





PARAMETER	SPECIFICATIONS	UNITS
Input Voltage V_{in} (Pins 1 and 2)	5 VDC ± 0.5 (recommended) max: 12 VDC (reverse: -0.2 V)	VDC
Input Current	For 0 V output voltage: < 1.6 For 100 V, no load: < 3 At full output voltage, full load: < 50	mA
HV Output V_{out} (Pin 4)	0 to 100 programmable	VDC
Output Power	0 to 100	mW
Polarity	Fixed positive or negative	-
HV Setting (Pin 3)	Via external voltage source 0/2.5 V Accuracy: $\pm 2\%$ at full scale	-
Max Output Current I_{out}	1 nominal	mA
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	< 50 mV pk to pk – ripple can be reduced to < 10 mV by adding an external 100 nF small CMS capacitor	-
Temperature Coefficient	< 50	PPM/ $^{\circ}$ C
Output HV Monitoring	N/A	-
Output Reference Voltage	N/A	-
HV Power ON/OFF	N/A	-
Operating Temperature	-10 to +65, full load, max E_{out} , case temp.	$^{\circ}$ C
Storage Temperature	-10 to +70	$^{\circ}$ C
Safeguards	Output current internally limited Soft start feature: low overshoot	-
Shielding	Ground return is to metal enclosure	-



Note: Drawing views: third angle projections.

PHYSICAL SPECIFICATIONS

Construction	Steel, tin-plated, thickness 0.5 mm (0.02") Insulation: fully potted in RTV
Volume	1.331 cc (0.081 in ³)
Weight	5 g (0.176 oz)
Pins	
Gold-plated	0.63 mm (0.025") square
Length	> 2 mm (0.079")
Spacing	2.54 mm (0.1")

CONNECTIONS

Pin	Function
1	POSITIVE POWER INPUT
2	GROUND RETURN
3	REMOTE ADJUST INPUT
4	HV OUTPUT

Mounting tabs must be connected to ground.

ORDERING INFORMATION

Type	0 to 100 VDC Output	0.1XS
Input	5 VDC Nominal	5
Power	W Output	0.1
Case	Steel, Tin-plated	(Standard)
Polarity	Positive Output	-P
	Negative Output	-N

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

Example: **0.1XS5-PO.1**



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

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



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

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