

# XS SERIES

## Extra-small High Voltage Biasing Supply



The XS Series of extra-small high-voltage power supplies is the smallest **regulated** DC-DC high-voltage power supply for applications that require a bias voltage ranging from 0 to 100V. At only 0.08in<sup>3</sup> (1.3cc), these modules are ideal for use in size-critical applications.

- Output from 0 to 100V
- 100 milliwatts of output power
- Tight line/load regulation
- Output current limit protection
- 5 Volts DC Input
- Extra-small and lightweight
- PCB flat mounting
- Temperature coefficient <50ppm/°C
- Low ripple (<50mV peak to peak)
- Low noise due to metal shielding

Typical applications for the XS Series include the following:

- |                                   |            |
|-----------------------------------|------------|
| Bias Supplies                     | Thin-film  |
| Avalanche Photo Diodes (APD)      | Ultrasonic |
| Silicon Photomultipliers (SiPM)   |            |
| Multi-pixel Photon Counter (MPPC) |            |

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

PARAMETER	SPECIFICATION	UNITS
Input voltage Vin (pins 1 & 2)	5VDC ±0.5 (recommended) maximum: 12Vdc (reverse: -0.2V)	VDC
Input current	For 0V output voltage: <1.6 For 100V, no load: <3 At full output voltage, full load: <50	mA
HV output Vout (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 0/2.5V Accuracy: ±2% at full scale	-
Max. output current Iout	1 nominal	mA
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	<50mV peak-to-peak – ripple can be reduced to less than 10mV by adding an external 100nF small CMS capacitor	-
Temperature coefficient	<50	PPM/°C
Output HV monitoring	Not available on this product	-
Output reference voltage	Not available on this product	-
HV power ON/OFF	Not available on this product	-
Operating temperature	-10 to +65, Full load, Max Eout, Case Temp	°C
Storage temperature	-10 to +70	°C
Safeguards	<ul style="list-style-type: none"> <li>• Output current internally limited</li> <li>• Soft start feature: low overshoot</li> </ul>	-
Shielding	Ground return is to metal enclosure	-

Specifications subject to change without notice.



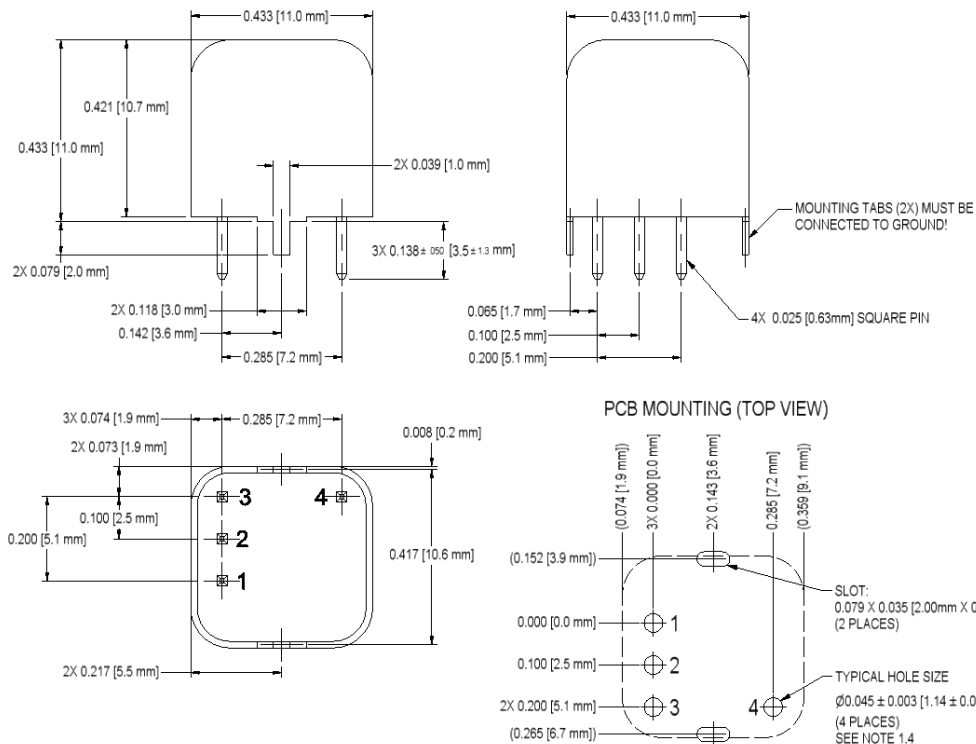
Making High Voltage Easier!®

Higher Service, Higher Performance, Higher Reliability

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## Extra-small High Voltage Biasing Supply



### CONSTRUCTION

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

### SIZE

Volume: 0.081in<sup>3</sup> (1.331cc)  
Weight: 0.176oz (5g)

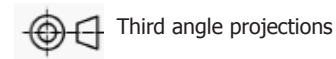
### TOLERANCE

Overall ±0.030" (0.76)  
Pin to Pin ±0.015" (0.38)  
Pin to Tab ±0.020" (0.51)  
Tabs to Tab ±0.020" (0.51)  
Tab features ±0.020" (0.51)

### PINS

Gold Plated 0.025" (0.63) sq.  
Length > 0.079" (2)  
Spacing 0.1" (2.54)

### DRAWING VIEWS



CONNECTIONS	
PIN	FUNCTION
1	Positive Power Input
2	Ground Return
3	Remote Adjust Input
4	HV Output

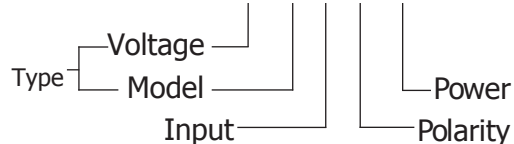
Note: Mounting tabs must be connected to ground.

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



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

Example: 0.1XS5-P0.1



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

Rev. E 2/14

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



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