

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 0.08in³ (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
Input voltage V_{in} (pins 1 & 2)	5VDC \pm 0.5VDC (recommended) maximum: 12Vdc (reverse: -0.2V)
Input current	For 0V output voltage: <1.6mA For 100V, no load: < 3mA At full output voltage, full load: <50mA
HV output V_{out} (pin 4)	0 to 100V programmable
Polarity	Fixed positive or negative
HV setting (pin 3)	Via external voltage source 0/2.5V Accuracy: \pm 2% at full scale
Max. output current I_{out}	1mA nominal
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	<50mV peak-to-peak – ripple can be reduced to less than 10mV by adding an external 100nF small CMS capacitor
Temperature coefficient	<50ppm/°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°C to +50°C
Storage temperature	-10°C to +70°C
Safeguards	<ul style="list-style-type: none"> • Output current internally limited • Soft start feature: low overshoot
Shielding	Ground return is to metal enclosure

Specifications subject to change without notice.

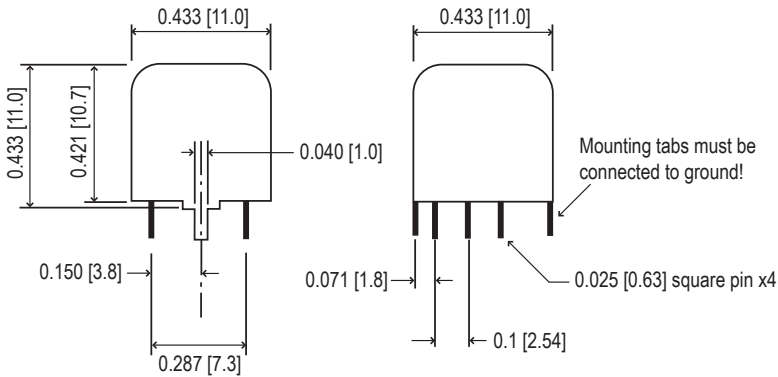
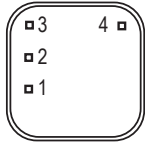


Making High Voltage Easier!®

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CONSTRUCTION

Tin steel plate, thickness 0.02" (0.5)
 Insulation: fully potted in an epoxy resin

SIZE

Volume: 0.081in³ (1.331cc)
 Weight: 0.176oz (5g)

TOLERANCE

Overall ±0.0039" (0.1)
 Pin to Pin ±0.0039" (0.1)
 Tabs location ±0.0079" (0.2)

PINS

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

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

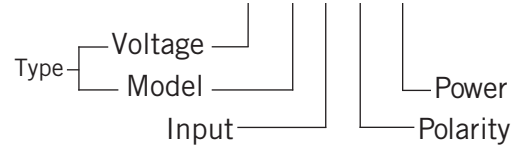
Note: Mounting tabs must be connected to ground.

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



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

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



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

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