Micro APD Series PCB mount ultra compact, regulated, high voltage DC-DC converter



4 standard products Vin: 5Vdc or 12Vdc Vout : 0 to 100V Pout : 100mW



General Description

The smallest regulated DC-DC power supply for APDs and MPPCs that need a bias voltage ranging from 0 to 100V.

Miniature and lightweight	Tight line / load regulation	Low ripple (<50Vp. to p.)
Lightweight	Output current limit protection	Low noise due to metal shielding
PCB flat mounting	Temperature coefficient 50ppm/°C	

Parameters	Specifications
Input voltage Vin (pins 1 & 2)	5Vdc ±0.5Vdc or 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 Vout (pin 7 or lead - optional)	0 to 100V programmable
Polarity	Fixed positive or negative
HV setting (pins 3)	Via external voltage source 0/2.5V \pm 0.1% accuracy at full scale
Max. output current lout	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	<25mV peak-to-peak - ripple can be reduced to less than 5mVp-p by adding an exter- nal 100nF/100V X7R 0805 SMD ceramic capacitor, or to less than 2mVp-p by adding an external 100nF/200V polyester capacitor
Temperature coefficient	<15ppm/°C



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Parameters	Specifications
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	 Output current internally limited Soft start feature : the start is guaranteed without overshoot
Shielding	The case has to be grounded to the customer's circuit board

Main Applications		
 Avalanche Photo Diodes (APD) Silicon Photomultipliers (SiPM) 		

Package Configuration		
Case material	Tin steel plate Thickness 0.5 mm	
Case dimen- sions LxHxW	11 x 11 x 11 mm	
Pins	0.63 x 0.63 mm square pins, length: > 2 mm	
Weight	5 g	
Insulation	Fully potted in an epoxy resin	

Pin Connections		
Line input	1. Vin 2. GND	
HV setting	3. Control input 0/2.5V	
HV output	4. Vout	



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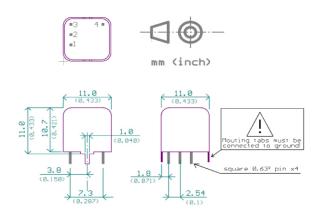
Micro APD Series

PCB mount ultra compact, regulated, high voltage DC-DC converter

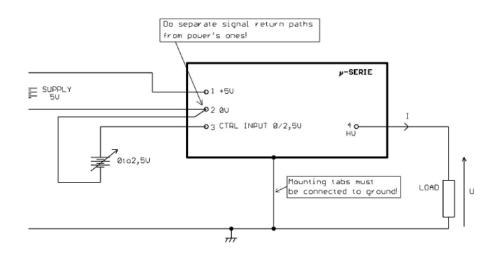
Marking



Mechanical Dimensions



Functional diagram





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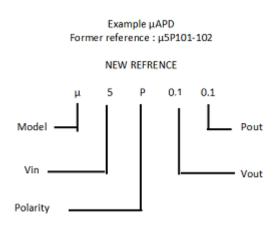
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Ordering information (new reference)			
Model	Name of the series	μ	
Vin	4.5Vdc to 5.5Vdc 11,5Vdc; to 15.5 Vdc	5 12	
Polarity	Positive output vol- tage	Р	
	Negative output vol- tage	Ν	
lout	Output voltage	0.1	
Pout	Output power	0.1	

Output voltage and power code:

The power supply units have a 5-digit ordering code;

- The first 4 letters refer to the series
- The first digit indicate the input voltage value
- The following letter indicates the polarity
- The next digit indicate the nominal output voltage in kV
- The last digit indicates the power in Watt



Ordering example

The ordering code of a positive +500V@100mW psu under 5Vdc is: μ5P0.1-0.1



Non contractual document. All specifications are subject to change without notice.



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