

## A7520

**1 Ch 2000 V/700  $\mu$ A  
High Efficiency HV  
Power Supply  
Module**



## Features



- High efficiency
- 2000 V/700 µA output ranges
- Available with positive or negative polarity
- Compact package: 29x54x16 mm<sup>3</sup> (WxLxH)

## Description

The **A7520** is a high efficiency, low noise single channel High Voltage DC/DC converters in a PCB mount form factor. It provides a programmable and monitorable output voltage ranging from **0** to **2000 V**, when supplied with a **+12 V** input. It is available with either positive or negative output voltage. The output voltage is regulated by providing a **0** to **+2.45 V** external voltage (Vset). The maximum output current is **700 µA**, regulated by providing **0** to **2.2 V** external voltage (Iset). The board is provided with an over-current protection: if a current larger than the Iout maximum value is drawn, the module is not being damaged.

Thanks to its excellent stability and special design, **A7520** power supply is engineered to work in **harsh environment and under severe temperature variations**.

The module is engineered on a **FR4 PCB**, coated and housed in **DC01 steel box**. CAD Altium library components and 3D step models are available on request.

### Safety Features Include:

- Overcurrent detection if the channel attempts to draw a current larger than Iset, the output voltage is varied to keep the current below Iset limit. The channel behaves like a current generator.

## Technical Specifications

### Packaging

Material: DC01; dimension: W=29 mm ; L=54 mm ; H=16 mm

### Number of Channels

1

### Maximum Output Current (I<sub>out</sub>)

2000V

### Contact pins

Male strip header; 2.54mm step; phosphor bronze; UL94V0 insulator

### Protection

Over current short circuit, sparks and humidity

### Operating temperature

-55° C ÷ +80° C

### Storage temperature

-55° C ÷ +85° C

### Output Ripple (Full Load)

Typical 8mVpp, Maximum 10mVpp

### Efficiency

>55% @ V<sub>out</sub> 2000 V (-20° C ÷ +70° C)

### V<sub>out</sub> / Temperature coefficient

< 50 ppm / °C (@ V<sub>out</sub> > 300 V)

### DeltaV<sub>out</sub>/V<sub>out</sub> (for ±5% V<sub>in</sub> variations)

<1.5 X 10<sup>-3</sup> @ full scale

### V<sub>out</sub> vs. V<sub>set</sub> Integral Non Linearity

<±0.2% (-20° C ÷ +70° C)

### V<sub>mon</sub> vs. V<sub>out</sub> Integral Non Linearity

<±0.2% (-20° C ÷ +70° C)

### Voltage Supply (V<sub>in</sub>)

+12 V ± 10%

### Enable

If Enable > 3.5 V Channel active  
If Enable < 1 V Channel disabled

### Vset Input (positive analog command)

0 ÷ +2.45V Important!: Vset must not exceed 2.45V (Vout is not limited)

### Vmon Output (positive analog command)

<±0.2% (-20° C ÷ +70° C)

### Iset input (positive analog command)

0 ÷ +2.2 V

### Imon Output (positive analog monitor)

0 ÷ +2.2 V

### Status OVC bit

0÷5 V (low = OVC)

### Electromagnetic compatibility

Weak emission of electromagnetic impulse and RF; one-piece metal shielding with several ground connections

### Power requirement

< 2.5W;  
@ 2000 V / 700µA (Rload ≈ 5 MΩ)

## Ordering Options

Code	Description	
WA7520NXAAAA	A7520N -2 kV 700 $\mu$ A High Efficiency HV Power Supply Module	RoHS
WA7520PXAAAA	A7520P +2 kV 700 $\mu$ A High Efficiency HV Power Supply Module	RoHS

## Accessories

### DT75XX



HV Carrier Board for A750x PCB Modules

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## Related Products

### A7501



1 Ch 2100 V/100  $\mu$ A High Efficiency HV Power Supply Module

### A7504



1 Ch 4 kV/100  $\mu$ A High Efficiency HV Power Supply Module

### A7508



1 Ch 800 V/50  $\mu$ A High Efficiency HV Power Supply Module (5V in)

### A7502



1 Ch 2100 V/100  $\mu$ A High Efficiency HV Power Supply Module (5V in)

### A7511



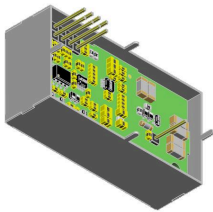
1 Ch 1100 V/1000  $\mu$ A High Efficiency HV Power Supply Module

## A7505



1 Ch 1600 V/500  $\mu$ A High Efficiency HV Power Supply Module

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