

## A7508

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



## Features



- High efficiency
- 800 V/50 µA output ranges
- Available with positive or negative polarity
- Compact package: 29x54x16 mm<sup>3</sup> (WxLxH)

## Description

The **A7508** 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 **800 V**, when supplied with a **+5 V** input. It is available with either positive or negative output voltage. The output voltage is regulated by providing a **0** to **+2 V** external voltage ( $V_{set}$ ). The maximum output current is **50 µA**, regulated by providing **0** to **+2 V** external voltage ( $I_{set}$ ). The board is provided with an over-current protection: if a current larger than the lout maximum value is drawn, the module is not being damaged.

Thanks to its excellent stability and special design, **A7508** 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  $I_{set}$ , the output voltage is varied to keep the current below  $I_{set}$  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>)

50  $\mu$ A at  $\pm$ 800 V

### Output Voltage (V<sub>out</sub>)

0  $\div$  800 V

### Contact pins

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

### Protection

Over current, short circuit, sparks and humidity

### Operating temperature

-40° C  $\div$  +70° C

### Storage temperature

-55° C  $\div$  +85° C

### Output Ripple (Full Load)

Typical < 3 mVpp, Maximum < 5 mVpp

### Efficiency

$\sim$  50% @ V<sub>out</sub> = 800 V (-45° C  $\div$  +70° C)

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

< 50 ppm / °C

### DeltaV<sub>out</sub>/V<sub>out</sub> (for $\pm$ 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

< $\pm$ 0.3% (-60° C  $\div$  +60° C)

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

< $\pm$ 0.3% (-60° C  $\div$  +60° C)

### Uniformity of a lot

< 1 %

### Voltage Supply (Vin)

+5 V  $\pm$  5%

### Enable

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

### Vset Input (positive analog command)

0 ÷ +2 V Important!: Vset must not exceed 2 V (Vout is not limited)

### Vmon Output (positive analog command)

0 ÷ +2 V

### Iset input (positive analog command)

0 ÷ +2 V

### Imon Output (positive analog command)

0 ÷ +2 V

### Status OVC bit

0÷5 V (High = OVC)

### Electromagnetic compatibility

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

### Power requirement

< 100 mW; @ 800 V / 50  $\mu$ A (Rload  $\approx$  17 MOhm)

### Thermal stability (DeltaVout/Vout)

< 50 ppm / °C

## Ordering Options

Code	Description	
WA7508NXAAAA	A7508N -800V 50 $\mu$ A HV Power Supply Module (5V in)	RoHS
WA7508PXAAAA	A7508P +800V 50 $\mu$ A HV Power Supply Module (5V in)	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

### A7504C



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

### 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

### A7526



1 Ch 2600 V/500  $\mu$ A High Efficiency HV Power Supply Module - PCB Mount

## A7502



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

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