

A7502

**1 Ch 2100 V/100 μ A
High Efficiency HV
Power Supply
Module (5V in)**



Features



- High efficiency
- 2100 V/100 μ A output ranges
- Available with positive or negative polarity
- Compact package: 29x54x16 mm³ (WxLxH)

Description

The **A7502** 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 **2100 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 **+2.5 V** external voltage (V_{set}). The maximum output current is **100 μ A**, regulated by providing **0** to **+2.5 V** external voltage (I_{set}). The board is provided with an over-current protection: if a current larger than the I_{out} maximum value is drawn, the module is not being damaged.

Thanks to its excellent stability and special design, **A7502** 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_{out})

100 μ A at +2100 V

Output Voltage (V_{out})

0 \div 2100 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 5 mVpp; Maximum 10 mVpp

Efficiency

\sim 50% @ V_{out} = 2100 V (-45° C \div +70° C)

V_{out} / Temperature coefficient

$< 10^{-4}$ / °C

DeltaV_{out}/V_{out} (for \pm 5% V_{in} variations)

$< 1.5 \times 10^{-3}$ @ full scale

V_{out} vs. V_{set} Integral Non Linearity

$< \pm 0.3\%$ (-60° C \div +60° C)

V_{mon} vs. V_{out} Integral Non Linearity

$< \pm 0.3\%$ (-60° C \div +60° C)

Voltage Supply (V_{in})

+5 V \pm 5%

Enable

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

Vset Input (positive analog command)

0 ÷ +2.5 V Important!: Vset must not exceed 2.5 V (Vout is not limited)

Vmon Output (positive analog command)

<±0.3% (-60° C ÷ +60° C)

Iset input (positive analog command)

0 ÷ +2.5 V

Imon Output (positive analog command)

0 ÷ +2.5 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

500 mW; @ 2100 V / 110 μA (Rload ~ 20 Mega Ω)

Thermal stability (DeltaVout/Vout)

< 10⁻⁴ / °C

Ordering Options

Code	Description	
WA7502NXAAAA	A7502N -2.1kV 100µA HV Power Supply Module (5V in)	RoHS
WA7502PXAAAA	A7502P +2.1kV 100µA HV Power Supply Module (5V in)	RoHS

Accessories

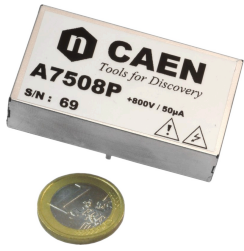
DT75XX



HV Carrier Board for A750x PCB Modules

Related Products

A7508



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

A7504C



1 Ch 4 kV/100 μ A High Efficiency HV Power Supply Module

A7501



1 Ch 2100 V/100 μ A High Efficiency HV Power Supply Module

A7511



1 Ch 1100 V/1000 μ A High Efficiency HV Power Supply Module

A7505



1 Ch 1600 V/500 μ A High Efficiency HV Power Supply Module

A7526



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



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