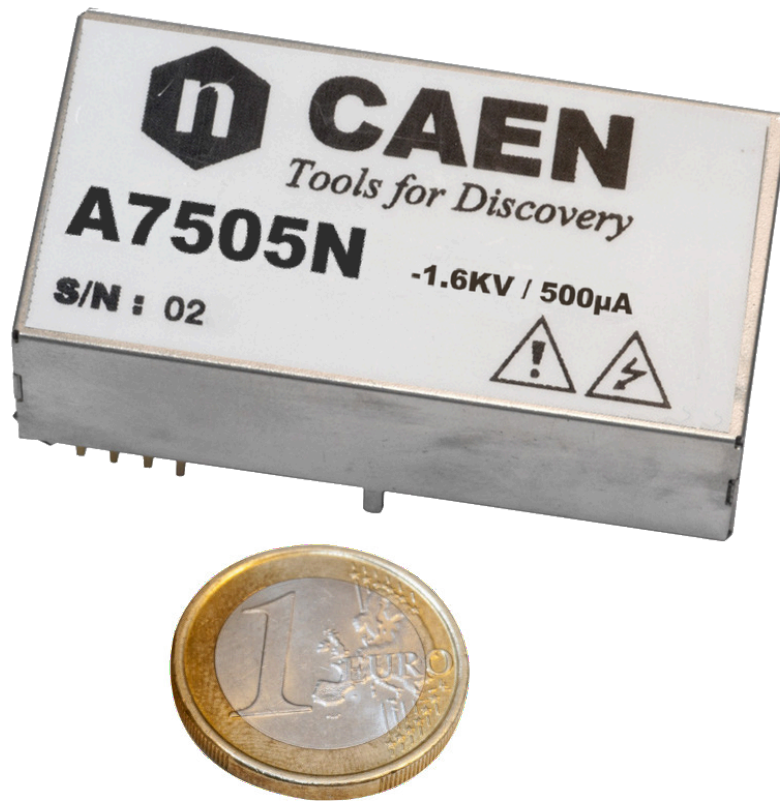


A7505

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



Features



- High efficiency
- 1600 V/500 µA output ranges
- Available with positive or negative polarity
- Compact package: 29x54x16 mm³ (WxLxH)

Description

The CAEN **Mod.A7505** 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 **1600 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 **+2.6 V** external voltage (V_{set}). The maximum output current is **500 µA**, 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, **A7505** 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})

500 μ A at \pm 1600 V

Output Voltage (V_{out})

0 \div 1600 V

Contact pins

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

Protection

Over current, short circuit, sparks and humidity

Operating temperature

-55° C \div +80° C

Storage temperature

-55° C \div +85° C

Output Ripple (Full Load)

Typical < 5mVpp; Maximum < 10mVpp

Efficiency

>60% @ V_{out} >1200 V (0° C \div +40° C)

V_{out} / Temperature coefficient

< 50 ppm / °C (@ V_{out} > 600 V)

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

<1.5 X 10⁻³ @ full scale

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

< \pm 0.2% (-20° C \div +70° C)

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

< \pm 0.2% (-20° C \div +70° C)

Voltage Supply (V_{in})

+12 V \pm 10%

Enable

If Enable > 2.8 V Channel active
If Enable < 1 V Channel disabled

Vset Input (positive analog command)

0 ÷ +2.6 V Important!: Vset must not exceed 2.6 V (Vout is not limited)

Vmon Output (positive analog command)

0 ÷ +2.6 V

Iset input (positive analog command)

0 ÷ +2.5 V

Imon Output (positive analog command)

0 ÷ +2.5 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

<1.6 W; @ 1600 V for Rload ~ 3 MΩ

Thermal stability (DeltaVout/Vout)

< 50 ppm/°C (@ Vout > 600 V)

Ordering Options

Code	Description	
WA7505NXAAAA	A7505N -1.6kV 500µA HV Power Supply Module (12V in)	RoHS
WA7505NXAAAM	A7505N -1.6kV 500µA HV Power Supply Module (12V in) RUGGED	RoHS
WA7505PXAAAA	A7505P +1.6kV 500µA HV Power Supply Module (12V in)	RoHS
WA7505PXAAAM	A7505P +1.6kV 500µA HV Power Supply Module (12V in) RUGGED	RoHS

Accessories

DT75XX



HV Carrier Board for A750x PCB Modules

Related Products

A7501



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

A7502



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

A7505B



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

A7511



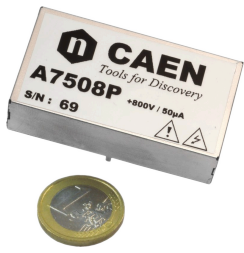
1 Ch 1100 V/1000 μ A High Efficiency HV Power Supply Module

A7504C



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

A7508



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

A7526



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



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