A7520

1 Ch 2000 V/700 µA High Efficiency HV Power Supply Module

1	2000 V	700 µA
No. of Channels	Max Output V	Max Output I

The A7520 is a compact, high-efficiency, low-noise single-channel HV DC/DC converter for PCB mounting. Supplied with +12 V, it provides a programmable and monitorable 0 to 2000 V output, with positive or negative polarity, and a maximum regulated output current of 700 µA. Voltage is set through an external 0 to +2.45 V signal, while current limiting is controlled by 0 to 2.2 V. Over-current protection prevents damage and maintains the current below the Iset limit. The module measures 29x54x16 mm3 and is housed in a coated FR4 PCB with a DC01 steel box.

Overview

Product Highlights

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

Product Description

AT A GLANCE	
No. of Channels	**1**
Max Output V	**2000 V**
Max Output I	**700 µA**
Vset Input (V)	**0 ÷ +2.45**
Vmon Output (V)	**0 ÷ +2.45**
Imon Output (V)	**0 ÷ +2.2**

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.

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Technical Specifications

Packaging	Material: DC01; dimension: W=29 mm ; L=54 mm ; H=16 mm
Number of Channels	1
Maximum Output Current (Iout)	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% @ Vout 2000 V (-20° C ÷ +70° C)
Vout / Temperature coefficient	< 50 ppm / °C (@ Vout > 300 V)
DeltaVout/Vout (for ±5% Vin variations)	<1.5 X 10-3 @ full scale
Vout vs. Vset Integral Non Linearity	<±0.2% (-20° C ÷ +70° C)
Vmon vs. Vout Integral Non Linearity	<±0.2% (-20° C ÷ +70° C)
Voltage Supply (Vin)	+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)

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Ordering Information

ORDERING CODE	DESCRIPTION
WA7520NXAAAA	A7520N -2 kV 700µA High Efficiency HV Power Supply Module
WA7520PXAAAA	A7520P +2 kV 700µA High Efficiency HV Power Supply Module

1. Ordering codes and descriptions are reproduced from the product record. Availability is confirmed at order entry.

Accessories

DT75XX — HV Carrier Board for A750x PCB Modules

Related Products

A7501 — 1 Ch 2100 V/100 µA High Efficiency HV Power Supply Module

A7502 — 1 Ch 2100 V/100 µA High Efficiency HV Power Supply Module (5V in)

A7505 — 1 Ch 1600 V/500 µA High Efficiency HV Power Supply Module

A7508 — 1 Ch 800 V/50 µA High Efficiency HV Power Supply Module (5V in)

A7511 — 1 Ch 1100 V/1000 µA High Efficiency HV Power Supply Module

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