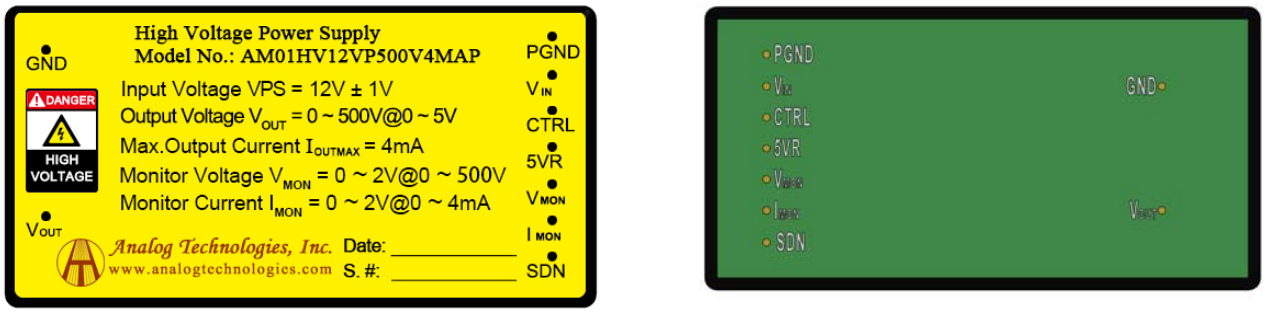


Figure 1. Physical Photos of AM01HV12VP500V4MAP

FEATURES

Low Power Consumption

High Efficiency

High Stability

Output Current and Voltage Monitor

Small Output Ripple, Time Drift, and Temperature Drift

Overload and Short Circuit Protection

Continuous Linear Adjustment for Output Voltage

Metal Enclosure for Zero EMIs

Easy Control and Installation

Customizable

APPLICATIONS

AM01HV12VP500V4MAP is a high stability high voltage power supply, ideal for photomultiplier tube, optical measurement, light control technology, detectors, ion beam implantation, capacitor charging, electron beam welding, nuclear physics, withstand voltage test, medical equipment, precision instruments, etc.

DESCRIPTION

AM01HV12VP500V4MAP is a combination of switching step-up technology and linear regulation, which converts the low input voltage into a stable high output voltage. It comes with output short-circuit protection and a wide range of output voltage adjustments. This high voltage power supply also features ultra-small size, light weight, moisture proof, shockproof, metal enclosure, and zero EMIs.

SHUTDOWN MODE OPERATION

A logic low <0.8V or a 0V on the SDN pin will turn the device off. When SDN is in logic high >1.2V or left unconnected, the product is working well.

SAFETY PRECAUTIONS

The internal protection circuit is provided in the high voltage power supply, but the high voltage short circuit shall be avoided.

Make sure the circuit is insulated perfectly, especially between the high voltage output and the surroundings so as to avoid electronic shock.

SPECIFICATIONS

Table 1. Characteristics. T_A = 25°C, unless otherwise noted

Parameter		Symbol	Condition	Min.	Typ.	Max.	Unit/Note
Input Voltage		V_{IN}		11	12	13	V
Quiescent Input Current		I_{INQQ}	I_{OUT} = 0mA	40	50	60	mA
Full Load Input Current		I_{INFLD}	I_{OUT} = 4.0mA	200	250	300	mA
Input Voltage Regulation Ratio		$\Delta V_{OUT}/\Delta V_{IN}$	V_{IN} = 11V to 13V		0.005		%
Output Voltage		V_{OUT}	I_{OUT} = 0 to 4.0mA	0		500	V
Maximum Output Current		I_{OUTMAX}	V_{IN} = 11V to 13V			4.0	mA
Stability of Reference Voltage		V_{REF}	0 ~ 50°C	4.95	5	5.05	V
Load					125		kΩ
Regulation Mode				0 ~ 5V or 10k potentiometer			
Control Input vs. Output Linearity		$\Delta V_{REF}/\Delta V_{OUT}$			<0.1		%
Load Regulation Rate			0 to 4.0mA		≤0.01		%
Output voltage ripple		V_{OUT_RP}			<0.001		$\%V_{P-P}$
Monitor Voltage		V_{MON}	V_{OUT} = 0 ~ 500V	0		2	V
Monitor Current		I_{MON}	I_{OUT} = 0 ~ 4.0mA	0		2	V
Instantaneous Short Circuit Current		I_{SC}			<500		mA
Shutdown Supply Current		I_{SHDN}				18	mA
Shutdown Logic Input Current		I_{LOGIC}				3	uA
Shutdown Logic Low		V_{INL}			<0.8		V
Shutdown Logic High		V_{INH}			≥1.2		V
Full Load Efficiency		η			≥80		%
Temperature Coefficient		TCV_O	0 ~ 50°C		<0.01		%/°C
Time Drift	Short Time Drift		After 30 min. warm-up		<0.01		%/ h
	Long Time Drift				<0.05		%/d
Operating Temperature Range		T_{opr}		0		50	°C
Storage Temperature Range		T_{stg}		−40		85	°C
External Dimensions				45×23×15			mm
Weight					30		g
					0.07		lbs
					1.06		Oz

TESTING DATA

High voltage power supply testing data (Test condition: the load is 125kΩ)

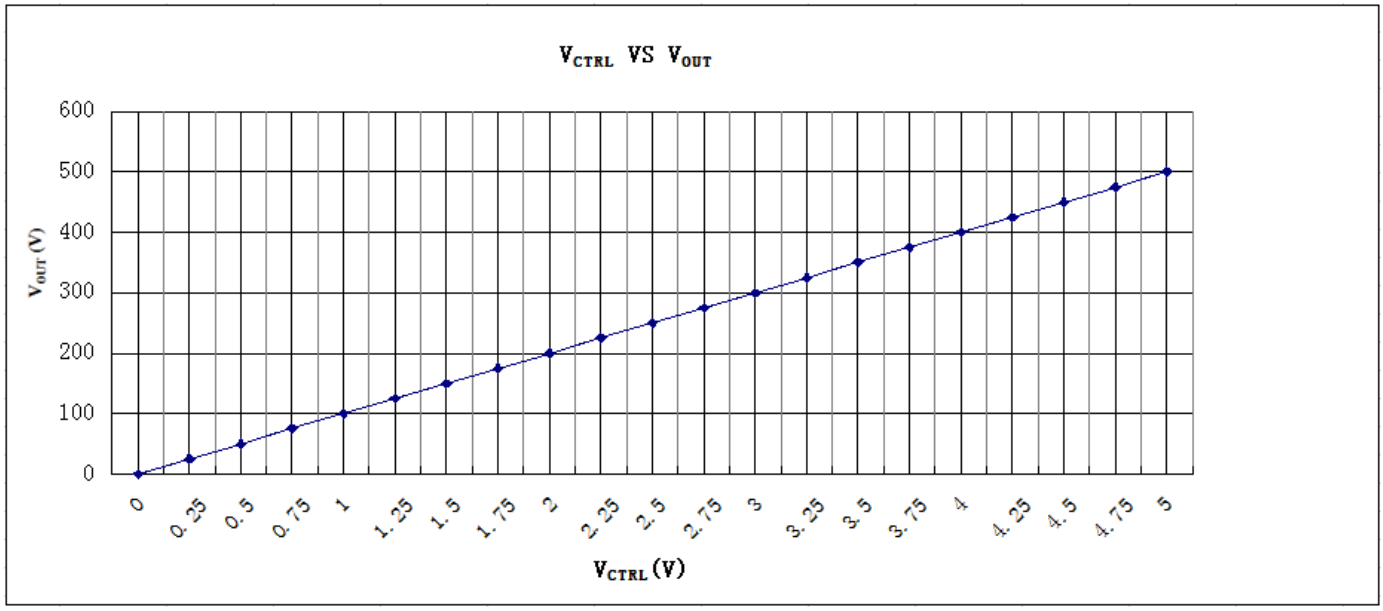
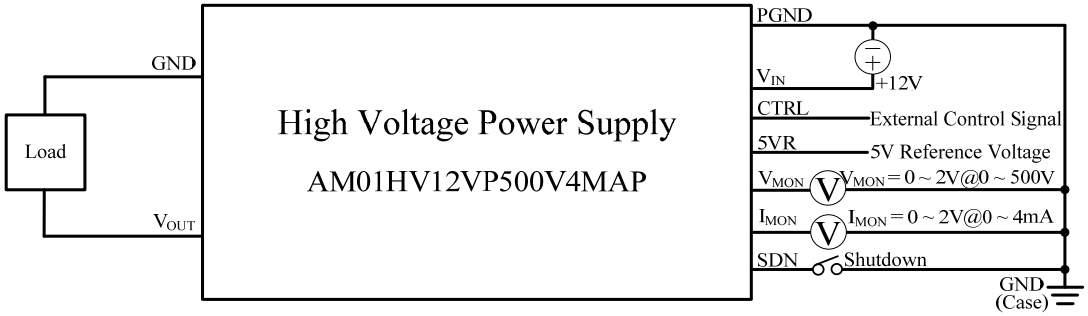


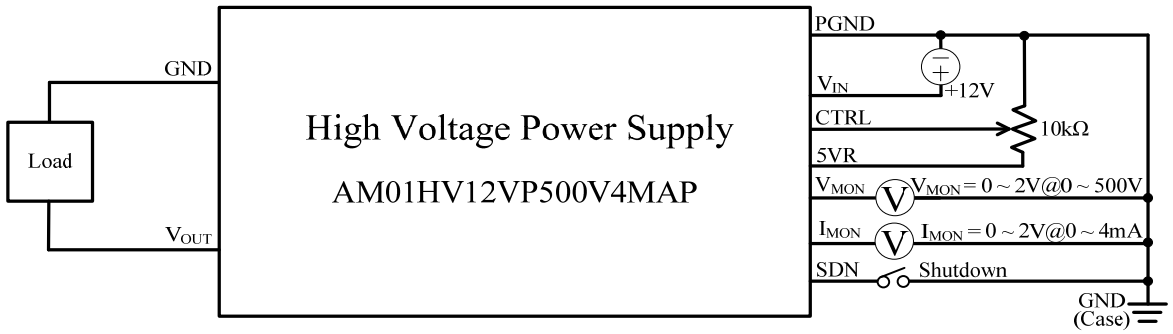
Figure 2. V_{CTRL} vs. V_{OUT}

THE CONNECTION DIAGRAM OF MODULE'S PERIPHERAL CIRCUIT



*5VR: 5V reference voltage can only be used as the power supply for the potentiometer, not for any other parts.
*SDN: Shutdown Logic Low SDN < 0.8V or 0V on the SDN pin will turn off the high voltage output.
Shutdown Logic High SDN > 1.2V or left unconnected will turn on the high voltage output.
*The PGND and GND are connected inside with the case and should be well grounded.

Figure 3. Controlled by External Source



*5VR: 5V reference voltage can only be used as the power supply for the potentiometer, not for any other parts.
*SDN: Shutdown Logic Low SDN < 0.8V or 0V on the SDN pin will turn off the high voltage output.
Shutdown Logic High SDN > 1.2V or left unconnected will turn on the high voltage output.
*The PGND and GND are connected inside with the case and should be well grounded.

Figure 4. Controlled by Potentiometer

NAMING INSTRUCTIONS

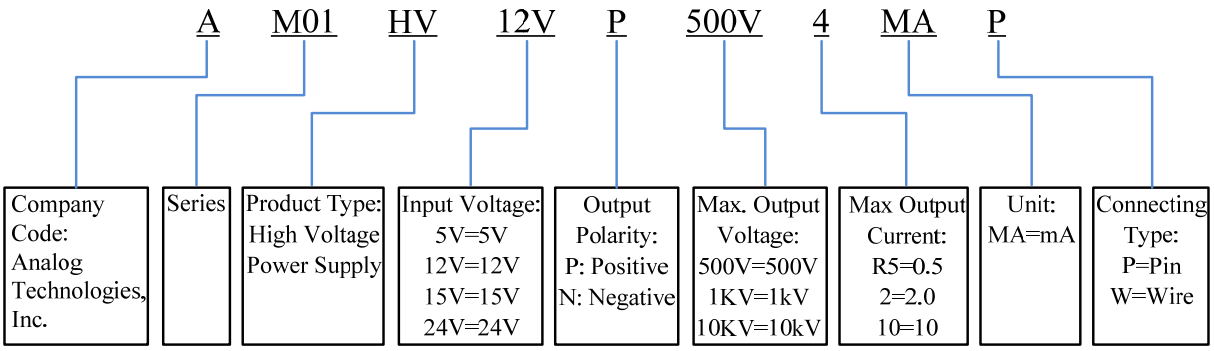


Figure 5. Naming Rules of AM01HV12VP500V4MAP

DIMENSIONS

I. Pin layout

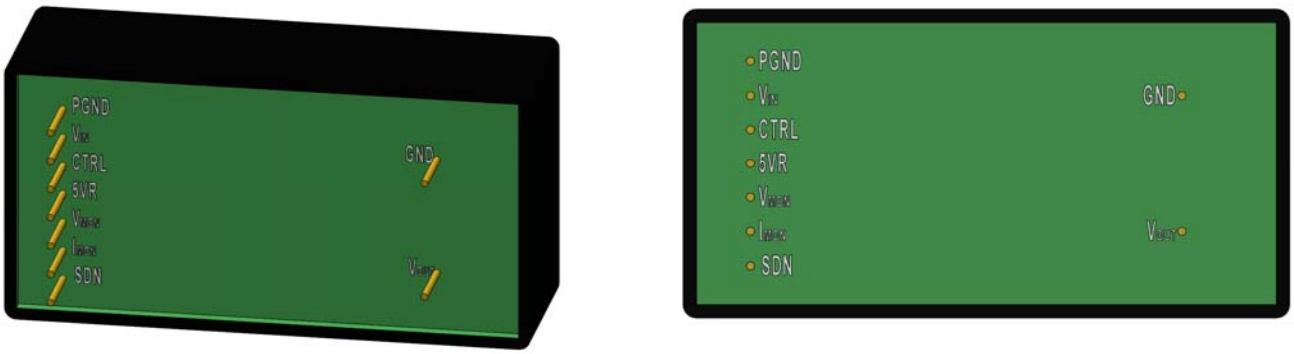


Figure 6. Pin Layout for AM01HV12VP500V4MAP

II. Dimension of AM01HV12VP500V4MAP.

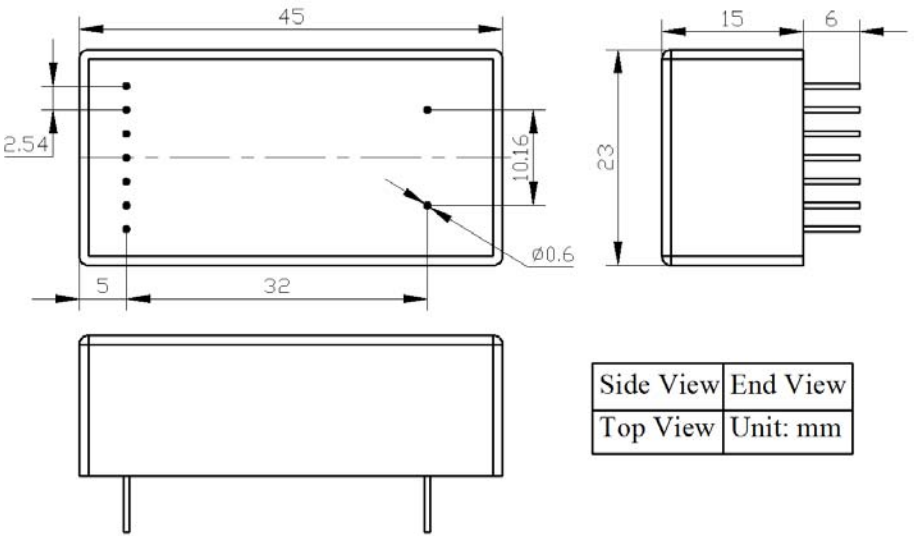


Figure 7. Dimensions for AM01HV12VP500V4MAP

PRICES

Quantity	1~9pcs	10~49pcs	50~99pcs	≥100pcs
AM01HV12VP500V4MAP	$139	$129	$119	$109

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