

Figure 1. Physical Photos of AHVR12V500V20MAP

FEATURES

- Output Voltage Proportional to Input Voltage
- Output Voltage from 0V ~ 500V
- Input Voltage from 0V ~ 12V
- Low Power Consumption
- High Efficiency
- High Stability
- Low Turn-on Voltage 0.7VDC
- Input to Output Isolation
- Small Output Ripple, Time Drift, and Temperature Drift
- Overload and Short Circuit Protection
- Metal Enclosure for Zero EMIS
- Easy Control and Installation

APPLICATIONS

This high stability high voltage power supply can be used for capacitor charging, photomultiplier tube, optical measurement, mass spectrometry, electrophoresis, medical equipment, isolation testing, etc.

DESCRIPTION

AHVR12V500V20MAP comes with a quasi-sine wave oscillator, a fully enclosed transformer, an input and output filter, and a five-sided metal enclosure. These modules present low EMI/RFI, low noise, and low ripple. The input and output are galvanically isolated. Proportional to the input voltage, the output voltage has a typical turn-on voltage as low as 0.7V. It also 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.

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. $T_A = 25^\circ\text{C}$, unless otherwise noted

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit/Note
Input Voltage	V_{IN}		0		12	V
Quiescent Input Current	I_{INQQ}	$I_{OUT} = 0\text{mA}$	300	400	500	mA
Full Load Input Current	I_{INFLD}	$I_{OUT} = 20\text{mA}$	1.3	1.4	1.5	A
Output Voltage	V_{OUT}	$I_{OUT} = 0 \text{ to } 20\text{mA}$	0		500	V
Maximum Output Current	I_{OUTMAX}	$V_{IN} = 12\text{V}$			20	mA
Load				25		$\text{k}\Omega$
Output Voltage Tolerance		At Max V_{OUT} , Full Load		$\leq \pm 5$		%
Output voltage ripple	V_{OUT_RP}			< 0.1		$\%V_{P-P}$
Response Time	$T_{RESPONSE}$	0 to Max V_{OUT} , Full Load		260		msec
Isolation Voltage: Input to Output				3500		V
Switching Frequency	F_{SW}		25		125	kHz
Full Load Efficiency	η			≥ 70		%
Output Voltage Temperature Stability		$-20 \sim 50^\circ\text{C}$		$< \pm 1$		%
Operating Temperature Range	T_{opr}		-10		70	$^\circ\text{C}$
Storage Temperature Range	T_{stg}		-25		90	$^\circ\text{C}$
Humidity		Non-condensing		95		%RH
External Dimensions			71.1 × 43.2 × 21.6			mm
Weight				145		g
				0.32		lbs
				5.11		Oz



TESTING DATA

High voltage power supply testing data (Test condition: the load is 25kΩ)

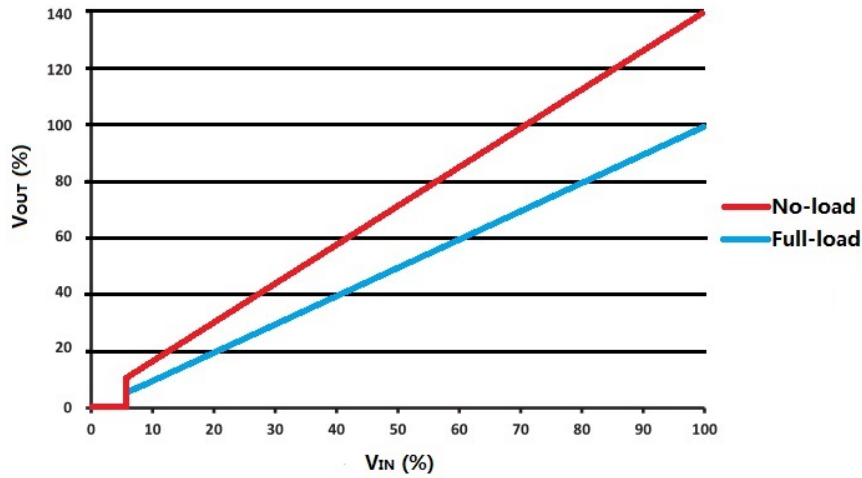


Figure 2. V_{IN} vs. V_{OUT}

Application Notes

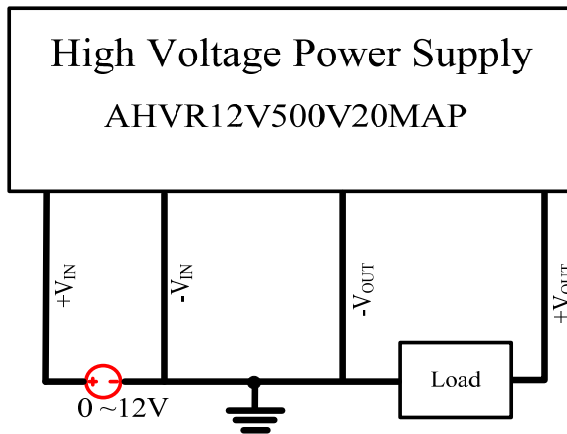


Figure 3. Positive Output

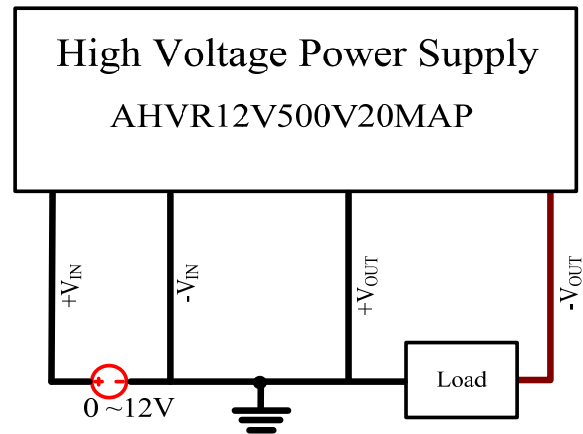


Figure 4. Negative Output

NAMING INSTRUCTIONS

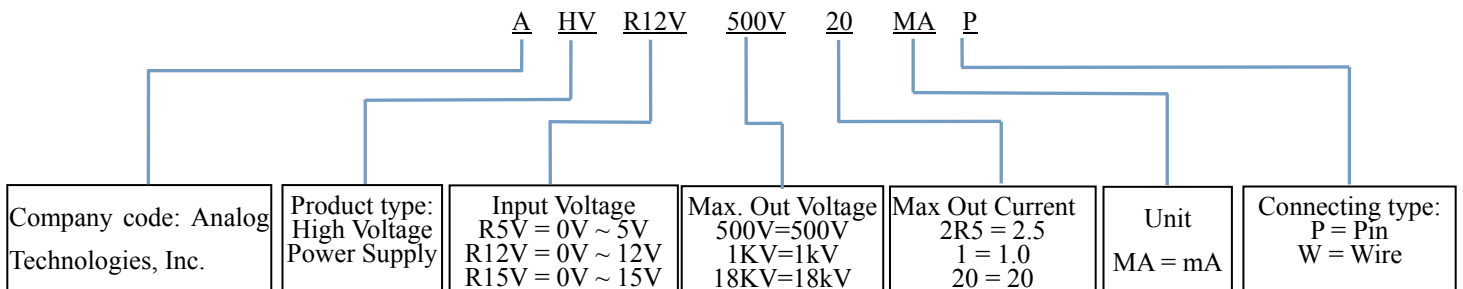


Figure 5. Naming Rules of AHVR12V500V20MAP



DIMENSIONS

I. Pin layout

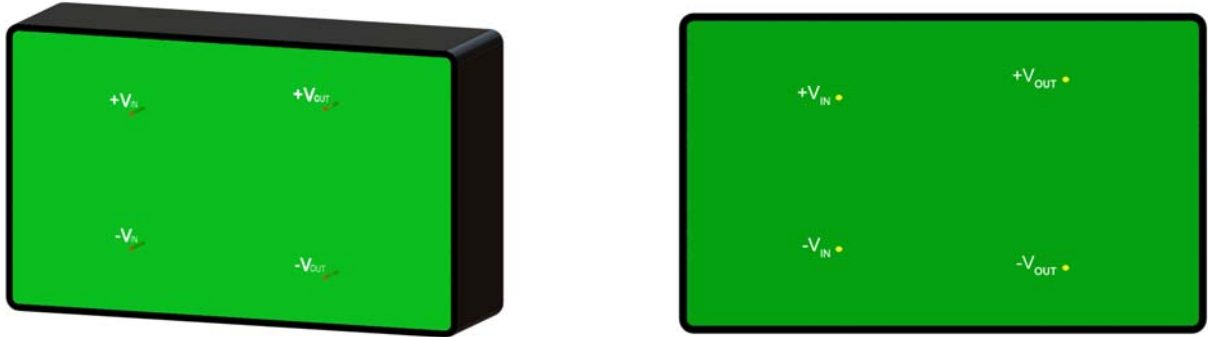


Figure 6. Pin Layout for AHVR12V500V20MAP

II. Dimensions of AHVR12V500V20MAP

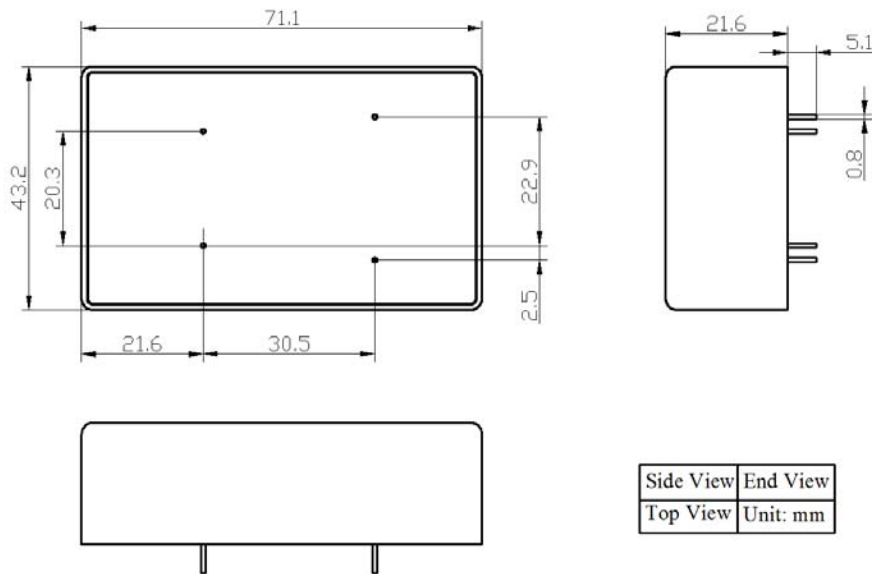


Figure 7. Dimensions for AHVR12V500V20MAP

PRICES

Quantity	1~9pcs	10~49pcs	50~99pcs	≥100pcs
AHVR12V500V20MAP	\$119	\$109	\$99	\$89



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