

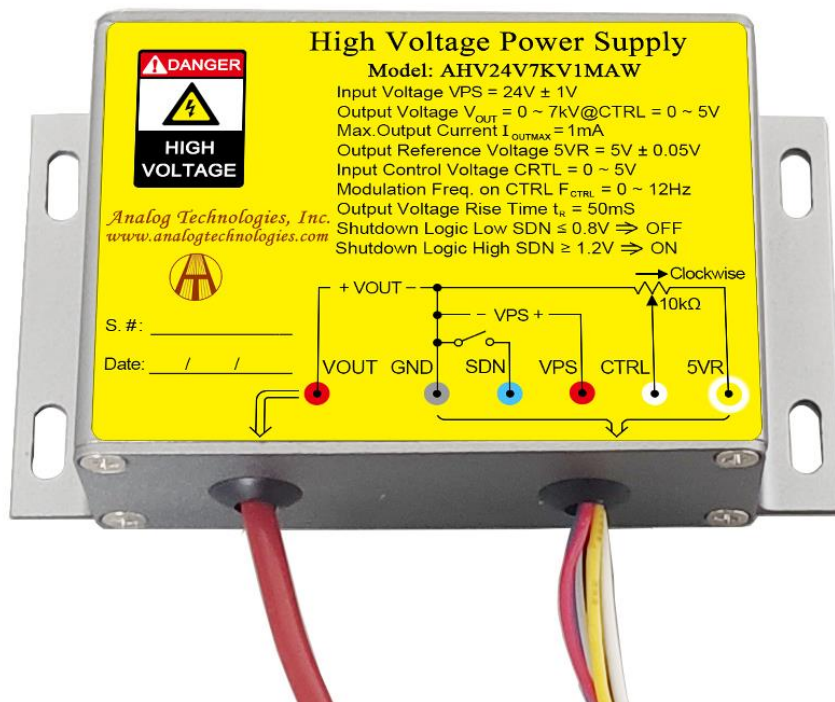


Figure 1.1. Top View of AHV24V7KV1MAW



Figure 1.2. Side View



Figure 1.3. Side View



Figure 1.4. Side View

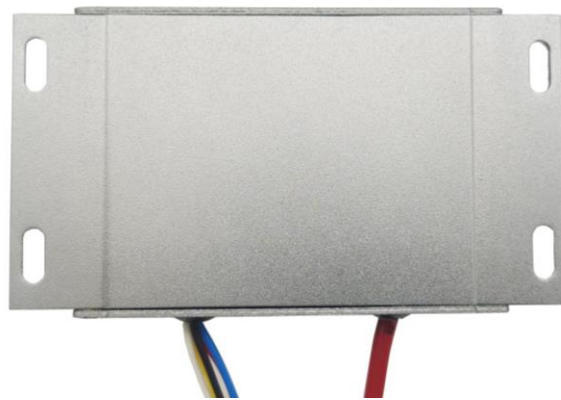


Figure 1.5. Bottom View



## FEATURES

- Input Power Voltage:  $24V \pm 1V$
- Input Current Range: 85mA to 420mA
- Output Voltage: 0 to 7kV@CTRL = 0 to 5V
- Max. Output Current: 1mA
- Reference Voltage:  $5V \pm 0.05V$
- Input Control Voltage: 0 to 5V
- Electronic Shutdown Control Available
- Zero EMIs and Good Heat Sinking by Metal Enclosure

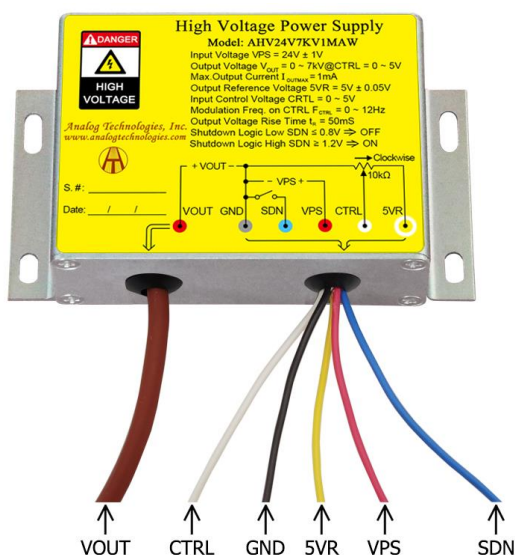


Figure 2. The Connecting Lead Wires of AHV24V7KV1MAW

## APPLICATIONS

This power module, AHV24V7KV1MAW, is designed for achieving DC-DC conversion from low voltage to high voltage as a power supply source which is widely used in scientific research and other fields including:

- X-ray Machine
- Spectral Analysis
- Nondestructive Inspection
- Semiconductor Manufacturing Equipment
- CRT Monitor Test
- Particle Accelerator
- Capillary Electrophoresis
- Particles Injection
- Semiconductor Technology
- Physical Vapor Phase Deposition
- Radio Frequency Amplification
- Electrospinning Preparation of Nanofiber
- Glass / Fabric Coating
- DC Reactive Magnetron Sputtering
- Cyclotron Accelerator

Table 1. Pin Names, Colors, Functions and Specifications.

| No. | Name | Description         | Type                                                 | Color |        | Min. | Typ. | Max. |
|-----|------|---------------------|------------------------------------------------------|-------|--------|------|------|------|
| 1   | SDN  | Shutdown logic low  | Digital input                                        |       | Blue   | 0V   |      | 0.8V |
|     |      | Shutdown logic high |                                                      |       |        | 1.2V |      | 5V   |
| 2   | 5VR  | Reference voltage   | Analog output                                        |       | Yellow |      | 5V   |      |
| 3   | CTRL | Regulation          | Analog input                                         |       | White  | 0V   |      | 5V   |
| 4   | VPS  | Input voltage       | Power supply input                                   |       | Red    | 23V  | 24V  | 25V  |
| 5   | GND  | Ground              | Ground for power supply and analog & digital signals |       | Black  |      | 0V   |      |
| 6   | VOUT | Output high voltage | Power output                                         |       | Brown  | 0V   |      | 7kV  |



## DESCRIPTION

Figure 1 shows the actual pictures of AHV24V7KV1MAW. Figure 2 shows its connecting wires. More detail information is given in Table 1. The high voltage output can be set to a constant value between 0V to -7kV by connecting the CTRL port to the central tap of a POT (Potentiometer) or modulated by an AC signal ranging from 0V to 5V, as see Figure 3 and Figure 4 respectively. The output voltage equals to 1400 times the input control voltage:  $V_{OUT} = 1400 \times V_{CTRL}$ .

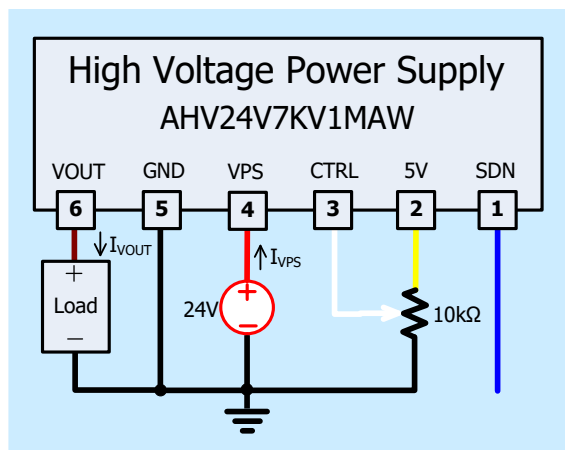


Figure 3. Setting Output to be a Constant Voltage

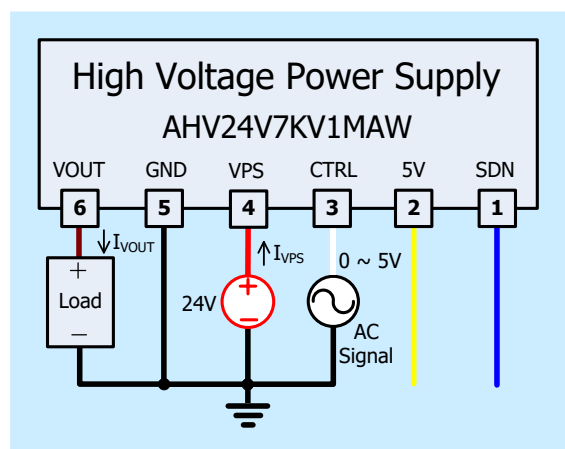


Figure 4. Modulating Output by an AC Signal Source

Please note that the modulation signal must have a low frequency  $\leq 12\text{Hz}$  and the value range must be  $0\text{V} \leq V_{CTRL} \leq 5\text{V}$ . The equivalent input circuit for the CTRL is shown in Figure 5.

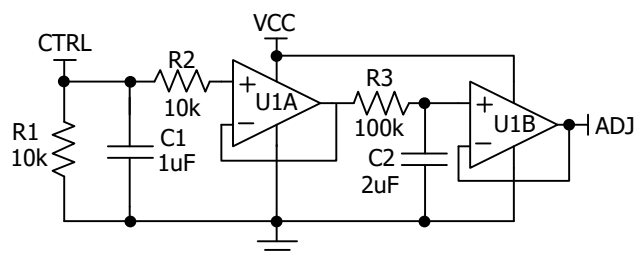


Figure 5. The Equivalent Circuit for CTRL Port

To shutdown AHV24V7KV1MAW, pull down SDN pin to  $< 0.8\text{V}$ ; to turn it on, leave SDN pin unconnected or pull it  $> 1.2\text{V}$ . The maximum voltage allowed on the SDN pin is 5V. The equivalent circuit for SDN port is shown in Figure 6.

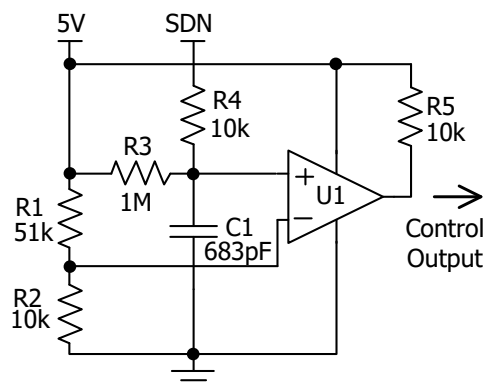


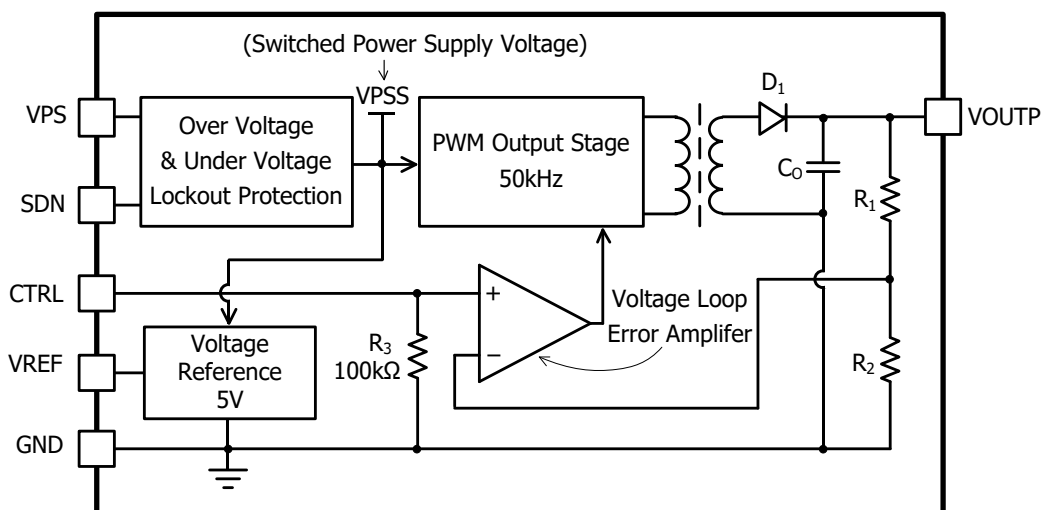
Figure 6. The Equivalent Circuit for SDN Port

## USING AHV24V7KV1MAW

This high voltage power supply must be mounted tightly onto a metal plate, ideally, thus expanding its heating sinking capacity of the metal enclosure. Sufficient ventilation must be provided to keep the power supply surface temperature under  $55^\circ\text{C}$ .

## SAFETY PRECAUTIONS

Although AHV24V7KV1MAW high voltage power supply comes with an over current protection circuit, a short circuit at the output should always be avoided. Make sure the high voltage wire for connecting VOUT node has sufficient insulation capability with its surrounding objects.



$V_{OUTP} = N \times V_{CTRL}$ , where N is the amplification factor:  $N = R_1/R_2$ .

High Voltage Power Supply Function Block Diagram

## SPECIFICATIONS

**Table 2. Characteristics.  $T_A = 25^\circ\text{C}$ , unless otherwise noted.**

| Parameter                                  | Symbol          | Test Conditions                                                                 | Min. | Typ. | Max. | Unit/Note     |
|--------------------------------------------|-----------------|---------------------------------------------------------------------------------|------|------|------|---------------|
| Input Power Supply Voltage                 | $V_{VPS}$       |                                                                                 | 23   | 24   | 25   | V             |
| Input Power Supply Quiescent Current       | $I_{VPS\_QC}$   | $I_{VOUT} = 0\text{mA}$                                                         | 85   | 105  | 115  | mA            |
| Input Power Supply Current at Full Load    | $I_{VPS\_FL}$   | $I_{VOUT} = 1.0\text{mA}$                                                       | 370  | 420  | 470  | mA            |
| Input Power Supply Current at Shutdown     | $I_{VPS\_SHDN}$ | $T_A = -10^\circ\text{C} \sim 55^\circ\text{C}$                                 |      | 16   |      | mA            |
| Modulation Voltage Range on CTRL           | $V_{CTRL}$      |                                                                                 | 0    |      | 5    | V             |
| Modulation Voltage Range Frequency on CTRL | $f_{CTRL}$      |                                                                                 | 0    |      | 12   | Hz            |
| Shutdown Port Current                      | $I_{SDNL}$      | $V_{SDNL} < 0.8\text{V}$                                                        | 4    |      | 4.8  | $\mu\text{A}$ |
|                                            | $I_{SDNH}$      | $1.2\text{V} < V_{SDNL} < 5\text{V}$                                            | 0    |      | 3.6  | $\mu\text{A}$ |
| Shutdown Voltage Logic Low                 | $V_{SDNL}$      |                                                                                 | 0    |      | 0.8  | V             |
| Shutdown Voltage Logic High                | $V_{SDNH}$      |                                                                                 | 1.2  |      | 5    | V             |
| Output Voltage                             | $V_{VOUT}$      | $I_{VOUT} = 0 \sim 1.0\text{mA}$                                                | 0    |      | 7000 | V             |
| Output Current Range                       | $I_{VOUTMAX}$   | $V_{VPS} = 23\text{V} \sim 25\text{V}$                                          | 0    |      | 1.0  | mA            |
| Reference Voltage Output Range             | $V_{5VR}$       | $T_A = -10^\circ\text{C} \sim 55^\circ\text{C}$<br>$I_{5VR} \leq 1\text{mA}$    | 4.95 | 5    | 5.05 | V             |
| Reference Output Current Range             | $I_{5VR}$       | $T_A = -10^\circ\text{C} \sim 55^\circ\text{C}$<br>$V_{5VR} = 0 \sim 5\text{V}$ | 0    |      | 1.0  | mA            |



| Parameter                                         |                  | Symbol                                             | Test Conditions                                                                                                               | Min.                        | Typ.        | Max.           | Unit/Note        |
|---------------------------------------------------|------------------|----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|-----------------------------|-------------|----------------|------------------|
| Output Load Resistance Range                      |                  |                                                    |                                                                                                                               | $\frac{V_{VOUT}}{I_{VOUT}}$ |             | $\infty$       | M $\Omega$       |
| Output Voltage Ripple                             |                  | $V_{VOUT\_RP}$                                     | Bandwidth = 1MHz<br>$R_{LOAD} = 7M\Omega$                                                                                     | $\leq 3.5$                  |             |                | V <sub>P-P</sub> |
| Output Voltage Temperature Coefficient            |                  | $TCV_{VOUT}$                                       | $V_{VPS} = 24V$<br>$V_{CTRL} = V_{5VR} = 5V$<br>$V_{VOUT} = 7kV$<br>$I_{VOUT} = 1mA$<br>$T_A = -10^{\circ}C \sim 55^{\circ}C$ |                             | $\leq 0.01$ |                | %/ $^{\circ}C$   |
| Output Voltage Range v.s. Temperature             |                  | $V_{VOUT}(T)$                                      | $V_{VPS} = 24V$<br>$V_{CTRL} = V_{5VR} = 5V$<br>$V_{VOUT} = 7kV$<br>$I_{VOUT} = 1mA$<br>$T_A = -10^{\circ}C \sim 55^{\circ}C$ | $0.99V_{VOUT}$              | $V_{VOUT}$  | $1.01V_{VOUT}$ | V                |
| Output Voltage Drift                              | Short Term Drift | $\frac{\Delta V_{VOUT}/V_{VOUT}}{\Delta t (min)}$  | $V_{VPS} = 24V$<br>$V_{CTRL} = V_{5VR} = 5V$<br>$V_{VOUT} = 7kV$<br>$I_{VOUT} = 1mA$<br>$T_A = -10^{\circ}C \sim 55^{\circ}C$ |                             | $\leq 0.5$  |                | %/min            |
|                                                   | Long Term Drift  | $\frac{\Delta V_{VOUT}/V_{VOUT}}{\Delta t (h)}$    |                                                                                                                               |                             | $\leq 1$    |                | %/h              |
| Output Voltage Rise Time                          |                  | $t_r$                                              | $V_{VOUT}(t_1) = 700V$<br>$V_{VOUT}(t_2) = 6300V$<br>$R_{LOAD} = 7M\Omega$                                                    |                             | 50          |                | ms               |
| Output Voltage Fall Time                          |                  | $t_f$                                              | $V_{VOUT}(t_2) = 6300V$<br>$V_{VOUT}(t_3) = 700V$<br>$R_{LOAD} = 7M\Omega$                                                    |                             | 100         |                | ms               |
| Mean Time Between Failure                         |                  | MTBF                                               |                                                                                                                               |                             | 1M          |                | h                |
| Instantaneous Short Circuit Current at the Output |                  | $I_{VOUT\_SC}$                                     |                                                                                                                               |                             | $\leq 100$  |                | mA               |
| Load Regulation                                   |                  | $\frac{\Delta V_{VOUT}/V_{VOUT}}{\Delta I_{VOUT}}$ | $V_{VOUT} = 7kV$<br>$I_{VOUT} = 1mA$                                                                                          |                             | $\leq 0.05$ |                | %/mA             |
| Full Load Efficiency                              |                  | $\eta$                                             | $V_{VPS} = 24V$<br>$V_{VOUT} = 7kV$<br>$I_{VOUT} = 1mA$                                                                       |                             | $\geq 70$   |                | %                |
| Operating Temperature Range                       |                  | $T_{opr}$                                          |                                                                                                                               | -10                         |             | 55             | $^{\circ}C$      |
| Storage Temperature Range                         |                  | $T_{stg}$                                          |                                                                                                                               | -20                         |             | 85             | $^{\circ}C$      |
| External Dimensions                               |                  |                                                    |                                                                                                                               | 82×55×28                    |             |                | mm               |
|                                                   |                  |                                                    |                                                                                                                               | 3.23×2.17×1.10              |             |                | inch             |
| Weight                                            |                  |                                                    |                                                                                                                               |                             | 210         |                | g                |
|                                                   |                  |                                                    |                                                                                                                               |                             | 0.46        |                | lbs              |
|                                                   |                  |                                                    |                                                                                                                               |                             | 7.4         |                | Oz               |



## TESTING DATA

Test conditions:  $V_{PS} = 24V$ ,  $T_A = 25^\circ C$ ,  $R_{LOAD} = 7M\Omega$

### DC Testing

The measured output voltage,  $V_{OUT}$ , corresponding to the control port input voltage,  $V_{CTRL}$ , is shown in Figure 7.

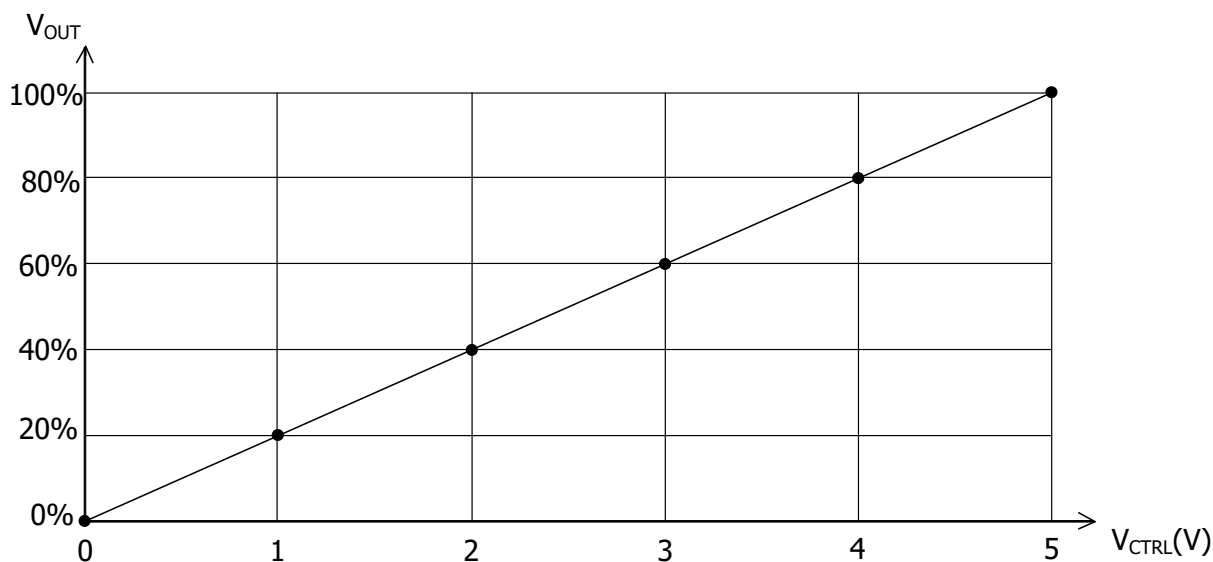


Figure 7.  $V_{CTRL}$  vs.  $V_{OUT}$

### AC Testing

To test the analog modulation function, a triangle and sine-wave voltage signals are applied to the CTRL port as the input source signal respectively. Figure 8 and 9 show both the input signal and the output signal waveforms when using the triangle and sine-wave signals at the CTRL port respectively.

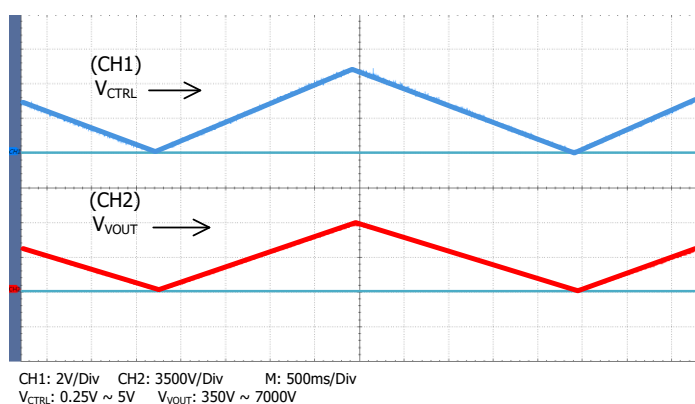


Figure 8. Triangle Wave Modulation

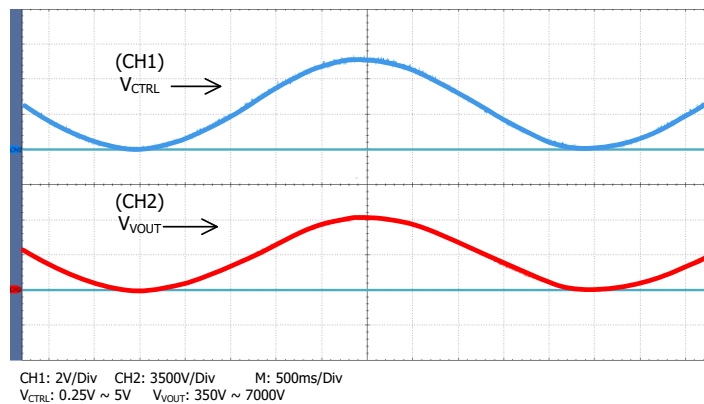


Figure 9. Sine Wave Modulation





To test the rise and fall times at the output, a step function signal is applied to the CTRL port. The testing results are shown in Figure 10, Figure 11, and Figure 12. As shown in Figure 11 and Figure 12, a square wave of 0.25V ~ 5V,  $f = 0.10\text{Hz}$ , is applied to CTRL port, the output waveform fall time is measured to be about 100ms and the rise time is about 50ms. These two values are not the same, that is because on the rising trail, the power supply injects a current to the load; while on the falling trail, the best the power supply can do is to stop its output current and let the load resistor drain the output filtering capacitor to a lower voltage, and the draining current is much smaller than the injection current.

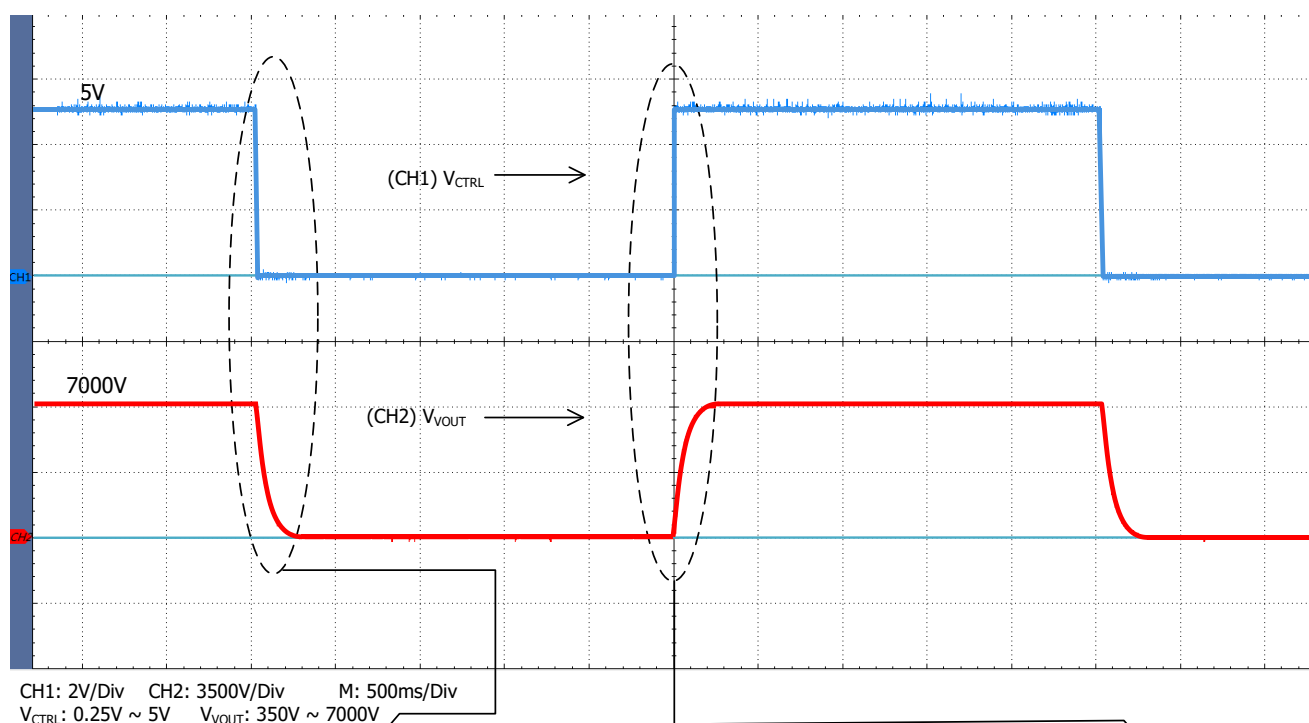


Figure 10. Input vs. Output Waveforms for Square Wave Control

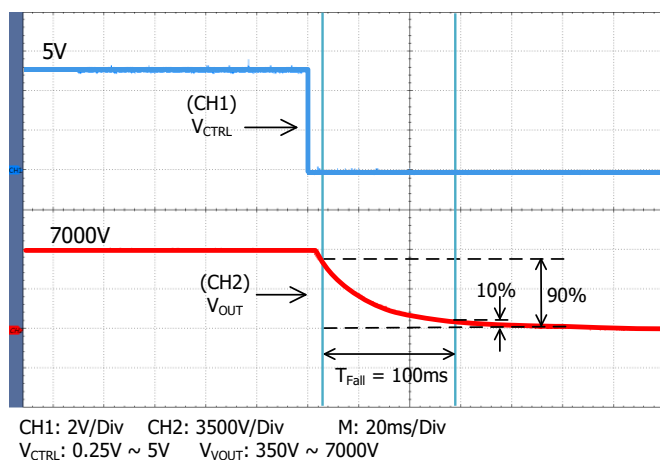


Figure 11. Falling Trail for Large Signal Response

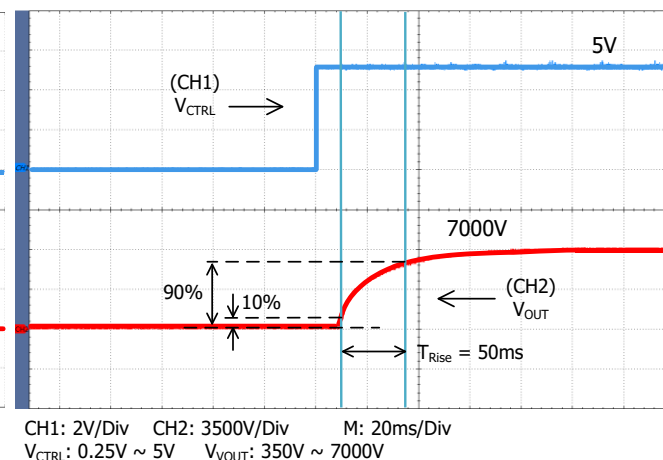
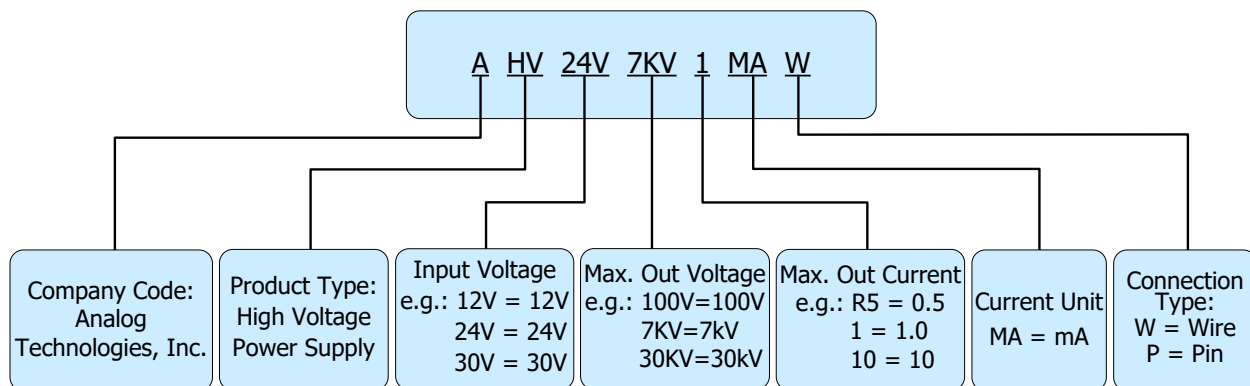


Figure 12. Rising Trail for Large Signal Response



## NAMING PRINCIPLE



Naming Principle of AHV24V7KV1MAW

## DIMENSIONS

### Connecting Lead Wire Sizes and Lengths

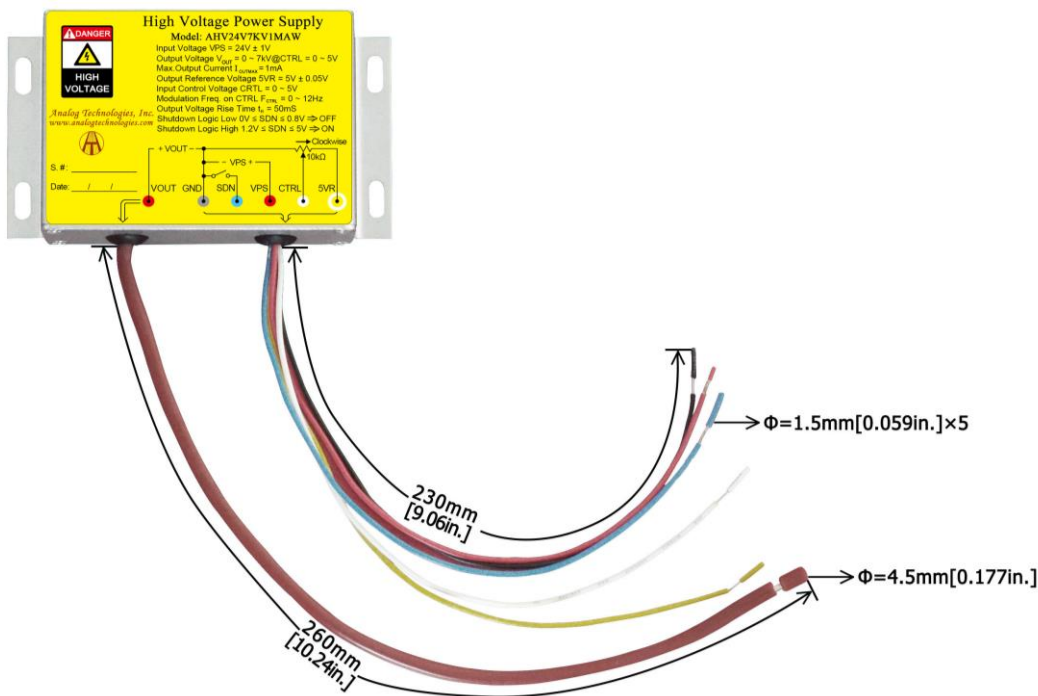


Figure 13. Connecting Lead Wires of AHV24V7KV1MAW

| Lead Wires                                    | Diameter |       | Length  |               |
|-----------------------------------------------|----------|-------|---------|---------------|
|                                               | mm       | inch  | mm      | inch          |
| Thick brown lead wire                         | 4.5      | 0.177 | 260 ± 1 | 10.24 ± 0.039 |
| Yellow, red, blue, black and white lead wires | 1.5      | 0.059 | 230 ± 1 | 9.06 ± 0.039  |





# AHV24V7KV1MAW

Technical drawing of a mechanical part showing three views: Front View, Top View, and Side View. The drawing includes dimensions in millimeters and inches in brackets.

**Front View Dimensions:**

- Top left corner: 14.5 [0.57]
- Top left corner radius: R3 [R0.12]
- Top right corner: 14 [0.55]
- Right side step: 1.6 [0.06]
- Right side height: 28 [1.10]
- Bottom left corner radius: R2 [R0.08]
- Distance between circular features: 40.5 [1.59]
- Distance from right edge to circular feature: 20 [0.79]

**Top View Dimensions:**

- Left side corner: 4 [0.16]
- Left side corner: 10 [0.39]
- Bottom left corner: 82.5 [3.25]
- Bottom center: 95.5 [3.76]
- Bottom right corner: 104.5 [4.11]
- Right side corner: 34.3 [1.35]
- Right side corner: 55 [2.17]
- Right side corner: 58 [2.28]
- Right side corner: 59 [2.32]
- Right side corner: 60 [2.36]

**Side View Dimensions:**

- Top right corner: 14 [0.55]
- Right side height: 28 [1.10]

|           |          |
|-----------|----------|
| Side View | End View |
| Top View  | Unit:    |

## ORDERING INFORMATION

## RELATED PRODUCTS

| Part #          | Datasheet                                                                             | Output Voltage (V) | Output Current (mA) | Description                               | Buy Now <sup>1</sup>                                                                                                                                                            |
|-----------------|---------------------------------------------------------------------------------------|--------------------|---------------------|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AHV24V500V1MAW  |    | 500                | 1                   | Positive 500V 1mA module with lead wires  |  *  *     |
| AHV24V500V2MAW  |    | 500                | 2                   | Positive 500V 2mA module with lead wires  |  *  *     |
| AHV24V500V5MAW  |    | 500                | 5                   | Positive 500V 5mA module with lead wires  |  *  *     |
| AHV24V500V10MAW |    | 500                | 10                  | Positive 500V 10mA module with lead wires |  *  *  |
| AHV24V500V20MAW |  | 500                | 20                  | Positive 500V 20mA module with lead wires |  *  * |
| AHV24V500V50MAW |  | 500                | 50                  | Positive 500V 50mA module with lead wires |  *  * |
| AHV24V600V30MAW |  | 600                | 30                  | Positive 600V 30mA module with lead wires |  *  * |



| Part #           | Datasheet                                                                           | Output Voltage (V) | Output Current (mA) | Description                                | Buy Now*                                                                                                                                                                        |
|------------------|-------------------------------------------------------------------------------------|--------------------|---------------------|--------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AHV24V1KV1MAW    |    | 1000               | 1                   | Positive 1kV 1mA module with lead wires    |  *  *     |
| AHV24V1KV2MAW    |    | 1000               | 2                   | Positive 1kV 2mA module with lead wires    |  *  *     |
| AHV24V1KV3MAW    |    | 1000               | 3                   | Positive 1kV 3mA module with lead wires    |  *  *     |
| AHV24V1KV5MAW    |    | 1000               | 5                   | Positive 1kV 5mA module with lead wires    |  *  *     |
| AHV24V1KV10MAW   |    | 1000               | 10                  | Positive 1kV 10mA module with lead wires   |  *  *     |
| AHV24V1KV20MAW   |    | 1000               | 20                  | Positive 1kV 20mA module with lead wires   |  *  *     |
| AHV24V1500V1MAW  |    | 1500               | 1                   | Positive 1.5kV 1mA module with lead wires  |  *  *     |
| AHV24V1500V2MAW  |    | 1500               | 2                   | Positive 1.5kV 2mA module with lead wires  |  *  *     |
| AHV24V1500V3MAW  |    | 1500               | 3                   | Positive 1.5kV 3mA module with lead wires  |  *  *     |
| AHV24V1500V5MAW  |    | 1500               | 5                   | Positive 1.5kV 5mA module with lead wires  |  *  *     |
| AHV24V1500V10MAW |    | 1500               | 10                  | Positive 1.5kV 10mA module with lead wires |  *  *     |
| AHV24V2KV1MAW    |    | 2000               | 1                   | Positive 2kV 1mA module with lead wires    |  *  *     |
| AHV24V2KV2MAW    |   | 2000               | 2                   | Positive 2kV 2mA module with lead wires    |  *  *   |
| AHV24V2KV3MAW    |  | 2000               | 3                   | Positive 2kV 3mA module with lead wires    |  *  * |
| AHV24V2KV5MAW    |  | 2000               | 5                   | Positive 2kV 5mA module with lead wires    |  *  * |
| AHV24V2KV10MAW   |  | 2000               | 10                  | Positive 2kV 10mA module with lead wires   |  *  * |
| AHV24V2500V1MAW  |  | 2500               | 1                   | Positive 2.5kV 1mA module with lead wires  |  *  * |
| AHV24V2500V3MAW  |  | 2500               | 3                   | Positive 2.5kV 3mA module with lead wires  |  *  * |
| AHV24V2500V5MAW  |  | 2500               | 5                   | Positive 2.5kV 5mA module with lead wires  |  *  * |
| AHV24V3KV1MAW    |  | 3000               | 1                   | Positive 3kV 1mA module with lead wires    |  *  * |
| AHV24V3KV2MAW    |  | 3000               | 2                   | Positive 3kV 2mA module with lead wires    |  *  * |
| AHV24V3KV3MAW    |  | 3000               | 3                   | Positive 3kV 3mA module with lead wires    |  *  * |
| AHV24V3KV5MAW    |  | 3000               | 5                   | Positive 3kV 5mA module with lead wires    |  *  * |
| AHV24V3KV10MAW   |  | 3000               | 10                  | Positive 3kV 10mA module with lead wires   |  *  * |
| AHV24V4KV1MAW    |  | 4000               | 1                   | Positive 4kV 1mA module with lead wires    |  *  * |
| AHV24V4KV2R5MAW  |  | 4000               | 2.5                 | Positive 4kV 2.5mA module with lead wires  |  *  * |
| AHV24V4KV5MAW    |  | 4000               | 5                   | Positive 4kV 5mA module with lead wires    |  *  * |
| AHV24V5KV1MAW    |  | 5000               | 1                   | Positive 5kV 1mA module with lead wires    |  *  * |
| AHV24V5KV2MAW    |  | 5000               | 2                   | Positive 5kV 2mA module with lead wires    |  *  * |
| AHV24V5KV4MAW    |  | 5000               | 4                   | Positive 5kV 4mA module with lead wires    |  *  * |



| Part #           | Datasheet                                                                           | Output Voltage (V) | Output Current (mA) | Description                                | Buy Now*                                                                                                                                                                        |
|------------------|-------------------------------------------------------------------------------------|--------------------|---------------------|--------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AHV24V5KV10MAW   |    | 5000               | 10                  | Positive 5kV 10mA module with lead wires   |  *  *     |
| AHV24V6KV1MAW    |    | 6000               | 1                   | Positive 6kV 1mA module with lead wires    |  *  *     |
| AHV24V6KV3MAW    |    | 6000               | 3                   | Positive 6kV 3mA module with lead wires    |  *  *     |
| AHV24V7KV1MAW    |    | 7000               | 1                   | Positive 7kV 1mA module with lead wires    |  *  *     |
| AHV24V7KV2MAW    |    | 7000               | 2                   | Positive 7kV 2mA module with lead wires    |  *  *     |
| AHV24V8KV1MAW    |    | 8000               | 1                   | Positive 8kV 1mA module with lead wires    |  *  *     |
| AHV24V8KV2R5MAW  |    | 8000               | 2.5                 | Positive 8kV 2.5mA module with lead wires  |  *  *     |
| AHV24V9KV1MAW    |    | 9000               | 1                   | Positive 9kV 1mA module with lead wires    |  *  *     |
| AHV24V10KVR6MAW  |    | 10,000             | 0.6                 | Positive 10kV 0.6mA module with lead wires |  *  *     |
| AHV24V10KV1MAW   |    | 10,000             | 1                   | Positive 10kV 1mA module with lead wires   |  *  *     |
| AHV24V10KV2MAW   |    | 10,000             | 2                   | Positive 10kV 2mA module with lead wires   |  *  *     |
| AHV24V10KV5MAW   |    | 10,000             | 5                   | Positive 10kV 5mA module with lead wires   |  *  *     |
| AHV24V15KVR5MAW  |   | 15,000             | 0.5                 | Positive 15kV 0.5mA module with lead wires |  *  *   |
| AHV24V15KV1MAW   |  | 15,000             | 1                   | Positive 15kV 5mA module with lead wires   |  *  * |
| AHV24V20KV1MAW   |  | 20,000             | 1                   | Positive 20kV 1mA module with lead wires   |  *  * |
| AHV24V25KV1MAW   |  | 25,000             | 1                   | Positive 25kV 1mA module with lead wires   |  *  * |
| AHV24V30KVR5MAW  |  | 30,000             | 0.5                 | Positive 30kV 0.5mA module with lead wires |  *  * |
| AHV24V30KV1MAW   |  | 30,000             | 1                   | Positive 30kV 1mA module with lead wires   |  *  * |
| AHV24V30KV2R5MAW |  | 30,000             | 2.5                 | Positive 30kV 2.5mA module with lead wires |  *  * |
| AHV24V40KV1MAW   |  | 40,000             | 1                   | Positive 40kV 1mA module with lead wires   |  *  * |
| AHV24V60KV1MAW   |  | 60,000             | 1                   | Positive 60kV 1mA module with lead wires   |  *  * |
| AHV24VN500V1MAW  |  | -500               | 1                   | Negative 500V 1mA module with lead wires   |  *  * |
| AHV24VN500V2MAW  |  | -500               | 2                   | Negative 500V 2mA module with lead wires   |  *  * |
| AHV24VN500V5MAW  |  | -500               | 5                   | Negative 500V 5mA module with lead wires   |  *  * |
| AHV24VN500V10MAW |  | -500               | 10                  | Negative 500V 10mA module with lead wires  |  *  * |
| AHV24VN500V20MAW |  | -500               | 20                  | Negative 500V 20mA module with lead wires  |  *  * |
| AHV24VN500V50MAW |  | -500               | 50                  | Negative 500V 50mA module with lead wires  |  *  * |
| AHV24VN1KV1MAW   |  | -1000              | 1                   | Negative 1kV 1mA module with lead wires    |  *  * |
| AHV24VN1KV2MAW   |  | -1000              | 2                   | Negative 1kV 2mA module with lead wires    |  *  * |
| AHV24VN1KV3MAW   |  | -1000              | 3                   | Negative 1kV 3mA module with lead wires    |  *  * |



| Part #            | Datasheet                                                                           | Output Voltage (V) | Output Current (mA) | Description                                | Buy Now*                                                                                                                                                                      |
|-------------------|-------------------------------------------------------------------------------------|--------------------|---------------------|--------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AHV24VN1KV5MAW    |    | –1000              | 5                   | Negative 1kV 5mA module with lead wires    |  *      |
| AHV24VN1KV10MAW   |    | –1000              | 10                  | Negative 1kV 10mA module with lead wires   |  *      |
| AHV24VN1KV20MAW   |    | –1000              | 20                  | Negative 1kV 20mA module with lead wires   |  *      |
| AHV24VN1500V1MAW  |    | –1500              | 1                   | Negative 1.5kV 1mA module with lead wires  |  *      |
| AHV24VN1500V2MAW  |    | –1500              | 2                   | Negative 1.5kV 2mA module with lead wires  |  *      |
| AHV24VN1500V3MAW  |    | –1500              | 3                   | Negative 1.5kV 3mA module with lead wires  |  *      |
| AHV24VN1500V5MAW  |    | –1500              | 5                   | Negative 1.5kV 5mA module with lead wires  |  *      |
| AHV24VN1500V10MAW |    | –1500              | 10                  | Negative 1.5kV 10mA module with lead wires |  *      |
| AHV24VN2KV1MAW    |    | –2000              | 1                   | Negative 2kV 1mA module with lead wires    |  *      |
| AHV24VN2KV2MAW    |    | –2000              | 2                   | Negative 2kV 2mA module with lead wires    |  *      |
| AHV24VN2KV3MAW    |    | –2000              | 3                   | Negative 2kV 3mA module with lead wires    |  *      |
| AHV24VN2KV5MAW    |    | –2000              | 5                   | Negative 2kV 5mA module with lead wires    |  *      |
| AHV24VN2KV10MAW   |   | –2000              | 10                  | Negative 2kV 10mA module with lead wires   |  *    |
| AHV24VN2500V1MAW  |  | –2500              | 1                   | Negative 2.5kV 1mA module with lead wires  |  *  |
| AHV24VN2500V3MAW  |  | –2500              | 3                   | Negative 2.5kV 3mA module with lead wires  |  *  |
| AHV24VN2500V5MAW  |  | –2500              | 5                   | Negative 2.5kV 5mA module with lead wires  |  *  |
| AHV24VN3KV1MAW    |  | –3000              | 1                   | Negative 3kV 1mA module with lead wires    |  *  |
| AHV24VN3KV2MAW    |  | –3000              | 2                   | Negative 3kV 2mA module with lead wires    |  *  |
| AHV24VN3KV3MAW    |  | –3000              | 3                   | Negative 3kV 3mA module with lead wires    |  *  |
| AHV24VN3KV5MAW    |  | –3000              | 5                   | Negative 3kV 5mA module with lead wires    |  *  |
| AHV24VN3KV10MAW   |  | –3000              | 10                  | Negative 3kV 10mA module with lead wires   |  *  |
| AHV24VN4KV1MAW    |  | –4000              | 1                   | Negative 4kV 1mA module with lead wires    |  *  |
| AHV24VN4KV2R5MAW  |  | –4000              | 2.5                 | Negative 4kV 2.5mA module with lead wires  |  *  |
| AHV24VN4KV5MAW    |  | –4000              | 5                   | Negative 4kV 5mA module with lead wires    |  *  |
| AHV24VN5KV1MAW    |  | –5000              | 1                   | Negative 5kV 1mA module with lead wires    |  *  |
| AHV24VN5KV2MAW    |  | –5000              | 2                   | Negative 5kV 2mA module with lead wires    |  *  |
| AHV24VN5KV4MAW    |  | –5000              | 4                   | Negative 5kV 4mA module with lead wires    |  *  |
| AHV24VN5KV10MAW   |  | –5000              | 10                  | Negative 5kV 10mA module with lead wires   |  *  |
| AHV24VN6KV1MAW    |  | –6000              | 1                   | Negative 6kV 1mA module with lead wires    |  *  |
| AHV24VN6KV3MAW    |  | –6000              | 3                   | Negative 6kV 3mA module with lead wires    |  *  |



| Part #            | Datasheet | Output Voltage (V) | Output Current (mA) | Description                                | Buy Now* |
|-------------------|-----------|--------------------|---------------------|--------------------------------------------|----------|
| AHV24VN7KV1MAW    |           | -7000              | 1                   | Negative 7kV 1mA module with lead wires    | * *      |
| AHV24VN7KV2MAW    |           | -7000              | 2                   | Negative 7kV 2mA module with lead wires    | * *      |
| AHV24VN8KV1MAW    |           | -8000              | 1                   | Negative 8kV 1mA module with lead wires    | * *      |
| AHV24VN8KV2R5MAW  |           | -8000              | 2.5                 | Negative 8kV 2.5mA module with lead wires  | * *      |
| AHV24VN9KV1MAW    |           | -9000              | 1                   | Negative 9kV 1mA module with lead wires    | * *      |
| AHV24VN10KVR6MAW  |           | -10000             | 0.6                 | Negative 10kV 0.6mA module with lead wires | * *      |
| AHV24VN10KV1MAW   |           | -10000             | 1                   | Negative 10kV 1mA module with lead wires   | * *      |
| AHV24VN10KV2MAW   |           | -10000             | 2                   | Negative 10kV 2mA module with lead wires   | * *      |
| AHV24VN10KV5MAW   |           | -10000             | 5                   | Negative 10kV 5mA module with lead wires   | * *      |
| AHV24VN15KVR5MAW  |           | -15000             | 0.5                 | Negative 15kV 0.5mA module with lead wires | * *      |
| AHV24VN15KV1MAW   |           | -15000             | 1                   | Negative 15kV 1mA module with lead wires   | * *      |
| AHV24VN20KV1MAW   |           | -20000             | 1                   | Negative 20kV 1mA module with lead wires   | * *      |
| AHV24VN25KV1MAW   |           | -25000             | 1                   | Negative 25kV 1mA module with lead wires   | * *      |
| AHV24VN30KVR5MAW  |           | -30000             | 0.5                 | Negative 30kV 0.5mA module with lead wires | * *      |
| AHV24VN30KV1MAW   |           | -30000             | 1                   | Negative 30kV 1mA module with lead wires   | * *      |
| AHV24VN30KV2R5MAW |           | -30000             | 2.5                 | Negative 30kV 2.5mA module with lead wires | * *      |
| AHV24VN40KV1MAW   |           | -40000             | 1                   | Negative 40kV 1mA module with lead wires   | * *      |

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