

# nHV Series

SMT-Mount Micro Sized HV Power Supply  
Preliminary specifications



## Features

- ❖ Ultra-Miniature Case Size (.45L X .35W X .37H)
- ❖ SMT Mountable
- ❖ 100mW Output Power Capability
- ❖ Extremely Tight Output Regulation and Stability
- ❖ High Impedance Programming Input (>100kΩ)
- ❖ Extremely Low Quiescent Current (5mA Typical at Full Rated Output at no Load)
- ❖ No External Components Required
- ❖ Extremely Low Ripple and EMI/RFI
- ❖ Wide Operating Temp Range (-55°C to +70°C)

## Description

The nHV Series is a family of micro sized single-output DC to DC converters supplying up to 2kV in a (.45L X .35W X .37H) case size. These ultra-compact converters are ideal for applications requiring small size, high performance, and ease of use.

A high impedance programming input makes it very easy to use, eliminating the need for a low impedance adjustable power source voltage.

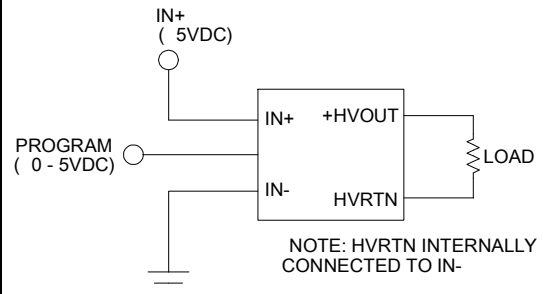
HVM's proprietary resonant converter design minimizes quiescent current and operating noise while delivering maximum performance and reliability. A special feature of this power supply is its extremely low input current, typically 1/10<sup>th</sup> of that of similar devices on the market, making it ideal for battery powered applications.

The devices operate directly from 5VDC  $\pm$  0.5VDC input. Output voltage is independent of input power voltage and is proportional to the programming voltage (0 to IN+ produces 0 to full scale output) and features excellent linearity.

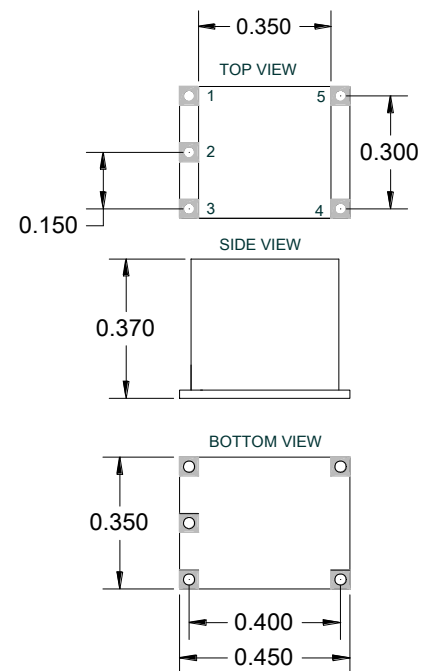
The output power rating is 0.1W.

The nHV Series is very stable over a wide operating temperature range.

## Application Schematic



## Mechanical Dimensions



| PAD # | FUNCTION |
|-------|----------|
| 1     | IN+      |
| 2     | PROGRAM  |
| 3     | IN-      |
| 4     | HV RTN   |
| 5     | HV OUT   |

Note: Also available with wires

Website: [www.hvmtech.com](http://www.hvmtech.com)

Email: [sales@hvmtech.com](mailto:sales@hvmtech.com)

(877) 626-5552 Ext. 211

# nHV Series

Ultra-Miniature HV Power Supply

## Mechanical Characteristics

**Size:** .45L X .35W X .37H

**Packaging:** Encapsulated in high performance epoxy

**Case Material:** Thermoset plastic (Diallyl Phthalate)

**Mounting:** Surface Mountable Package

[Request Quote](#)

## Electrical Characteristics (at +23°C)

**Input Power Voltage (V+):** 5V  $\pm$  0.5Vdc

**Programming Voltage:** 0 to 5 Volts programming input results in full rated output

**Programming Input Impedance:** 100k $\Omega$

**Output Tolerance at No Load:**  $\pm$  1%

**Input-Output Isolation:** This device is not Isolated, HV return internally connected to ground

**Load Regulation:** < 0.1% from no load to full load

**Output Ripple:** < .01% typical at full load

**Oscillator Frequency:** 45 kHz – 80 kHz

**Efficiency:** 50% typical at full load

## Environmental Characteristics

**Operating Temp Range:** -55°C to +70°C

**Storage Temp Range:** -55°C to +85°C

| Model    | Input Voltage | Output Voltage | MAX Output Current | Input Current |          |
|----------|---------------|----------------|--------------------|---------------|----------|
|          |               |                |                    | No Load       | Max Load |
| nHV0501  | 5V            | 0 to +100V     | 1mA                | <5mA          | <40mA    |
| nHV0501N | 5V            | 0 to -100V     | 1mA                | <5mA          | <40mA    |
| nHV0502  | 5V            | 0 to +200V     | 500 $\mu$ A        | <5mA          | <40mA    |
| nHV0502N | 5V            | 0 to -200V     | 500 $\mu$ A        | <5mA          | <40mA    |
| nHV0505  | 5V            | 0 to +500V     | 200 $\mu$ A        | <5mA          | <40mA    |
| nHV0505N | 5V            | 0 to -500V     | 200 $\mu$ A        | <5mA          | <40mA    |
| nHV0510  | 5V            | 0 to +1kV      | 100 $\mu$ A        | <5mA          | <40mA    |
| nHV0510N | 5V            | 0 to -1kV      | 100 $\mu$ A        | <5mA          | <40mA    |
| nHV0520  | 5V            | 0 to +2kV      | 50 $\mu$ A         | <5mA          | <40mA    |
| nHV0520N | 5V            | 0 to -2kV      | 50 $\mu$ A         | <5mA          | <40mA    |

The information appearing here is believed to be reliable, however, it is not to be construed as a warranty of performance, and no express or implied warranty is made with respect to same. Any information contained herein is subject to change without notice.