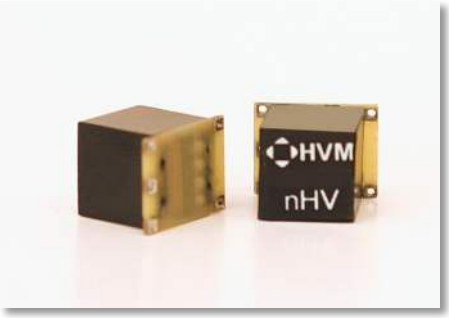
HVM TECHNOLOGY
Innovative High Voltage Products




# nHV Series

*Micro-Sized Precision Regulated HV DC to DC Converter*

Ultra-Miniature Case Size (.45”L X .35”W X .37”H)

Surface Mountable Package

100mW Output Power Capability

Extremely Tight Output Regulation and Stability

High Impedance Programming Input (>100kΩ)

Low Quiescent Current

No External Components Required

Extremely Low Ripple and EMI/RFI

Wide Operating Temp Range (-55°C to +70°C)

RoHS

## Mechanical Characteristics

- **Size:** .45”L X .35”W X .37”H
- **Packaging:** Encapsulated in high performance epoxy
- **Case Material:** Thermoset plastic (Diallyl Phthalate)
- **Mounting:** Surface Mountable Package

## Environmental Characteristics

- **Operating Temp Range:** -55°C to +70°C
- **Storage Temp Range:** -55°C to +85°C

## Description

The nHV Series is a family of micro sized single-output DC to DC converters supplying up to 1.2kV in a (.45”L X .35”W X .37”H) 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. Its low power and extremely small size make it ideal for battery powered applications.

The devices operate directly from 5VDC ± 0.5VDC input. Output voltage is independent of input power voltage and is proportional to the programming voltage (0 to 5V 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.

*Note: This component is not compatible with oven reflow soldering. Only hand soldering is recommended.*

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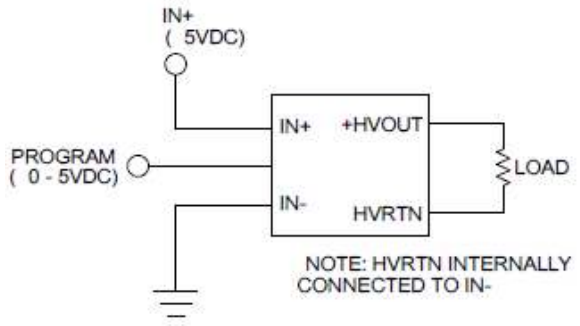
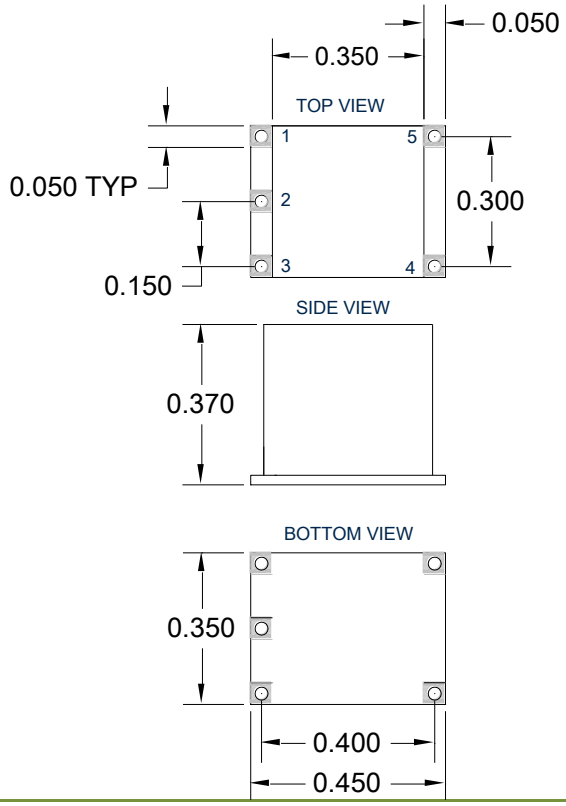
## APPLICATION SCHEMATIC




## DIMENSIONS




## ELECTRICAL CHARACTERISTICS

| | |
|---|---|
| Input Power Voltage (V+): | 5V ± 0.5Vdc |
| Programming Voltage: | 0 to 5 Volts programming input results in 0 to full rated output voltage |
| Programming Input Impedance: | 100kΩ |
| Input-Output Isolation: | This device is not Isolated, HVRTN internally connected to IN- |
| Load Regulation: | < 0.2% typical from no load to full load |
| Output Tolerance at No Load: | ± 5% |
| Output Ripple: | < 0.2% typical at full load |
| Oscillator Frequency: | 45 kHz – 80 kHz |

| Pad # | FUNCTION |
|---|---|
| 1 | IN+ |
| 2 | Program |
| 3 | IN - |
| 4 | HVRTN |
| 5 | HVOUT |

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# *Model Selection Guide*

| Models | Input Voltage | Output Voltage | MAX Output Current | Typical Input Current | |
|---|---|---|---|---|---|
| | | | | No Load | Max Load |
| nHV0501 | 5V | 0 to +100V | 1mA | <15mA | <40mA |
| nHV0501N | 5V | 0 to -100V | 1mA | <15mA | <40mA |
| nHV0502 | 5V | 0 to +200V | 500µA | <15mA | <40mA |
| nHV0502N | 5V | 0 to -200V | 500µA | <15mA | <40mA |
| nHV0505 | 5V | 0 to +500V | 200µA | <20mA | <40mA |
| nHV0505N | 5V | 0 to -500V | 200µA | <20mA | <40mA |
| nHV0510 | 5V | 0 to +1kV | 100µA | <30mA | <50mA |
| nHV0510N | 5V | 0 to -1kV | 100µA | <30mA | <50mA |
| nHV0512 | 5V | 0 to +1.2kV | 83µA | <30mA | <60mA |
| nHV0512N | 5V | 0 to -1.2kV | 83µA | <30mA | <60mA |