# PICO Electronics

# SERIES HVP HI VOLTAGE PROGRAMMABLE PLUG-IN MODULES

## 0 - 100Vdc to 0 - 6000Vdc

### **5 Watt Positive and Negative Output Voltages**

The HVP Series miniature precision 5 Watt High Voltage Converters are encased in a six side shielded case measuring only 2.55"x1.30"x0.50"(h). The low profile enables them as PCB mountable components in customer applications.

#### FEATURES:

- Accessible Calibration Trimmer
- 5 Watt Output
- Precision Regulated
- Low Ripple
- Low Temperature Coefficient
- 0 to 100% Output Programmable
- Wide Input Range: 11 to 16 Vdc
- Voltage Monitor and Reference Outputs
- Input Over Voltage Protection
- Output Arc, Over Current and Short Circuit Protection
- Remote Shutdown
- Operating Temperature Range: -25°C to +70°C
- Miniature 6 side shielded low profile case (0.500")
- PCB mountable

#### PHYSICAL CHARACTERISTICS:

- Size: 2.55"(w) x 1.3" (d) x 0.5"(h)
- Weight: 50 grams
- Case: 6 side Metal Shield
- Pins: 0.04" diameter, 0.40" length

#### **TYPICAL CHARACTERISTICS:**

- Input Voltage: 11 to 16Vdc.
- Input Current: 150mA max. no load -- 650mA max. full load
- Input voltage Shutdown: 18V, latching
- Programming Voltage:0 to 5Vdc -- shdn @ Vprog < 0.25V
- Internal Programming Voltage Limit: 5.5 Vdc typical
- Voltage Monitor: 0 to 5V for 0 to 100%V out
- Reference Voltage: 5Vdc +/- 2%, 1mA max.
- Linearity: <1% (10% to 100% Vout)
- Output Current Limit: lout, Max +30% typ.
- Output Power: 5W max.
- Efficiency: 70% typical
- Internal Overtemperature Shutdown: 95°C, latching
- Line Regulation: <0.005% Vout
- Load Regulation: <0.01% Vout (for 0 to 100% Load change)
- Output Ripple: <0.007% Vout, peak peak
- Converter Frequency: 55 to 110kHz
- Calibration Adjustment Range: >1%
- Stability: <0.005%/hr
- Temperature Coefficient: <50ppm/°C
- Operating Temperature Range: -25°C to +70°C
- Storage Temperature Range: -55°C to +125°C

# SERIES HVP

| PICO<br>PART<br>NUMBER | OUTPUT         |                 | REGULATION  |             | RIPPLE***<br>FULL LOAD    | PRICE   |
|------------------------|----------------|-----------------|-------------|-------------|---------------------------|---------|
|                        | VOLTAGE<br>(V) | CURRENT<br>(mA) | LINE<br>(%) | LOAD<br>(%) | PEAK - PEAK<br>(%)typical | (US \$) |
| HVP0.1P                | 0 to +100      | 50              | <0.005      | <0.01       | <0.015                    | 285.08  |
| HVP0.1N                | 0 to -100      | 50              | <0.005      | <0.01       | <0.015                    | 285.08  |
| HVP0.25P               | 0 to +250      | 20              | <0.005      | <0.01       | <0.007                    | 285.08  |
| HVP0.25N               | 0 to -250      | 20              | <0.005      | <0.01       | <0.007                    | 285.08  |
| HVP0.5P                | 0 to +500      | 10              | <0.005      | <0.01       | <0.007                    | 342.33  |
| HVP0.5N                | 0 to -500      | 10              | <0.005      | <0.01       | <0.007                    | 342.33  |
| HVP1P                  | 0 to +1kV      | 5               | <0.005      | <0.01       | <0.007                    | 342.33  |

| HVP1N |           |      |        |       |        |        |
|-------|-----------|------|--------|-------|--------|--------|
|       | 0 to -1kV | 5    | <0.005 | <0.01 | <0.007 | 342.33 |
|       |           | 0.5  | 0.005  | 0.04  | 0.007  | 400.70 |
| HVP2P | 0 to +2kV | 2.5  | <0.005 | <0.01 | <0.007 | 400.72 |
| HVP2N | 0 to -2kV | 2.5  | <0.005 | <0.01 | <0.007 | 400.72 |
| HVP3P | 0 to +3kV | 1.67 | <0.005 | <0.01 | <0.007 | 400.72 |
| HVP3N | 0 to -3kV | 1.67 | <0.005 | <0.01 | <0.007 | 400.72 |
| HVP4P | 0 to +4kV | 1.25 | <0.005 | <0.01 | <0.007 | 400.72 |
| HVP4N | 0 to -4kV | 1.25 | <0.005 | <0.01 | <0.007 | 400.72 |
| HVP5P | 0 to +5k  | 1.00 | <0.005 | <0.01 | <0.015 | 400.72 |
| HVP5N | 0 to -5k  | 1.00 | <0.005 | <0.01 | <0.015 | 400.72 |
| HVP6P | 0 to +6k  | 0.84 | <0.005 | <0.01 | <0.015 | 452.24 |
| HVP6N | 0 to -6k  | 0.84 | <0.005 | <0.01 | <0.015 | 452.24 |

NOTES:

All specifications are given under the following conditions: +25°C ambient, 12Vdc Input at Full Load

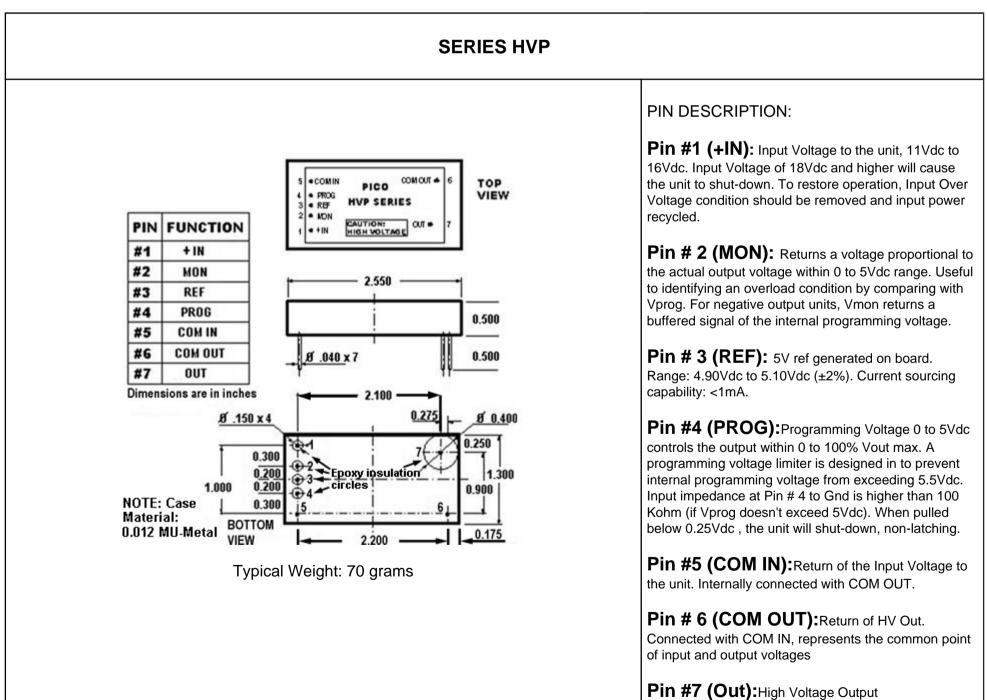
Measurements taken after 1 hour warm-up

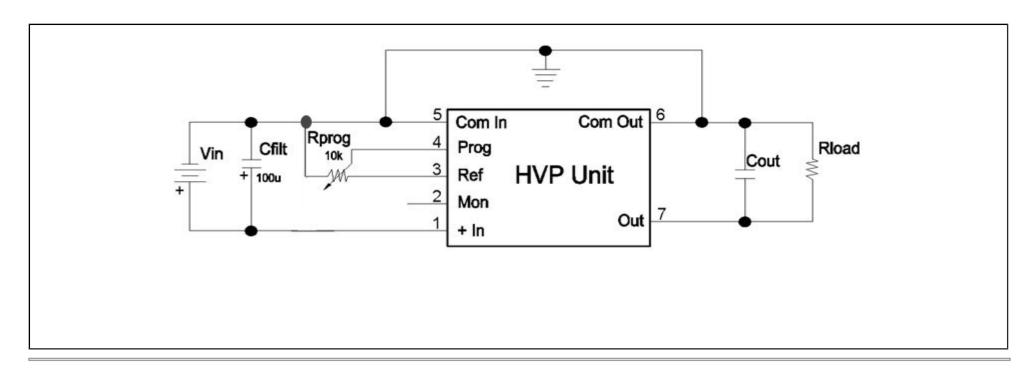
Load regulation given for 0 to 100% load change

For negative output units (suffix N), Vmonitor returns a buffered signal of the internal programming voltage

For expanded temperature range or non-standard features, please consult factory

### \*\*\*FOR LOWER RIPPLE APPLICATIONS CONSULT FACTORY: 800-431-1064





#### For immediate engineering assistance or to place an order: Call Toll Free: 800-431-1064

**PICO Electronics, Inc.** 

143 Sparks Ave. Pelham, NY 10803 Tel: 914-738-1400 or Fax: 914-738-8225

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