

## 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:** Iout, 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 PART NUMBER	OUTPUT		REGULATION		RIPPLE*** FULL LOAD PEAK - PEAK (%)typical	PRICE (US \$)
	VOLTAGE (V)	CURRENT (mA)	LINE (%)	LOAD (%)		
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
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

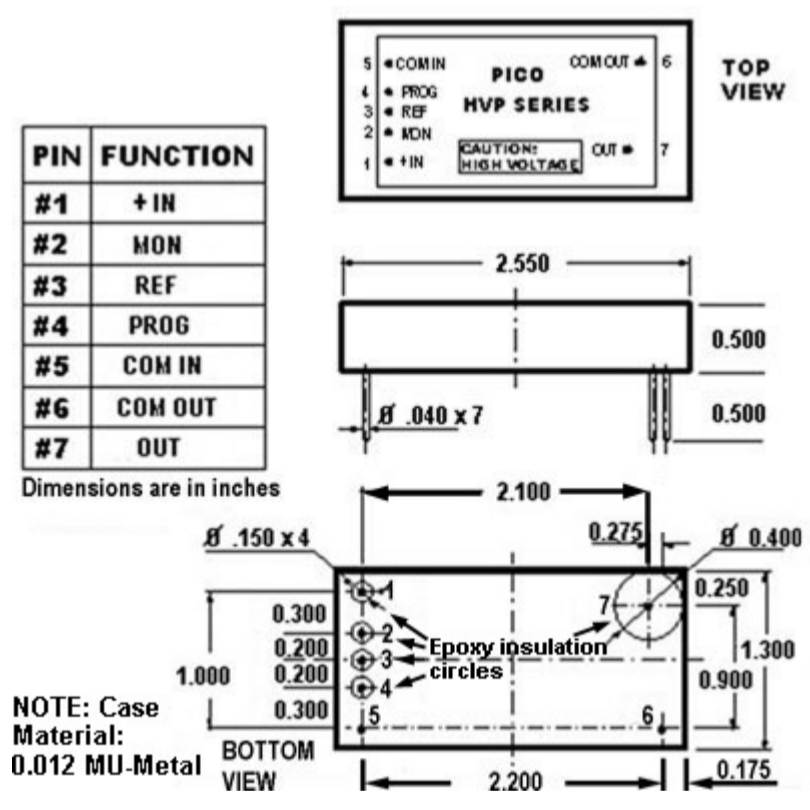
Load regulation given for 0 to 100% load change

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**

**SERIES HVP**



**PIN DESCRIPTION:**

**Pin #1 (+IN):** Input Voltage to the unit, 11Vdc to 16Vdc. Input Voltage of 18Vdc and higher will cause the unit to shut-down. To restore operation, Input Over Voltage condition should be removed and input power recycled.

**Pin #2 (MON):** Returns a voltage proportional to the actual output voltage within 0 to 5Vdc range. Useful to identifying an overload condition by comparing with Vprog. For negative output units, Vmon returns a buffered signal of the internal programming voltage.

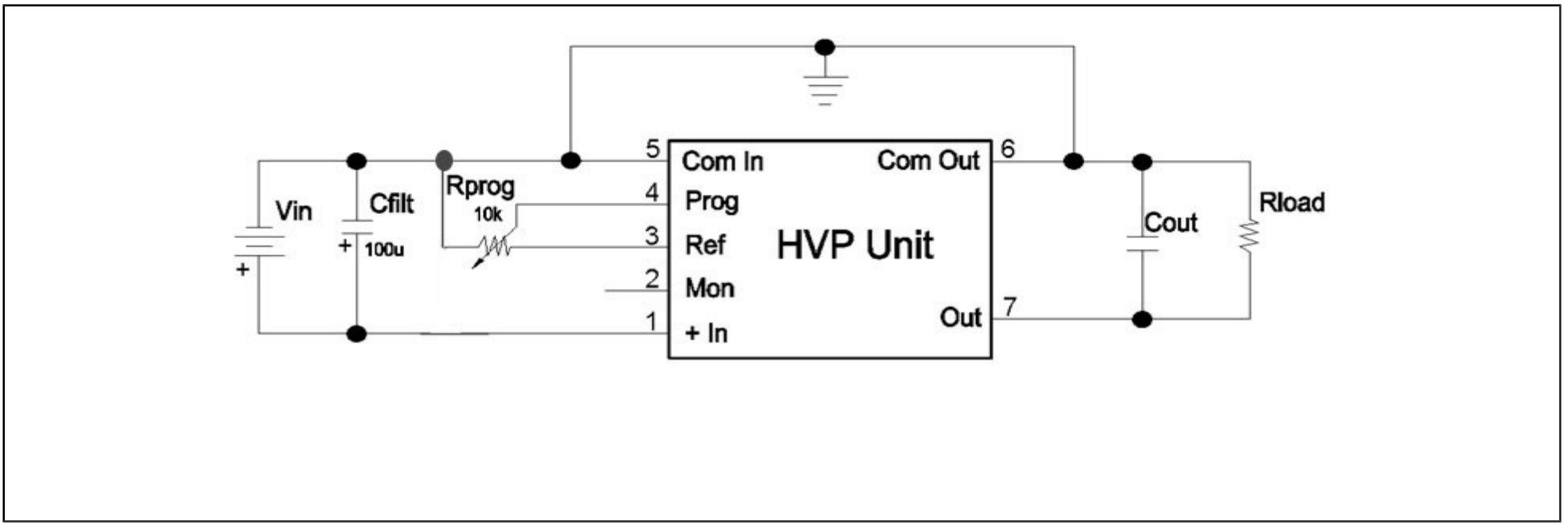
**Pin #3 (REF):** 5V ref generated on board. Range: 4.90Vdc to 5.10Vdc (±2%). Current sourcing capability: <1mA.

**Pin #4 (PROG):** Programming Voltage 0 to 5Vdc controls the output within 0 to 100% Vout max. A programming voltage limiter is designed in to prevent internal programming voltage from exceeding 5.5Vdc. Input impedance at Pin #4 to Gnd is higher than 100 Kohm (if Vprog doesn't exceed 5Vdc). When pulled below 0.25Vdc, the unit will shut-down, non-latching.

**Pin #5 (COM IN):** Return of the Input Voltage to the unit. Internally connected with COM OUT.

**Pin #6 (COM OUT):** Return of HV Out. Connected with COM IN, represents the common point of input and output voltages

**Pin #7 (Out):** High Voltage Output



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

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