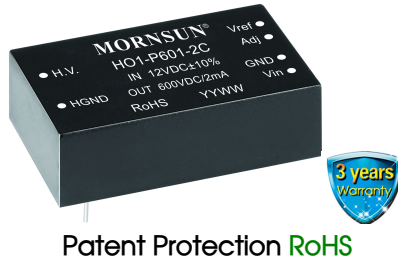


1.2W, Fixed input voltage,  
non-isolated & regulate single output



Patent Protection RoHS

### FEATURES

- Low ripple
- 0-600V continuous output with linear adjustable function
- Output short circuit, over-current protection
- Operating temperature range: -40℃ to +85℃
- CE meet CISPR22/EN55022 CLASS A, without external components
- RE meet CISPR22/EN55022 CLASS B, without external components

HO1-P601-2C is 1.2W DC-DC product with fixed input voltage, operating temperature of -40℃ to +85℃, output short circuit protection, over-current protection. Widely used in ultrasonoscope, Photomultiplier Tubes, Avalanche Photodiodes, Solid State Detectors, EO Lenses, Piezo Devices, Capacitor Charging fields.

### Selection Guide

| Certification | Part No.    | Input Voltage (VDC) |      | Output Voltage(VDC) |       | Output Current (mA)<br>(Max./Min.) |
|---------------|-------------|---------------------|------|---------------------|-------|------------------------------------|
|               |             | Nominal<br>(Range)  | Max. | Nominal             | Range |                                    |
| --            | HO1-P601-2C | 12<br>(10.8-13.2)   | 15   | 600                 | 0-600 | 2/0                                |

### Input Specifications

| Item                           | Operating Conditions                                        | Min.        | Typ. | Max. | Unit |
|--------------------------------|-------------------------------------------------------------|-------------|------|------|------|
| Input Current (no-load)        | Nominal input / output voltage                              | --          | --   | 60   | mA   |
| Starting Time                  | Nominal input / output voltage and constant resistance load | --          | --   | 120  | ms   |
| Starting Voltage               |                                                             | --          | --   | 10.8 | VDC  |
| Input Under-voltage Protection | Starting voltage                                            | --          | --   | 10.8 |      |
|                                | Shutdown voltage                                            | 7.8         | --   | --   |      |
| Input Filter                   |                                                             | PI filter   |      |      |      |
| Hot Plug                       |                                                             | Unavailable |      |      |      |

### Output Specifications

| Item                           | Operating Conditions                                                                  | Min.                      | Typ.  | Max.  | Unit   |
|--------------------------------|---------------------------------------------------------------------------------------|---------------------------|-------|-------|--------|
| Adjustment Point Accuracy      | See Fig 1                                                                             | --                        | ±1    | ±2    | %      |
| Line Regulation                | Input voltage range                                                                   | --                        | ±0.05 | ±0.1  |        |
| Load Regulation                | 0%-100% load                                                                          | --                        | ±0.05 | ±0.1  |        |
| Temperature Coefficient        | Nominal output voltage & Full load                                                    | --                        | --    | ±0.01 | %/℃    |
| Time Coefficient               | Nominal output voltage & Full load, works for 8 hours after preheating for 30 minutes | --                        | --    | ±0.05 | %/hour |
| Ripple                         |                                                                                       | --                        | 15    | 30    | mVp-p  |
| Output Over-current Protection | Input voltage range                                                                   | 110                       | --    | 200   | %Io    |
| Short circuit Protection       |                                                                                       | Continuous, self-recovery |       |       |        |

### General Specifications

| Item                               | Operating Conditions                                   | Min. | Typ. | Max. | Unit    |
|------------------------------------|--------------------------------------------------------|------|------|------|---------|
| Operating Temperature              |                                                        | -40  | --   | +85  | ℃       |
| Storage Temperature                |                                                        | -55  | --   | +125 |         |
| Pin Welding Resistance Temperature | Welding spot is 1.5mm away from the casing, 10 seconds | --   | --   | +300 |         |
| Storage Humidity                   | Non-condensing                                         | 5    | --   | 95   | %RH     |
| Switching Frequency                | PWM mode                                               | --   | 95   | --   | KHz     |
| MTBF                               | MIL-HDBK-217F@25℃                                      | 1000 | --   | --   | K hours |

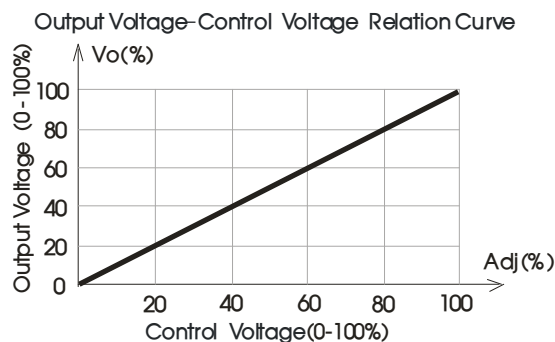
## Physical Specifications

|                 |                                                         |
|-----------------|---------------------------------------------------------|
| Casing Material | Black flame-retardant and heat-proof plastic (UL94 V-0) |
| Dimension       | 46.00*25.70*15.50 mm                                    |
| Weight          | 32g(Typ.)                                               |
| Cooling Method  | Free air convection                                     |

## EMC Specifications

|     |    |                 |                                      |
|-----|----|-----------------|--------------------------------------|
| EMI | CE | CISPR22/EN55022 | CLASS A (without external component) |
|     | RE | CISPR22/EN55022 | CLASS B (without external component) |

## Product Characteristic Curve

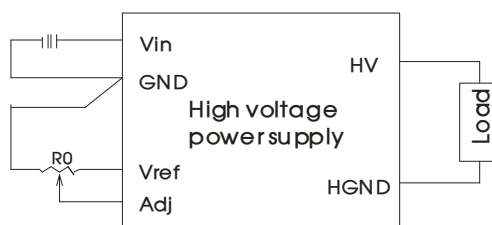


Notes: 100%Vo=602VDC (Typ.), 100%Adj=2.5VDC (Typ.)

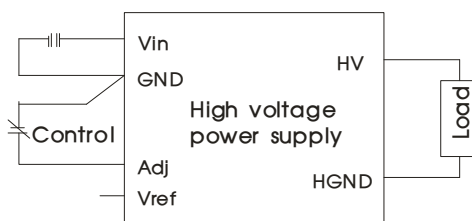
## Design Reference

### 1. Typical application

Output voltage can be programmed by external voltage or potentiometer, See Fig 2



Potentiometer Adjustment



External control voltage regulation

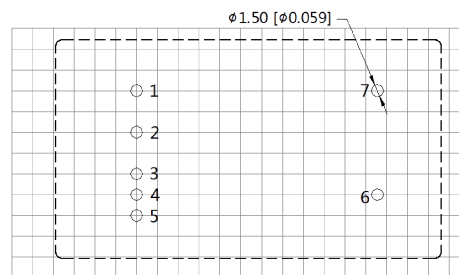
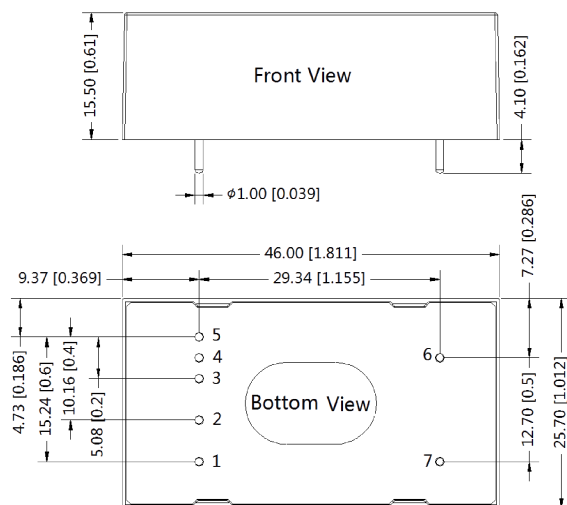
| R0                        | Vref   | Control Voltage |
|---------------------------|--------|-----------------|
| 10K Adjustable Resistance | 2.5VDC | 0-2.5VDC        |

Fig. 2 Output Voltage External Programming

2. For more information please find DC-DC converter application notes on [www.mornsun-power.com](http://www.mornsun-power.com)

## Horizontal Package Dimensions and Recommended Layout

THIRD ANGLE PROJECTION



Note: Grid 2.54\*2.54mm

| Pin-Out |          |
|---------|----------|
| Pin     | Function |
| 1       | Vin      |
| 2       | GND      |
| 3       | No pin   |
| 4       | Adj      |
| 5       | Vref     |
| 6       | HV       |
| 7       | GND      |

Note:  
Unit: mm[inch]  
Pin diameter tolerances:  $\pm 0.10$  [ $\pm 0.004$ ]  
General tolerances:  $\pm 0.50$  [ $\pm 0.020$ ]

### Notes:

1. Packing information please refer to Product Packing Information which can be downloaded from [www.mornsun-power.com](http://www.mornsun-power.com). The Packing bag number of Horizontal package : 58220011;
2. Unless otherwise specified, parameters in this datasheet were measured under the conditions of  $T_a=25^{\circ}\text{C}$ , humidity<75%RH with nominal input /output voltage and rated output load;
3. All index testing methods in this datasheet are based on Company's corporate standards;
4. We can provide product customization service, please contact our technicians directly for specific information;
5. Specifications are subject to change without prior notice.

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