

0.1kV - 12kV, 3W COMPACT, I/O PROPORTIONAL HIGH VOLTAGE POWER SUPPLIES

EMCO HIGH VOLTAGE CORPORATION

FEATURES

- Low Ripple, Low EMI/RFI
- Proportional Input / Output
- Exceptional Reliability
- Compact, PCB Mount Package
- Floating Output with Center Tap Option

APPLICATIONS

- Electro-Static Field Generation
- HV Op Amps
- Grid Bias
- Spectrometry
- Piezo Devices
- Lamp Ignition
- Q Switches, Ion Pumps
- Capacitor Charging, Electrophoresis
- Image Intensifiers, Printers



The E Series is a broad line of small, versatile, component level building blocks that provide up to 12kV_{DC} at up to 3W continuous output power ^{*2} in a PCB mount package. This series features low ripple, noise, and EMI/RFI by utilizing a quasi-sinewave oscillator, excellent filtering techniques and a fully enclosed pot core transformer. The output voltage is directly proportional to the input voltage, and is linear from approximately 0.7V to maximum input. The isolated output allows for user selectable output polarity. Options include external aluminum box and an output center tap which, when grounded, provides both positive and negative outputs from one low cost module.

| Model | Input Voltage | Output Voltage ^{*3} | Output Current ^{*2} | Ripple p-p |
|--------------------|---------------|------------------------------|------------------------------|------------|
| E01 | 0 - 12V | 0 - 0.1kV | 30mA | 0.1% |
| E02 | 0 - 12V | 0 - 0.2kV | 15mA | 0.25% |
| E02-5 | 0 - 12V | 0 - 0.25kV | 12mA | 0.75% |
| E03 | 0 - 12V | 0 - 0.3kV | 10mA | 1.0% |
| E05 | 0 - 12V | 0 - 0.5kV | 6mA | 0.05% |
| E06 | 0 - 12V | 0 - 0.6kV | 5mA | 0.1% |
| E08 | 0 - 12V | 0 - 0.8kV | 3.75mA | 0.05% |
| E10 | 0 - 12V | 0 - 1kV | 3mA | 0.05% |
| E12 | 0 - 12V | 0 - 1.2kV | 2.5mA | 0.2% |
| E15 | 0 - 12V | 0 - 1.5kV | 2mA | 0.05% |
| E20 | 0 - 12V | 0 - 2kV | 1.5mA | 0.25% |
| E30 | 0 - 15V | 0 - 3kV | 1mA | 0.25% |
| E40 | 0 - 15V | 0 - 4kV | 0.75mA | 0.5% |
| E50 | 0 - 15V | 0 - 5kV | 0.6mA | 0.5% |
| E60 | 0 - 15V | 0 - 6kV | 0.5mA | 0.5% |
| E70 ^{*1} | 0 - 15V | 0 - 7kV | 0.43mA | 1% |
| E80 ^{*1} | 0 - 15V | 0 - 8kV | 0.25mA | 1.25% |
| E101 ^{*1} | 0 - 15V | 0 - 10kV | 0.2mA | 1.5% |
| E121 ^{*1} | 0 - 15V | 0 - 12kV | 0.16mA | 1.5% |

^{*1}. This unit has flying leads on the output and clearance holes for mounting.

^{*2}. At Maximum Rated Output Voltage.

^{*3}. Output Voltage is load dependent. Under light or no load conditions, reduce input voltage so maximum rated output voltage is not exceeded.

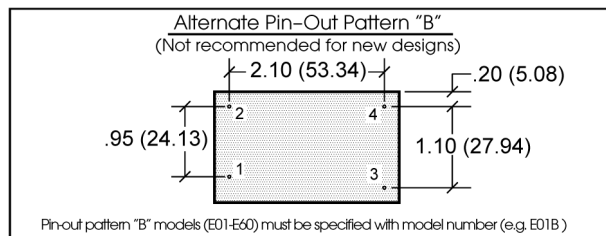
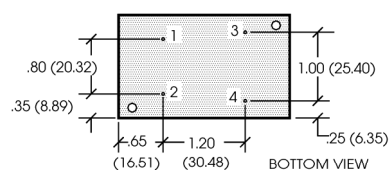
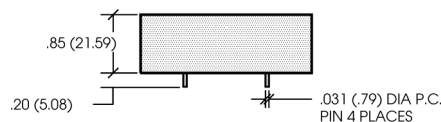
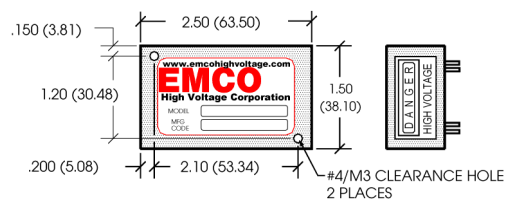
SPECIFICATIONS

| | | |
|--------------------------|--------------------------------|-------------------------|
| Input Current: | No Load: | <175mA |
| | Full Load: | <400mA |
| Typical Turn-On Voltage: | 0.7V | |
| Isolation: | E01 – E60: | 3.5kV +V _{out} |
| | E70 – E121: | 500V +V _{out} |
| Efficiency: | >60% typ. | |
| Operating Temp: | E01 – E60: | -10°C to +60°C |
| | E70 – E121: | -10°C to +50°C |
| Weight: | 85g approx. | |
| Packaging: | Epoxy Encapsulated | |
| Case Material: | Glass-filled Epoxy | |
| Pins: | 0.79mm Dia., 5.1mm min. Length | |

Specifications after 30 minutes warm-up, full load, at 25°C unless otherwise noted.

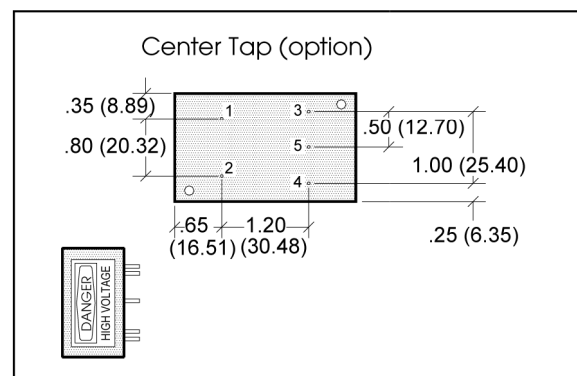
DIMENSIONS

E01-E60



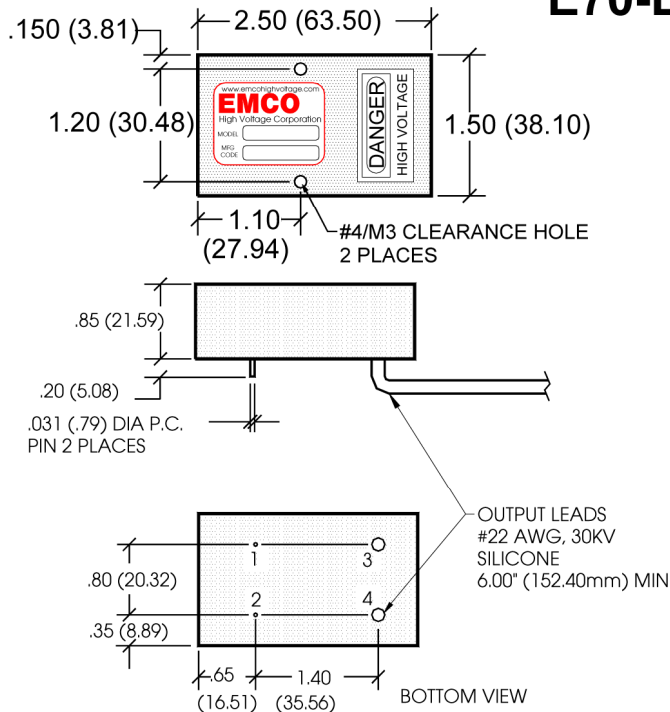
Dimensions are in Inches
Dimensional Tolerances: ± .03 (± .76)
(Metric Equivalents in Parentheses)

| Pin # | Function |
|-------|-----------------------|
| 1 | (+) Input |
| 2 | (-) Input |
| 3 | (+) Output |
| 4 | (-) Output |
| 5 | Center Tap (optional) |



■ DIMENSIONS [CONT'D]

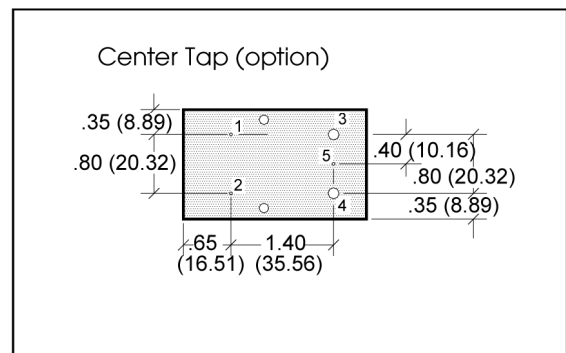
E70-E121



Dimensions are in Inches
Dimensional Tolerances: $\pm .03$ ($\pm .76$)
(Metric Equivalents in Parentheses)

| Pin # | Function |
|-------|-----------------------|
| 1 | (+) Input |
| 2 | (-) Input |
| 3* | (+) Output |
| 4* | (-) Output |
| 5 | Center Tap (optional) |

*Output Leads



■ OPTIONS

- AB** External Mounting Box
- B** Alternate Pin Pattern
- CT** Output Center Tap
- H** Mounting Holes
- R** RoHS Compliant

- Epoxy: **A.** Low Outgassing
(NASA approved per ASTM E-959-93)
B. UL 94 V0 flammability rating
- Extended Operating & Storage Temperature

Disclaimer

The information given in this data sheet is technical data, not assured product characteristics. It has been carefully checked and is believed to be accurate; however, no responsibility is assumed for inaccuracies. The user has to ensure by adequate tests that the product is suitable for his application regarding safety and technical aspects. hivolt.de GmbH & Co. KG does not assume any liability arising out of the application or use of any product described.

Safety Advice

Design, installation and inspection of machinery and devices carrying high voltage require accordingly trained and qualified personnel. Appropriate safety rules and directives must be complied with. Improper handling of high voltage can mean severe injuries or death and may cause serious collateral damage!