



High Isolation High Voltage Power Supply

Features:

- Isolation up to 20 KVDC
- Proportional Output
- Stability: <50PPM/°C
- Temperature Range: -55°C to 75°C (Case)

Electrical Characteristics:

Input Voltage: 0 to 12 VDC (Special Voltages Available Upon Request)
 Input Current: 190mA NL
 Input Current: 700mA FL
 Load Regulation: 40.0 % NL – FL, 20% ½ Load to FL

EC Series Description and Application Notes:

The EC Series are special DC to DC converters which can be used whenever a floating source of voltage is needed. Although the SC, CT and SQ modules provide floating output, their maximum "floatability" is limited to less than 5 kV. The EC series may be floated up to 20 kV maximum between input and output.

The output voltage of the EC power supply is directly proportional to the input voltage. The power supply will start with input voltage as low as 2 volts, and will not be damaged by inputs as high as 18 VDC. Each EC supply has an internal bleeder on the output for safety. The value of the resistor is such that it dissipates less than 0.1 watt at full output. The output ripple of each supply is typically less than 2% at full power. Case size is 1.5" x 2.5" x 0.8" high. Each unit is encapsulated in a high thermal conductivity epoxy resin which eliminates problems associated with moisture. All SC power supplies are designed to withstand extremes of shock, vibration, acceleration, and thermal shock in accordance with MIL-STD-810.

The load regulation of an EC power supply is approximately 40% from NO LOAD to FULL LOAD which means that some external preload may be necessary for applications where the load varies to a large extent. This permits either positive or negative polarity operation. All EC's are reverse input voltage and short circuit protected. The typical input current at no load is 190mA.

The EC Series high voltage power supplies are driven by an input voltage of 0 to 12 VDC. There is NO internal connection between the input and output pins. The output voltage is nearly linear with respect to input except near the lower input voltage region. Here, the output drops off rapidly as the input is lowered with the minimum input required being 2.0 VDC.

The output of the EC high voltage power supply may be connected directly to a potential as high as 20,000 volts referenced to the input power side.

EC power supplies may be driven from a three terminal regulator, or run closed loop with a suitable regulation scheme. The input capacitance is 10uF AC bypass. Vout max is defined as the maximum output voltage of the power supply with the standard 12-V input.

Product Selection Table

Model	Output Voltage	Output Current	Ripple
EC-10	1 KVDC	5mA	2%
EC-15	1.5 KVDC	3.3mA	2%
EC-30	3 KVDC	1.66mA	2%
EC-50	5 KVDC	1mA	2%

EC Series Outline Drawing

