

HV809DB1 Demo Board

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Introduction

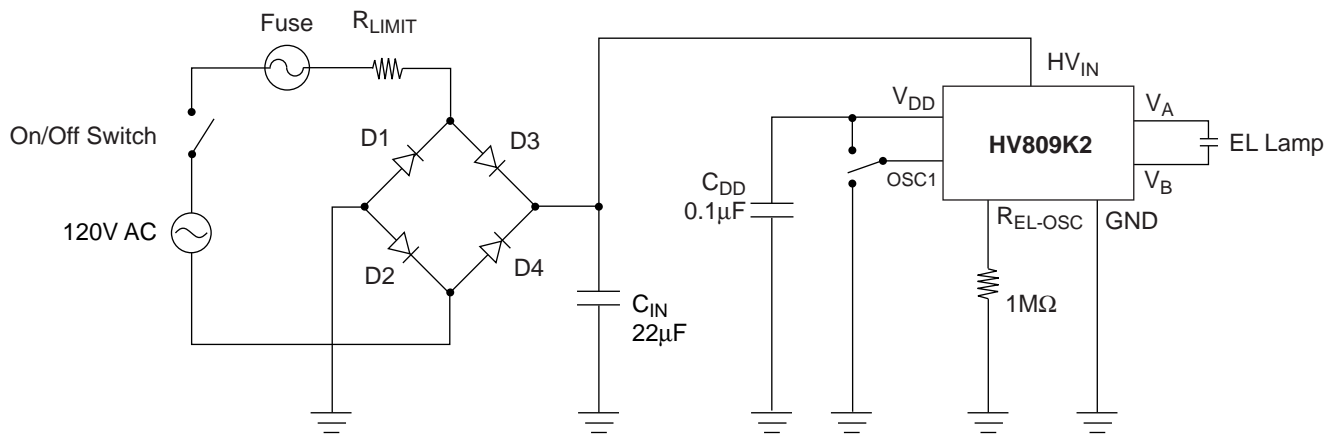
The HV809DB1 EL Driver demo board contains all the circuitry necessary to drive an EL (Electroluminescent) lamp. Simply connect it to the AC line and a lamp as shown below.

For additional assistance in designing EL driver circuits, please refer to application note AN-H36 (EL Lamp Driver Circuits).

Specifications

Supply Voltage	120V AC
Supply Current	~60mA
Lamp Size Range	Up to 100in ²
Lamp Frequency	~400Hz

HV809DB1 Schematic

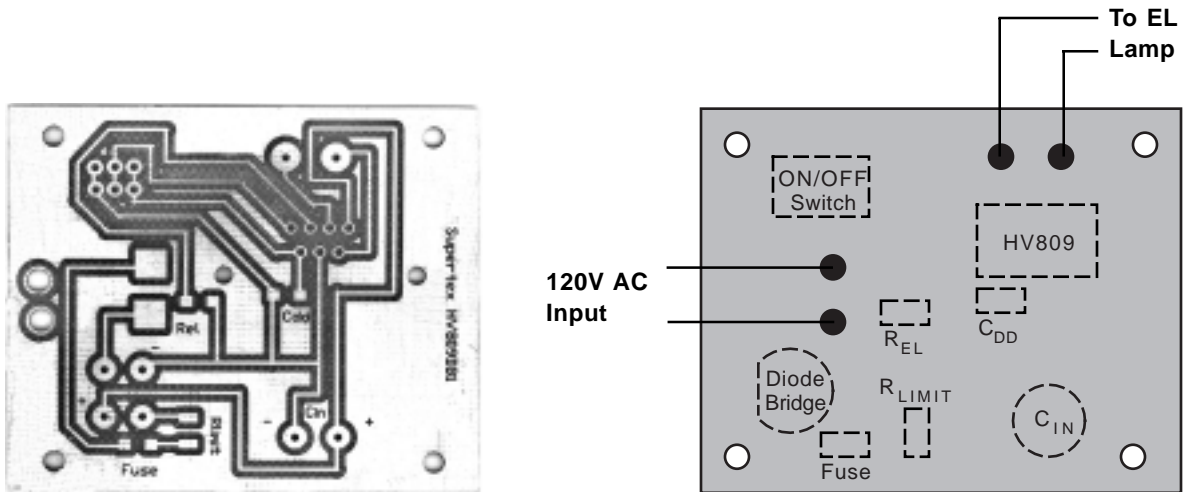


EN Enable Switch
Enables/Disables the lamp driver. The internal logic high (V_{DD}) disables the driver and a logic low (GND) enables the driver.

V_A and V_B Lamp Connections
Connects to an EL lamp. Polarity is irrelevant.

120V AC Off-line Voltage
Supplies the high voltage power.

HV809DB1 Board Layout



Typical Performance

The specific external components used in the above circuit are: Diode Bridge, $C_{IN}=22\mu\text{F}$ 200V, $C_{DD}=0.1\mu\text{F}$ 16V, $R_{EL-OSC}=1\text{M}\Omega$, $R_{LIMIT}=51\Omega$ (to limit the inrush current during power up), a 375mA Pico Fuse, and a 15W heat sink. The following typical performance was observed in the lab for $HV_{IN}=170\text{V}$ DC to simulate a rectified 120V AC.

Lamp Size (in ²)	I_{IN} (mA)	f_{EL} (Hz)	Brightness (ft-lm)
10	6.4	385	29.5
20	11.3	385	22.8
35	22.4	385	21.4
55	33.1	385	20.6
70	41.9	385	19.8
90	52.3	385	15.5
100	56.5	385	14.0