

High Voltage, Low Noise, Inductorless EL Lamp Driver Demoboard

General Description

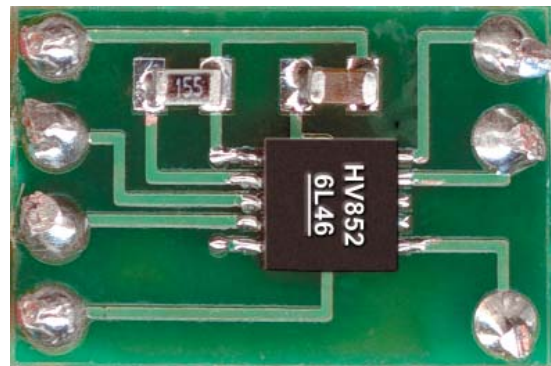
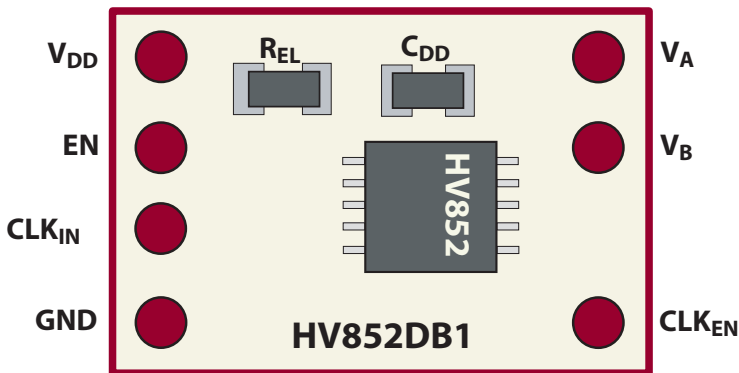
The Supertex HV852DB1 demo board contains all necessary circuitry to demonstrate the features of the HV852 EL lamp driver.

Simply connect it to a power supply and a lamp, as shown below. For additional assistance in implementation of the HV852 circuit, please refer to the HV852 data sheet.

Specifications

Parameter	Value
Input Voltage	2.4V to 5.0V
Supply Current	25mA
Lamp Size	1.5in ²
Lamp Frequency	245Hz

HV852DB1 Schematic and Board Layout



Actual Dimensions: 13mm x 8mm

Connections:

EN - Enable Input

Enables/Disables the lamp driver. Logic high (V_{DD}), enables the driver, and a logic low (GND), disables the driver. This input may be connected to a mechanical switch, or to a logic circuit output.

V_{DD} - IC Supply

Supplies the HV852 EL driver IC. The supplied circuit is optimized for 2.4V to 5.0V operation.

V_A and V_B - Lamp Connections

Connects to an EL lamp. Polarity is irrelevant.

GND - Circuit Ground

Connect to V_{DD} negative terminals. Supply bypass capacitor for V_{DD} is provided on the demo board. External supply bypass capacitors are not necessary.

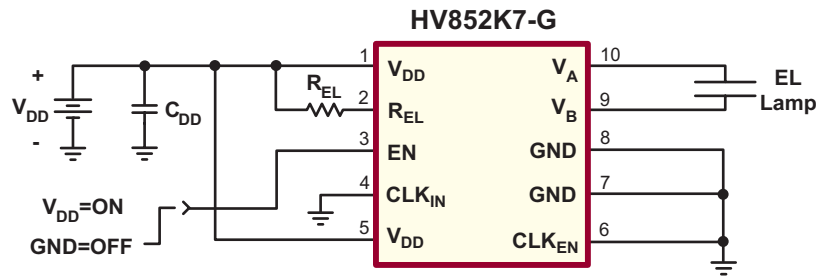
CLK_{EN} - Clock Enable

To use external clock for setting the EL lamp frequency, this pin will need to be connected to V_{DD} . To set the lamp frequency via R_{EL} , this pin will need to be connected to GND.

CLK_{IN} - Logic Input

An external logic clock applied to this pin can be used to set the EL lamp frequency. When using external clock signal, R_{EL} will need to be removed, and R_{EL} pin will need to be connected to GND. CLK_{EN} will need to be connected to V_{DD} when an external clock signal is used. Connect both CLK_{EN} and CLK_{IN} to GND when not in use.

HV852DB1 Schematic



Typical Performance

The specific external components used in the above circuit are: $C_{DD} = 2.2\mu\text{F}$, 6.3V ceramic capacitor and $R_{EL} = 1.5\text{M}\Omega$.

The following was observed when driving a 0.93in² green lamp and 1.5in² green lamp.

Lamp Size (in ²)	V _{DD} (V)	I _{DD} (mA)	V _{peak} (V)	f _{EL} (Hz)	Brightness	
					ft-lm	cd/m ²
0.93	2.4	15.6	79	245	4.30	14.7
	3.0	14.9	79		5.10	17.4
	3.6	14.7	79		5.32	18.2
	4.2	15.1	79		5.50	18.8
	5.0	15.7	79		5.61	19.2
1.5	2.4	19.0	66		2.81	9.6
	3.0	23.4	79		4.77	16.3
	3.6	23.5	79		5.26	18.0
	4.2	23.7	79		5.53	18.9
	5.0	24.1	79		5.73	19.6

HV852DB1 Bill of Materials

Components	Description	Package	Manufacturer	Part #
R _{EL}	1%, 1.5MΩ resistor	0603	Any	---
C _{DD}	2.2μF, 6.3V, ceramic chip capacitor	0603	Any	---
U1	EL driver IC	DFN-10	Supertex Inc	HV852K7-G

The above circuit may need to be optimized further based on the specifications of the lamp used.

Supertex inc. does not recommend the use of its products in life support applications, and will not knowingly sell its products for use in such applications, unless it receives an adequate "product liability indemnification insurance agreement". **Supertex** does not assume responsibility for use of devices described and limits its liability to the replacement of the devices determined defective due to workmanship. No responsibility is assumed for possible omissions or inaccuracies. Circuitry and specifications are subject to change without notice. For the latest product specifications, refer to the **Supertex** website: <http://www.supertex.com>.

©2006 **Supertex inc.** All rights reserved. Unauthorized use or reproduction is prohibited.

Supertex inc.

1235 Bordeaux Drive, Sunnyvale, CA 94089
TEL: (408) 222-8888 / FAX: (408) 222-4895

www.supertex.com