

EL Driver Demoboard

General Description

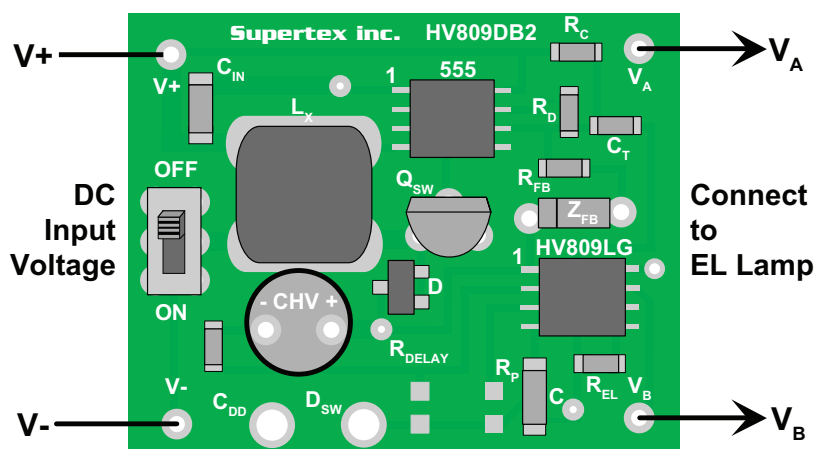
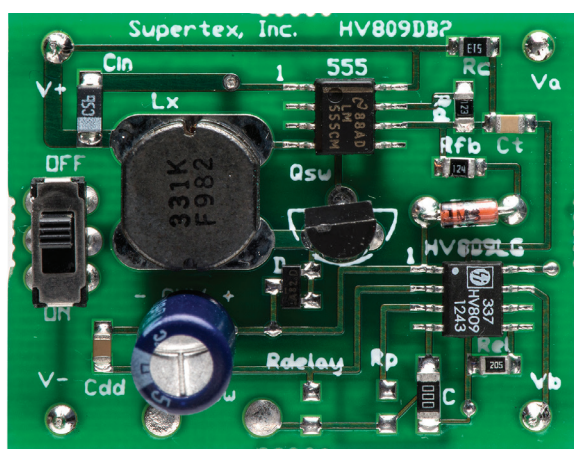
The HV809DB2 EL Driver demoboard contains all the circuitry necessary to drive an EL (Electroluminescent) lamp. Simply connect it to a 4.5 to 6.0V DC supply and an EL lamp as shown below.

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

Specifications

Supply voltage	6.0VDC
Supply current	~170mA
Lamp size range	Up to 12.5in ²
Lamp frequency	~200Hz

Board Layout and Connections



Connections:

V+ and V-

DC input supply voltage. V+ is the positive side of the supply and V- is the return side. It supplies the boost converter circuit to generate the high DC voltage to the HV809. The supplied circuit is optimized for an operating range of 4.5 to 6.0 volts.

VA and VB

VA and VB are the EL lamp connections. Polarity is irrelevant. Maximum lamp size should be limited to 12.5in².

Switch

An On/Off slide switch is provided. When in the off position, it disconnects the input voltage to the circuit.

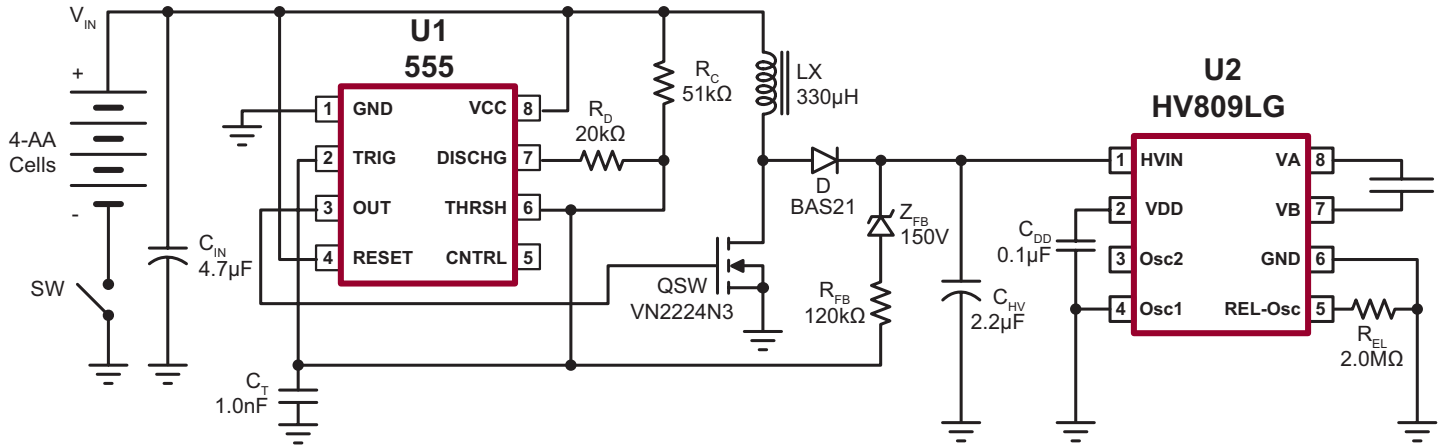
Typical Performance

Lamp Size (in ²)	V _{IN} (V)	I _{IN} (mA)	f _{EL} (Hz)	Brightness (ft-lm)
3.0	4.5	48.4	208	13.5
3.0	6.0	40.5	208	14.1
6.0	4.5	81.5	208	13.0
6.0	6.0	66.9	208	13.6
12.5	4.5	164.4	208	14.9
12.5	6.0	130.2	208	15.5

Note:

The differences in brightness in the above measurements are due to the differences between lamps used (it is within the tolerance of the lamp for most manufacturers).

HV809DB2 Circuit Schematic



Bill of Materials

Item	Description	Value	Package	Manufacturer	Part Number
R _C	Thick film chip resistor	51kΩ ±5%	0805	Any	-
R _D	Thick film chip resistor	20kΩ ±5%	0805	Any	-
R _{FB}	Thick film chip resistor	120kΩ ±5%	0805	Any	-
R _{EL}	Thick film chip resistor	2.0MΩ ±5%	0805	Any	-
C _{IN}	Tantalum capacitor	4.7µF, 16V	1206	Any	-
C _T	X7R ceramic chip capacitor	1.0nF, 50V	0805	Any	-
C _{HV}	Radial electrolytic capacitor	2.2µF, 250V	6.3mm	Any	-
C _{DD}	X7R ceramic chip capacitor	0.1µF, 16V	0805	Any	-
D	250V diode	250V	SOT-23	Motorola	BAS21
ZFB	Zener diode	150V, 5%	DO-35	Microsemi	1N5276B
QSW	N-channel MOSFET	250V, 1.25Ω	TO-92	Supertex	VN2224N3
L _x	Inductor	330µH	Surface Mount	J.W. Miller	PM105-331K
SW	Slide switch	SPDT	PC Mount	E-Switch	EG1271A
U1	Timer IC	-	SO-8	National	LM555CM
U2	EL lamp driver IC	200V	SO-8	Supertex	HV809LG

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