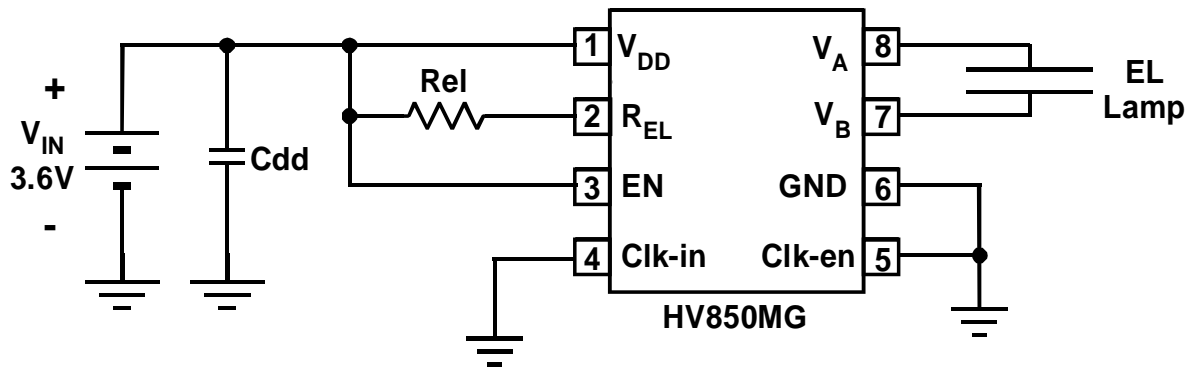


# Product Summary Sheet

# HV850 High Voltage, Low Noise, Inductorless EL Lamp Driver IC

## Applications

- ◆ Cell phone keypads and displays
- ◆ Transceivers
- ◆ MP3 Players
- ◆ Watches
- ◆ Pagers
- ◆ Measuring instruments and gauges



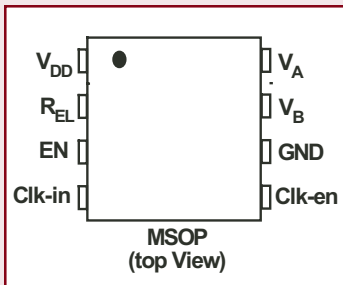
Typical Application Circuit

## Product Overview:

The Supertex HV850 is a high voltage electroluminescent (EL) Lamp Driver IC. This high voltage driver is designed to drive EL lamps with up to 4.5nF loads, which are equivalent to approximately 2.0 square inches. HV850 converts a low voltage DC input (3V - 4.2V) to a high voltage AC (140VAC) output across an EL lamp. It uses a charge pump scheme to increase the input voltage that eliminates the need for an external inductor, and sometimes also an external diode and high voltage capacitor commonly found in conventional topologies.

The charge pump circuit discharges its energy into an EL lamp through a high voltage H-bridge. Once the voltage reaches its regulated limit, it is turned off to conserve power. The EL lamp is then discharged to ground and the H-bridge changes state to allow the charge pump to charge the EL lamp in the opposite direction.

## Package Type



8-pin MSOP (MG)

## Features:

Patented inductorless EL lamp driver

Requires only one or NO external components

150nA Shutdown Current

Turn Off Delay Time Capability

Output Voltage Regulation

Adjustable EL Excitation Frequency

Slow Rising Output Waveform

Enable Function

No SCR Output

## Benefits:

Low cost, small circuit, low profile/height

Saves space

Minimum usage of the battery while the lamp is in stand by mode

Suitable for applications that require momentary enable function

Provides uniform brightness over input voltage range. Saves power, extends battery life.

Simple adjustment of lamp brightness and hue

Minimizes lamp audible noise

Ease of control from microprocessor or other logic circuitry.

Allows use of elastomeric connectors. Ease of assembly.

# HV850 High Voltage, Low Noise Inductorless EL Lamp Driver IC

The HV850MG inductorless EL driver is available in a 8-pin MSOP package. It provides a low noise, efficient and compact backlighting solution for keypad or small LCD applications.

## Typical Performance

Device	Lamp Size	V <sub>DD</sub>	I <sub>DDQ</sub>	I <sub>DD</sub>	f <sub>EL</sub>	Brightness
HV850	1.0 sq. in	3.0V	150nA	8.4mA	250Hz	7.31 cd/m <sup>2</sup>

## Ordering Information / Availability

Part Number	Datasheet	Samples	Demo Board	Lead Time
HV850	HV850 Now	HV850MG HV850X Now	HV850DB1 3 weeks	4 - 5 weeks ARO

## Supertex EL Driver Family

Part #	Supply Voltage (Volts DC)	Output Voltage (P-P Volts)	Typical EL Lamp (Square Inches)	Package Options
HV809*	50 – 200	100 – 400	5.0 – 100	SO-8 + Slug, TO-220, Die
HV823	2.0 – 9.5	180	0.5 – 23.0	SO-8, Die
HV825	1.0 – 1.5	108	0.5 – 3.0	MSOP-8, SO-8, Die
HV826	1.8 – 3.5	160	0.5 – 4.0	MSOP-8, SO-8, Die
HV830	2.0 – 9.5	200	0.5 – 25.0	SO-8, Die
HV831**	2.0 – 5.0	160	0.5 – 3.5	MSOP-10, Die
HV832**	2.0 – 5.0	180	0.5 – 3.5	MSOP-8, Die
HV833	1.8 – 6.5	180	0.5 – 12.0	MSOP-8, Die
HV839**	2.0 – 5.0	180	0.5 – 3.5	MSOP-10, Die
HV850***	3.0 – 4.2	140	0.5 – 2.0	MSOP-8, Die
HV857	1.8 – 5.0	190	0.5 – 5.0	MSOP-8, Die

\* Suitable for rectified off-line voltages or when high voltage (50 - 200 Volts DC) is available.

\*\* HV831, HV832 and HV839 are dual EL Lamp Drivers.

\*\*\* HV850 does not require an inductor to boost the supply voltage.

## Product Contact

If you have any questions regarding the HV850MG, samples or demo board, contact Supertex Applications at:

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