Low Noise Dual EL Lamp Driver

Features

- Low audible noise
- Independent input control for lamp selection
- 160V_{PP} output voltage
- Split supply capability
- Patented output timing
- One miniature inductor to power both lamps
- Low shutdown current
- Wide input voltage range 2.0V to 5.8V
- Output voltage regulation
- No SCR output
- Available in MLP/DFN-10 package

Applications

- Dual display cellular phones
- Keypad and LCD backlighting
- Portable instrumentation
- Dual segment lamps
- Handheld wireless communication devices

General Description

The Supertex HV835 is a high voltage driver designed for driving two EL lamps with a combined area of 3.5 square inches. The input supply voltage range is from 2.0V to 5.8V. The device is designed to reduce the amount of audible noise emitted by the lamp. This device uses a single inductor and a minimum number of passive components to drive two EL lamps. The nominal regulated output voltage of ±80V is applied to the EL lamps. The two EL lamps can be turned ON and OFF by the two logic input control pins, C1 and C2. The device is disabled when both C1 and C2 (pins 1 and 4) are at logic low.

The HV835 has an internal oscillator, a switching MOSFET, and two high voltage EL lamp drivers. Each driver has its own half bridge common output (COM1 and COM2) connected to a single pin called COM which minimizes the DC offset seen by the EL lamp. An external resistor connected between the R_{SW-Osc} pin and the voltage supply pin, V_{DD}, sets the frequency for the switching MOSFET. The EL lamp driver frequency is set by dividing the MOSFET switching frequency by 512. An external inductor is connected between the L_X and the V_{DD} pins. Depending on the EL lamp size, a 1.0 to 10.0nF, 100V capacitor is connected between C_S and Ground. The switching MOSFET charges the external inductor and discharges it into the capacitor at C_S. The voltage at C_S increases. Once the voltage at C_S reaches a nominal value of 80V, the switching MOSFET is turned OFF to conserve power.

Typical Application Circuit