

## HV826 EL Lamp Driver Circuits

This application note presents six EL driver circuits utilizing the Supertex HV826 integrated circuit. They have been optimized for a variety of applications and may be used as is or used as a starting point in designing a circuit for a particular application. For additional assistance in designing a driver circuit, please refer to the **Application Note AN-H33, Lamp Driver Circuits**.

When constructing and testing one of the driver circuits listed below, keep in mind that results may differ from those given due to component tolerances and lamp characteristics.

When making component changes, always remove supply voltage first. After making adjustments, bring up the supply voltage slowly (starting from the minimum required device input voltage) while monitoring input current. Excessive input current may be a good indication of connection errors or incorrect component values. A sharp rise in current usually indicates a saturated inductor. To avoid inductor saturation, use a higher current rated inductor or increase the conversion frequency by lowering the  $R_{SW}$  resistor value.

### Circuit Selector Guide

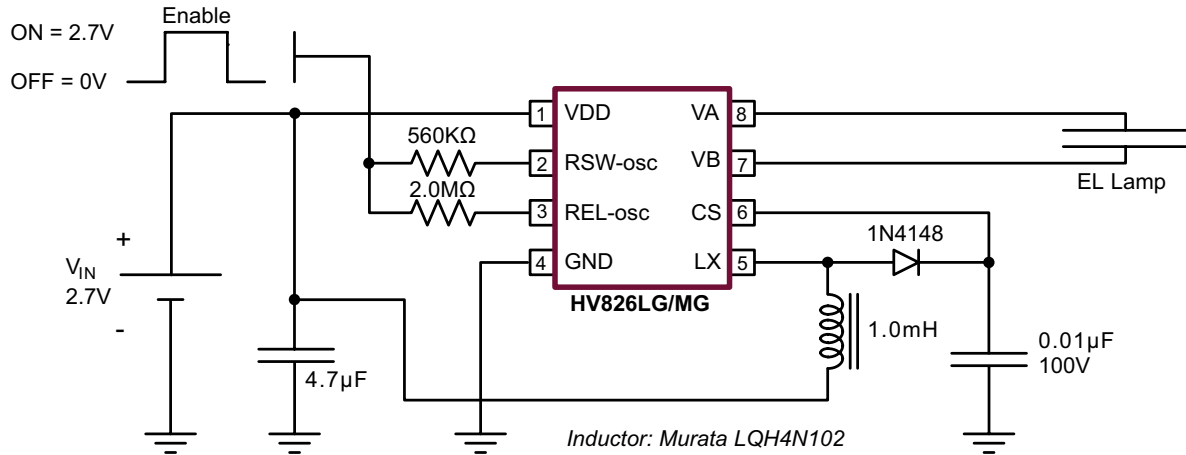
Circuit	Applications	Lamp Color/ Size (in <sup>2</sup> )	Lamp Brightness <sup>1</sup> (ft-lm)	Supply Voltage (V)	Supply Current (mA)	Output Voltage (V <sub>p,p</sub> )	Output Frequency (Hz)
1	Pagers, watches	Green/ 1.0	4.0	2.7	9.8	157	195
2	Pagers, travel clocks, wall thermostats	Green/ 1.6	7.0	1.5/3.0	50.0	140	400
3	Pagers, travel clocks, wall thermostats	Green/ 1.6	4.3	3.0	12.2	158	195
4	Pagers, caller IDs, phones	Green/ 2.0	4.8	3.0	14.2	148	195
5	GPSs, cell phones, two-way pagers, organizers	Green/ 3.0	5.5	3.0	33.0	146	285
6	PDA's, GPSs, cell phones, radios, clocks, organizers	Green/ 4.0	5.8	3.3	29.5	153	335

**Notes:**

1. Lamp brightness can vary by type and manufacturer.

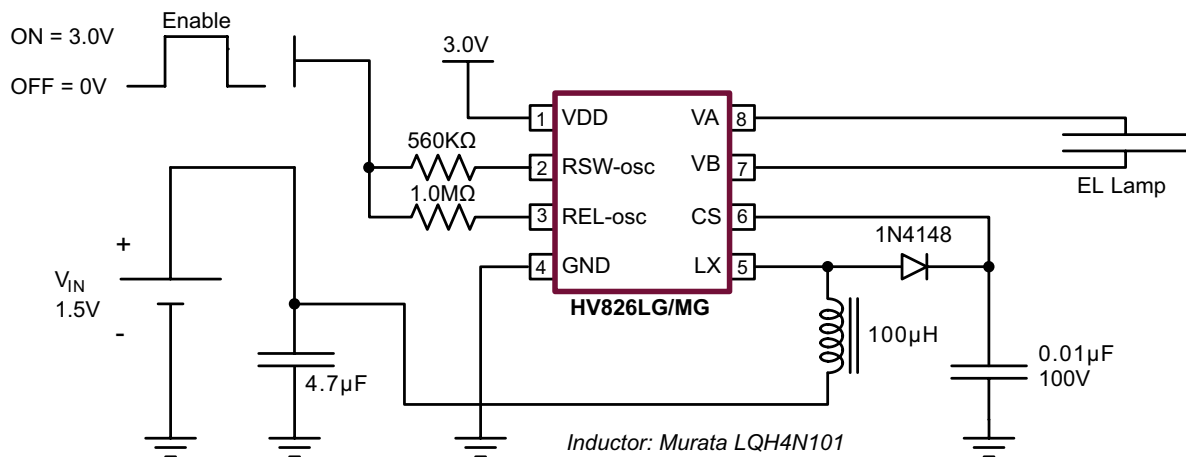
Circuit 1

Application	Lamp Color/ Size (in <sup>2</sup> )	Lamp Brightness (ft-lm)	Supply Voltage (V)	Supply Current (mA)	Output Voltage (V <sub>p-p</sub> )	Output Frequency (Hz)
Pagers, watches	Green/ 1.0	4.0	2.7	9.8	157	195



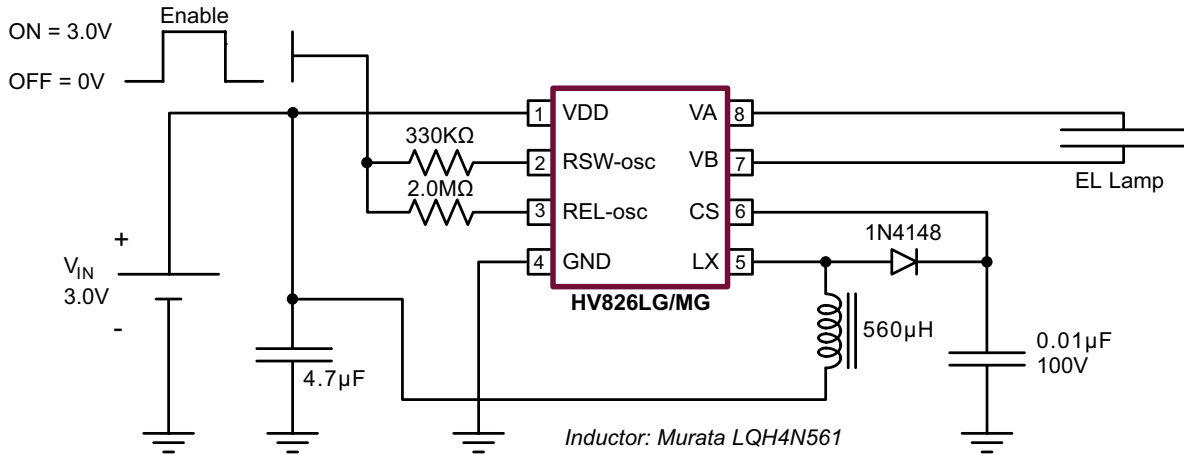
Circuit 2

Application	Lamp Color/ Size (in <sup>2</sup> )	Lamp Brightness (ft-lm)	Supply Voltage (V)	Supply Current (mA)	Output Voltage (V <sub>p-p</sub> )	Output Frequency (Hz)
Pagers, travel clocks, wall thermostats	Green/ 1.6	7.0	1.5 / 3.0	50.0	140	400



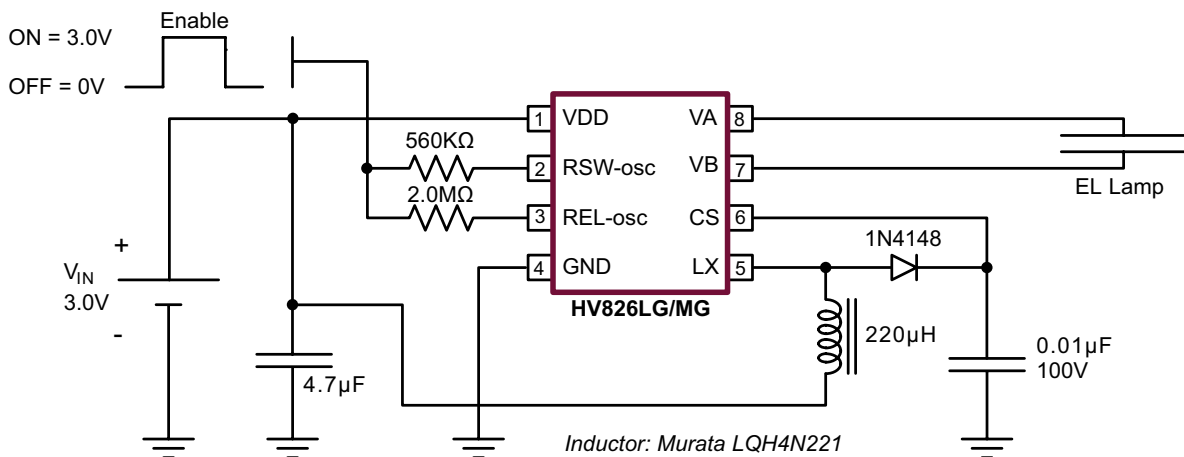
Circuit 3

Application	Lamp Color/ Size (in <sup>2</sup> )	Lamp Brightness (ft-lm)	Supply Voltage (V)	Supply Current (mA)	Output Voltage (V <sub>p-p</sub> )	Output Frequency (Hz)
Pagers, travel clocks, wall thermostats	Green/ 1.6	4.3	3.0	12.2	158	195



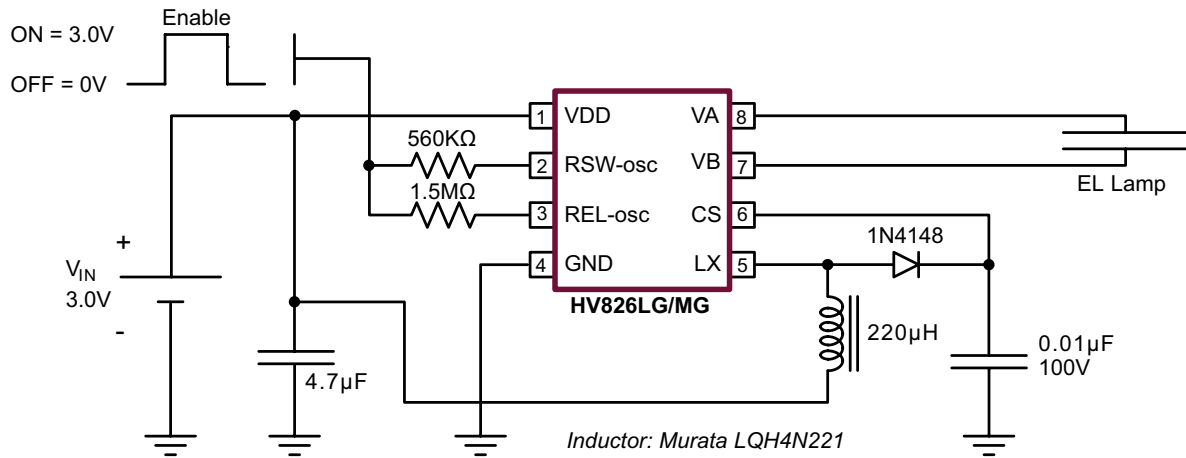
Circuit 4

Application	Lamp Color/ Size (in <sup>2</sup> )	Lamp Brightness (ft-lm)	Supply Voltage (V)	Supply Current (mA)	Output Voltage (V <sub>p-p</sub> )	Output Frequency (Hz)
Pagers, caller IDs, phones	Green/ 2.0	4.8	3.0	14.2	148	195



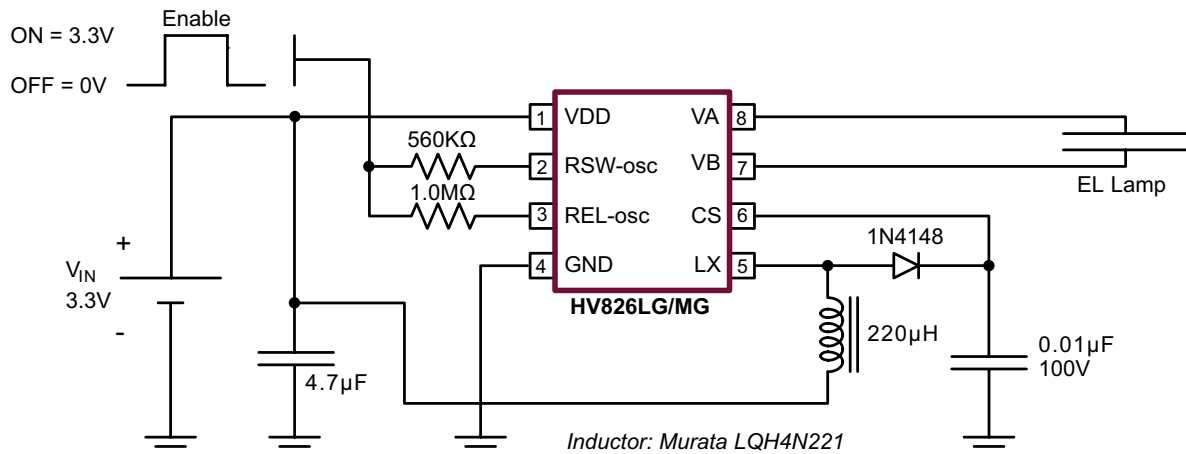
Circuit 5

Application	Lamp Color/ Size (in <sup>2</sup> )	Lamp Brightness (ft-lm)	Supply Voltage (V)	Supply Current (mA)	Output Voltage (V <sub>p-p</sub> )	Output Frequency (Hz)
GPSs, cell phones, two-way pagers, organizers	Green/ 3.0	5.5	3.0	33.0	146	285



Circuit 6

Application	Lamp Color/ Size (in <sup>2</sup> )	Lamp Brightness (ft-lm)	Supply Voltage (V)	Supply Current (mA)	Output Voltage (V <sub>p-p</sub> )	Output Frequency (Hz)
PDA's, GPSs, cell phones, radios, clocks, organizers	Green/ 4.0	5.8	3.3	29.5	153	335



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