

HV833 EL Lamp Driver Circuits

This application note presents eight EL driver circuits utilizing the Supertex HV833 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.

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 the 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 RSW resistor value.

Circuit Selector Guide

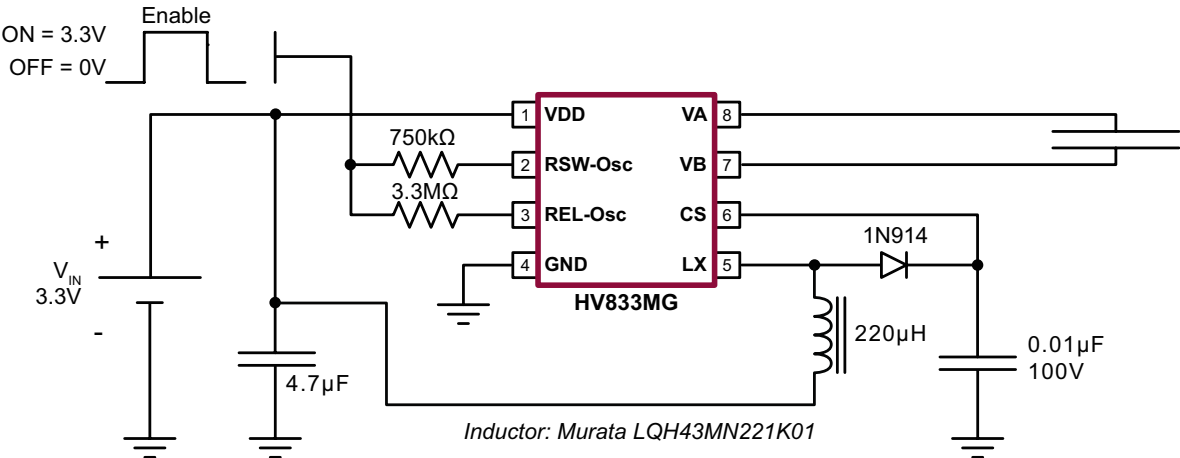
Circuit	Lamp Color/ Size (in ²)	Lamp Brightness ¹ (ft-lm)	Supply Voltage (V)	Supply Current (mA)	Output Voltage (V _{p-p})	Output Frequency (Hz)
1	Green 10.0	2.9	3.3	29.2	159	138
2	White 8.8	5.6	3.3	50.7	150	312
3	Green 5.5	4.6	3.0	26.8	151	220
4	Green 11.0	3.1	3.0/5.0	18.2	171	138
5	Green 3.0	8.2	3.3	23.0	167	312
6	Green 8.5	6.3	3.3	54.6	177	312
7	Green 10.0	6.7	5.0	54.1	157	465
8	White 8.8	9.5	3.0/12	24.5	176	465

Notes:

1. Lamp brightness can vary by type and manufacturer.

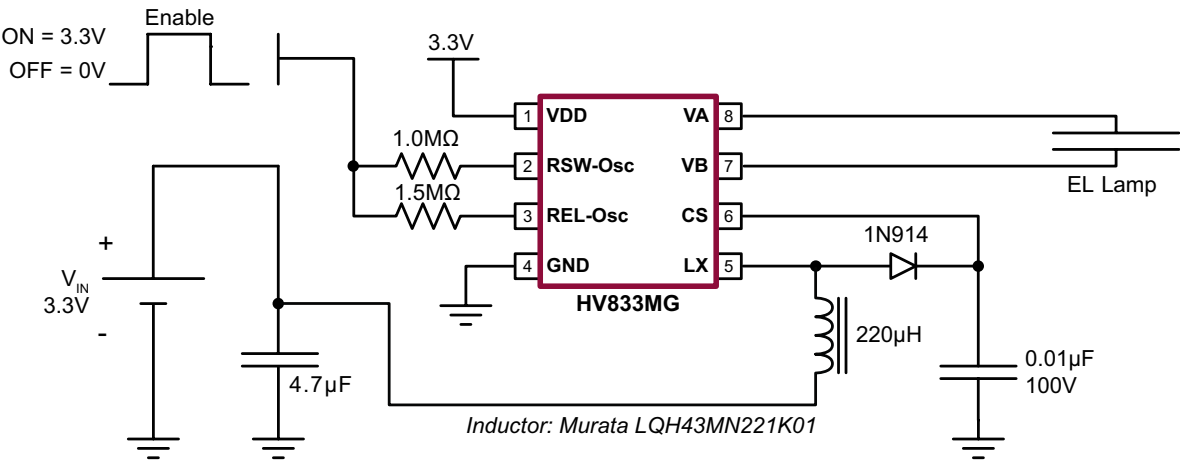
Circuit 1

Application	Lamp Color/ Size (in²)	Lamp Brightness (ft-lm)	Supply Voltage (V)	Supply Current (mA)	Output Voltage (V _{p-p})	Output Frequency (Hz)
PDA's, HPCs	Green/ 10.0	2.9	3.3	29.2	159	138



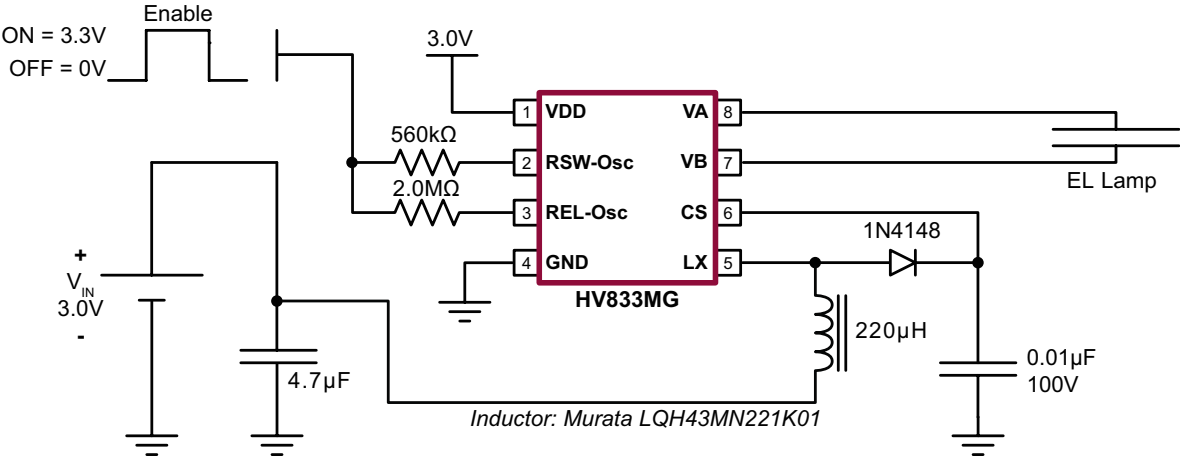
Circuit 2

Application	Lamp Color/ Size (in²)	Lamp Brightness (ft-lm)	Supply Voltage (V)	Supply Current (mA)	Output Voltage (V _{p-p})	Output Frequency (Hz)
Clocks, Radios, Organizers, PDAs	White/ 8.8	5.6	3.3	50.7	150	312



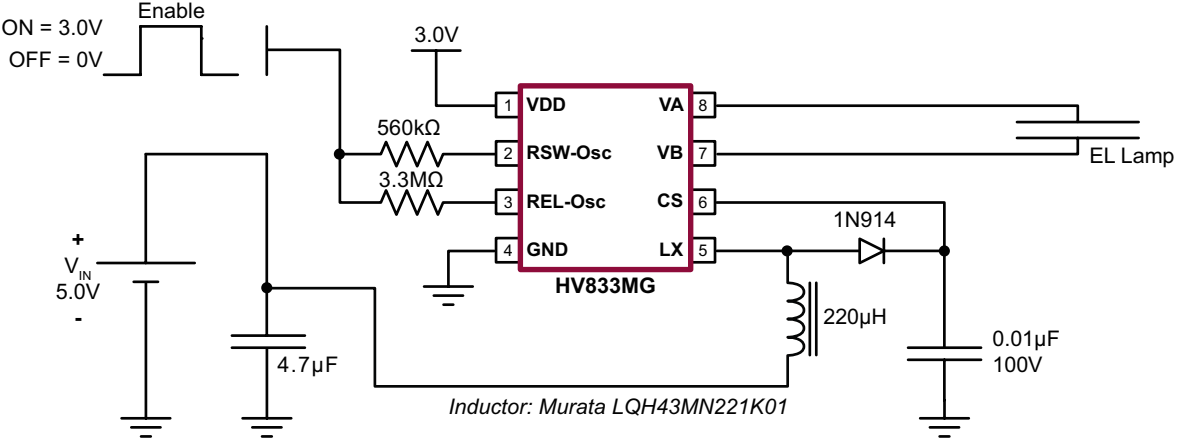
Circuit 3

Application	Lamp Color/ Size (in²)	Lamp Brightness (ft-lm)	Supply Voltage (V)	Supply Current (mA)	Output Voltage (V _{p-p})	Output Frequency (Hz)
Caller IDs, HPCs, Organizers, Calculators	Green/ 5.5	4.6	3.0	26.8	151	220



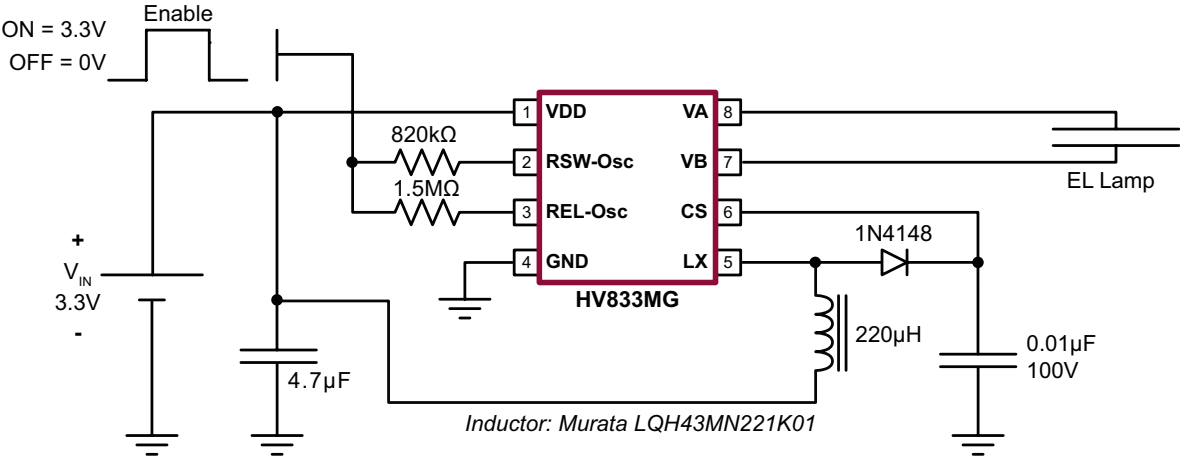
Circuit 4

Application	Lamp Color/ Size (in²)	Lamp Brightness (ft-lm)	Supply Voltage (V)	Supply Current (mA)	Output Voltage (V _{p-p})	Output Frequency (Hz)
PDA's, HPCs	Green/ 11.0	3.1	3.0/5.0	18.2	171	138



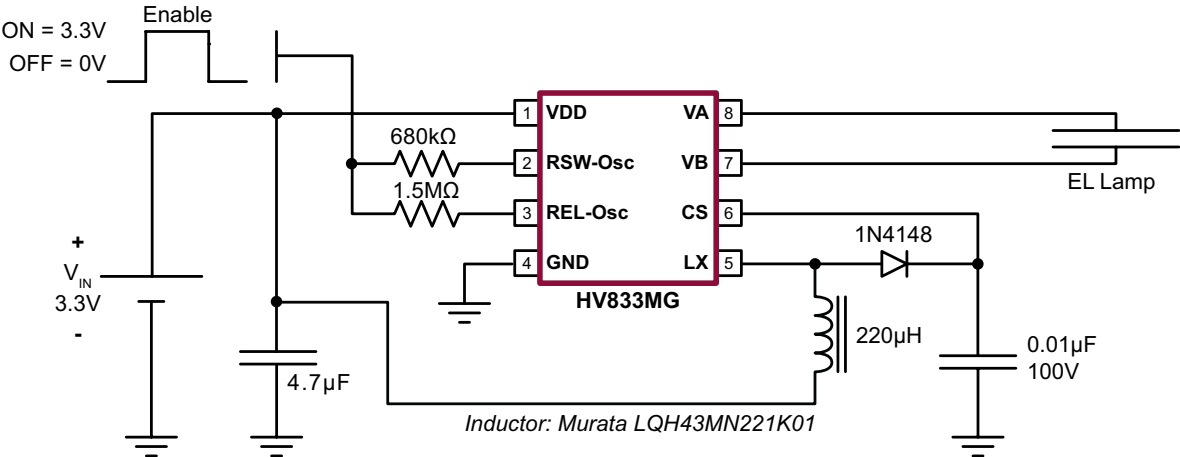
Circuit 5

Application	Lamp Color/ Size (in²)	Lamp Brightness (ft-lm)	Supply Voltage (V)	Supply Current (mA)	Output Voltage (V _{p-p})	Output Frequency (Hz)
GPS's, Two Way Pagers, Organizers, Caller IDs	Green/ 3.0	8.2	3.3	23.0	167	312



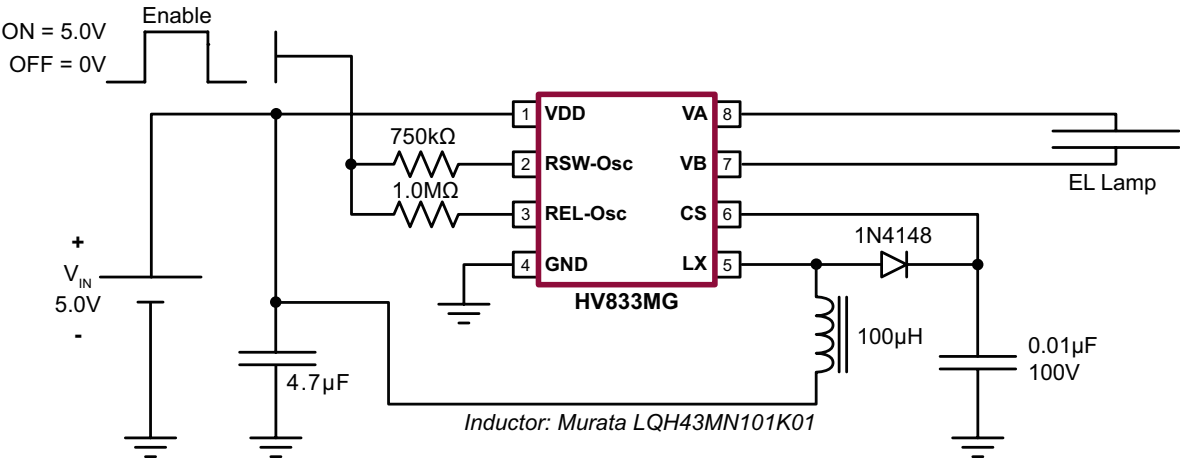
Circuit 6

Application	Lamp Color/ Size (in²)	Lamp Brightness (ft-lm)	Supply Voltage (V)	Supply Current (mA)	Output Voltage (V _{p-p})	Output Frequency (Hz)
PDA's, GPS's, HPC's, Radios, Clocks, Organizers	Green/ 8.5	6.3	3.3	54.6	177	312



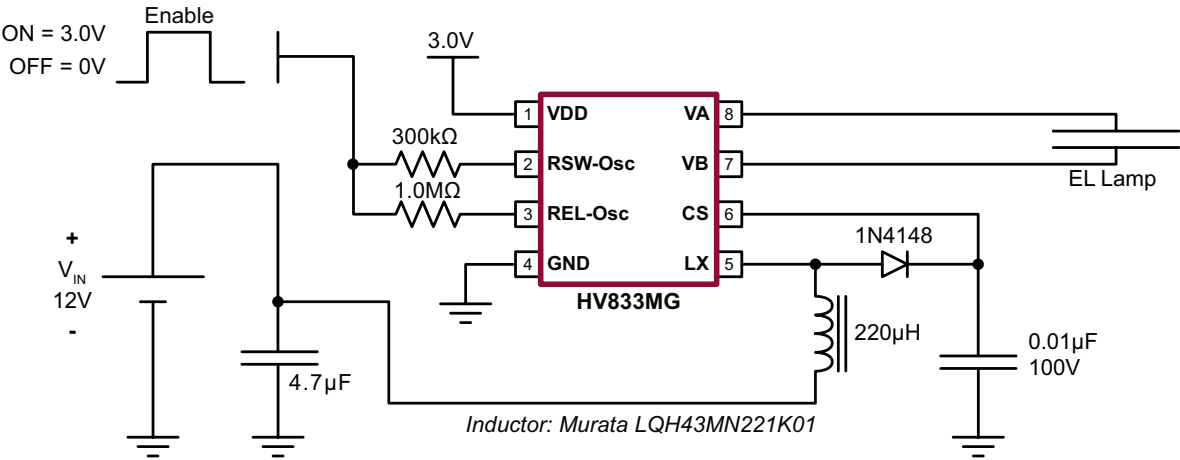
Circuit 7

Application	Lamp Color/ Size (in ²)	Lamp Brightness (ft-lm)	Supply Voltage (V)	Supply Current (mA)	Output Voltage (V _{p-p})	Output Frequency (Hz)
PDA's, HPC's, Automotive Dash	Green/ 10.0	6.7	5.0	54.1	157	465



Circuit 8

Application	Lamp Color/ Size (in ²)	Lamp Brightness (ft-lm)	Supply Voltage (V)	Supply Current (mA)	Output Voltage (V _{p-p})	Output Frequency (Hz)
Gauges, Wall Thermostats	White/ 8.8	9.5	3.0/12	24.5	176	465



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