



THE VERSATILE DC/DC BUCK HBLED DRIVER IS31LT3360

The IS31LT3360 is a simple and a flexible LED driver used by our customers in a range of products such as alarms, pool lighting, flashlights, etc. Our customers love designing with this LED driver because it is a versatile device which requires a very low BOM count making it simple to integrate into their applications. The device integrates the output FET switch and the current sense circuit; requiring only a sense resistor and an external inductor to set the LED output current (up to 1200mA).

Technically, the IS31LT3360 is a continuous mode inductive driver available in a space saving SOT89-5 package. By design it is a DC/DC buck converter operating at a 1Mhz switching frequency to efficiently (up to 98%) drive one or more series connected LEDs from a voltage source higher than the LED voltage, Figure 1.

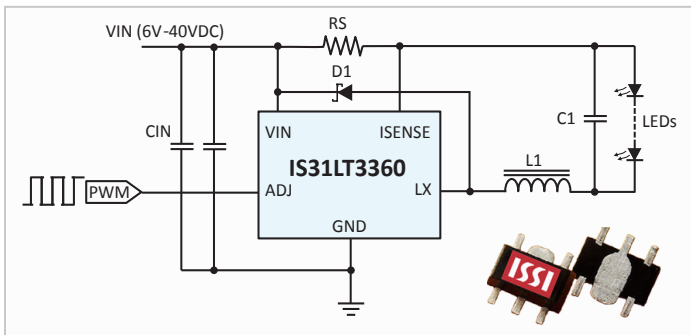


Figure 1. for a typical application and SOT89-5 package

An interesting application is to use a variety of LED colors and brightness levels to create a lighting environment for a specific ambient condition. This requirement can be easily fulfilled by using more than one IS31LT3360 to drive the light output from high brightness RGB LEDs. By mixing these colors together, nearly all colors within the visible spectrum can be realized.

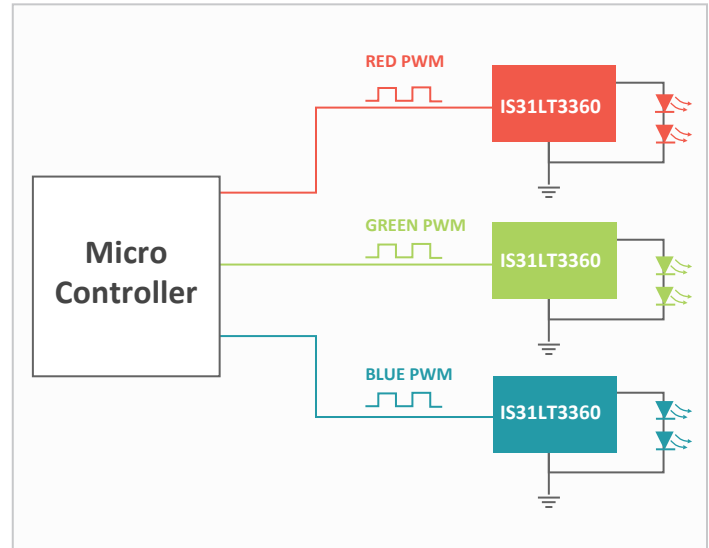


Figure 2. Micro driving RGB LEDs

To create this color lighting environment, an external microcontroller is programmed to drive Pulse-Width-Modulated (PWM) signals to each of three IS31LT3360 devices. RGB color mixing is accomplished when the microcontroller sends out control signals to each IS31LT3360 with different pulse widths to drive the corresponding Red, Green and Blue LED, Figure 2.

ISSI's LED driver portfolio includes a family of highly efficient DC/DC Buck drive controllers with internal or external MOS switch, with thermal management and dimming controls. Among them, the IS31LT3350 integrates a 750mA MOSFET driver for cost effective MR-16 solutions and the IS31LT3380 incorporates a unique three step dimming.

Device	Feature	Vin	Iout	Package
IS31LT3350	Built-in MOS switch	6V to 40VDC	750mA	SOT23-5
IS31LT3352	Built-in MOS switch w/Temp Compensation	6V to 40VDC	750mA	SOP-8
IS31LT3354	External switch	6V to 40VDC	Limited by external switch	SOT23-5
IS31LT3360	Built-in MOS switch	6V to 40VDC	1.2A	SOT89-5
IS31LT3380	Built-in MOS switch 3 steps switch dimming	8.5V to 40VDC	1.2A	SOP-8

For a complete listing of ISSI's HBLED drive controller devices, evaluation boards, and application notes, please visit our [website](http://www.issi.com).