

Design and simulation of oscillator circuitries for LED driver integrated circuit

Abstract

This paper presents a design of oscillator circuitries utilizing 1 μm , 350 V technology. The proposed oscillator circuitries are for LED driver IC. The oscillator circuitries provide the ramp signal and one-shot signal for pulse width modulated signal generation and reset signal of the LED driver. The oscillator circuitries consist of bias 5 V, two comparators, oscillator bias, SR latch, oscillator charge-discharge, and one-shot circuitries. The clock frequency is 575 kHz, while the one-shot pulse duty cycle is 3 %. The proposed oscillator circuitries are designed and simulated in Cadence Virtuoso Analog Design Environment software. The proposed oscillator circuitries occupy 10 % of LED Driver IC size.