Laser Diode Switching Speed

In contrast to mode-locked lasers, gain-switched laser diodes easily allow one to adjust the pulse repetition rate in a wide range, since it can be controlled with an electronic driver without changing ...

In this paper, the characteristics of a laser diode module and the system configuration of the proposed laser diode driver are first introduced. Then, a current control scheme using the concept of phase ...

This paper presents a current-mode DAC architecture for LDDs together with a 9-bit implementation which targets a rise time of 1.5 ns for a zero-to-full-current (51 mA) switching condition.

I am looking to design a circuit to pulse a 532 nm laser diode at approximately constant optical power output (current of ~200 mA), with pulse widths of ~1-10 us with a rise/fall time on the ...

semiconductor laser diode, that is being driven with a step recovery diode pulse generator der to switch t off as desired. The second technique involves a mono-cycle scheme that allows a step recovery ...

This technique generates a high repetition frequency pulse through synthesizing the driving signals for multiple parallel switching transistors. The output characteristics of this pulse ...

Small laser diodes can generate pulses with durations of tens of picoseconds (or sometimes even only a few picoseconds) when operated with short current spikes or with a sinusoidally modulated signal. ...

The latest generation of all-purpose integrated laser driver solutions supports switching frequencies up to 155 MHz and laser currents up to 300 mA. Fig. 1 shows the schematic of an iC-NZN application.

In this paper, a high speed current driver for direct mod-ulation of laser diodes is described. An adjustable dc current source is generated from the power supply voltage using a switching down ...

Understanding the principles and applications of gain switching can help in optimizing laser performance for specific applications in research, industry, and technology.

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