POWER X
博尔芯半导体科技

PXM05L-8

High-Speed Eight-Channel Laser Driver IC
30V, 20A

1 Features

- 500-ps typical minimum output pulse width (RC resonance)
- V_{LASER} operating range up to 30V
- 20A peak current
- 5-V nominal logic power supply
- 3.3-V/5-V logic compatible input control
- UVLO and over-temperature protection
- 4.3-ns delay time from input to output
- 700um pitch between each channel

2 Applications

- 1D/2D VCSEL Driver

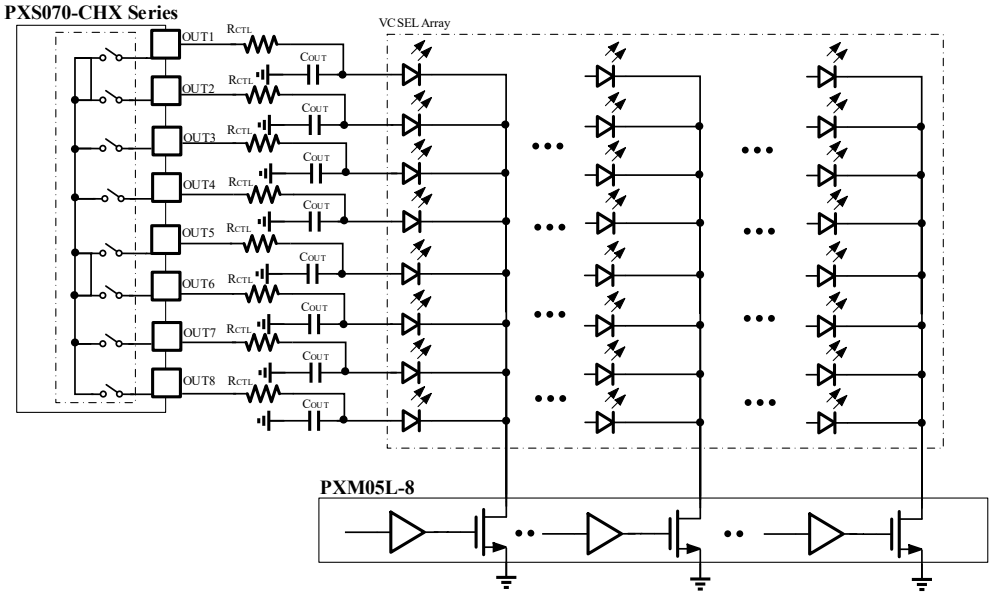
3 Description

The PXM05L-8 is a multi-channel laser driver for high-speed and high-frequency 1D and 2D LiDAR application. The very fast switching frequency combined with the ultra-narrow pulse width significantly enhance the Lidar performance. The minimum 500-ps output pulse width makes higher power/current allowable in these applications to improve mapping range and resolution. The extremely small propagation delay of 4.3-ns significantly improves the control loop response time.

The driver features undervoltage lockout (UVLO) and over-temperature protection (OTP) to ensure the device is not damaged in overload or fault conditions.

PXM05L-8 is available in 5.95mm*2.5mm LGA package to meet the size and gate loop inductance requirements for high-speed switching applications. There is only 700um pitch between each channel.

Typical (Simplified) System Diagram



Simplified 2D VCSEL Driver Stage Diagram