

Laser Diode Driver with Waveform Generator

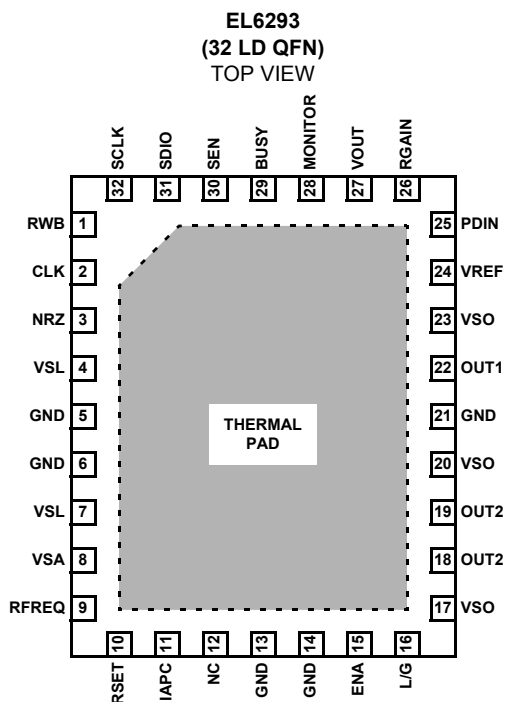
The EL6293 is a highly integrated laser diode driver designed to support multi-standard writable optical drives. It accomplishes this by incorporating a waveform generator wherein the diode currents and timing details can be programmed before operation. The data input circuitry inspects the NRZ serial data waveform and generates programmed waveforms in recognition of 3, 4, 5, 6, or more clock periods of space changing to 3, 4, 5, 6, or more clock periods of mark, and vice versa.

This programmable architecture allows reprogramming of the timers to support different media, DVD or CD standards, and different speeds. The programming is accomplished through a serial interface port. Two outputs are provided to support dual-laser multi-standard optical heads.

The EL6293 also contains a fast I/V amplifier with programmable sampler that allows the user to sample any level of the output waveform by using an external photodiode.

The EL6293 requires 3.3V and 5V supplies, with all the logical interface operating on the 3.3V supply.

Pinout



Features

- Complete Programmable Laser Diode Driver
- 350mA Maximum Total Output
- 8-bit x 8-bit Multiplying DAC Output Provides 8-bit Full Scale Adjustment and 8-bit Resolution at any Full Scale Output
- 0.17ns Timer Resolution
- Two Laser Outputs Allows Read/Write DVD and CD Combinations
- Programmable Waveform Values Support 2.6GB DVD-RAM, 4.7GB DVD-RAM, DVD-R, DVD+RW, DVD-RW, CD-RW, and CD-R
- Analog Input Supports APC
- HFM Oscillator Programmable to 100mA_{P-P} from 100MHz to 500MHz
- PLL allows Reduced-Frequency Clock on Flex Cable
- Separate Serial Input works up to 25Mb/sec
- Fast I/V Amplifier with Sampler
- Pb-Free Available (RoHS Compliant)

Applications

- Combination DVD Writable and CD Writable Drives
- DVD Camcorders
- DVD Video Recorders

Ordering Information

PART NUMBER (Notes 1, 2, 3)	PART MARKING	TEMP RANGE (°C)	PACKAGE	PACKAGE DWG. NO.
EL6293CL-T13	6293CL	-40 to +85	32 Ld QFN	L32.5x6A
EL6293CLZ-T13 (Note 2)	6293CLZ	-40 to +85	32 Ld QFN (Pb-Free)	L32.5x6A

NOTES:

1. Please refer to [TB347](#) for details on reel specifications.
2. For Moisture Sensitivity Level (MSL), please see device information page for [EL6293](#). For more information on MSL please see techbrief [TB363](#).

Circuitry Block Diagram

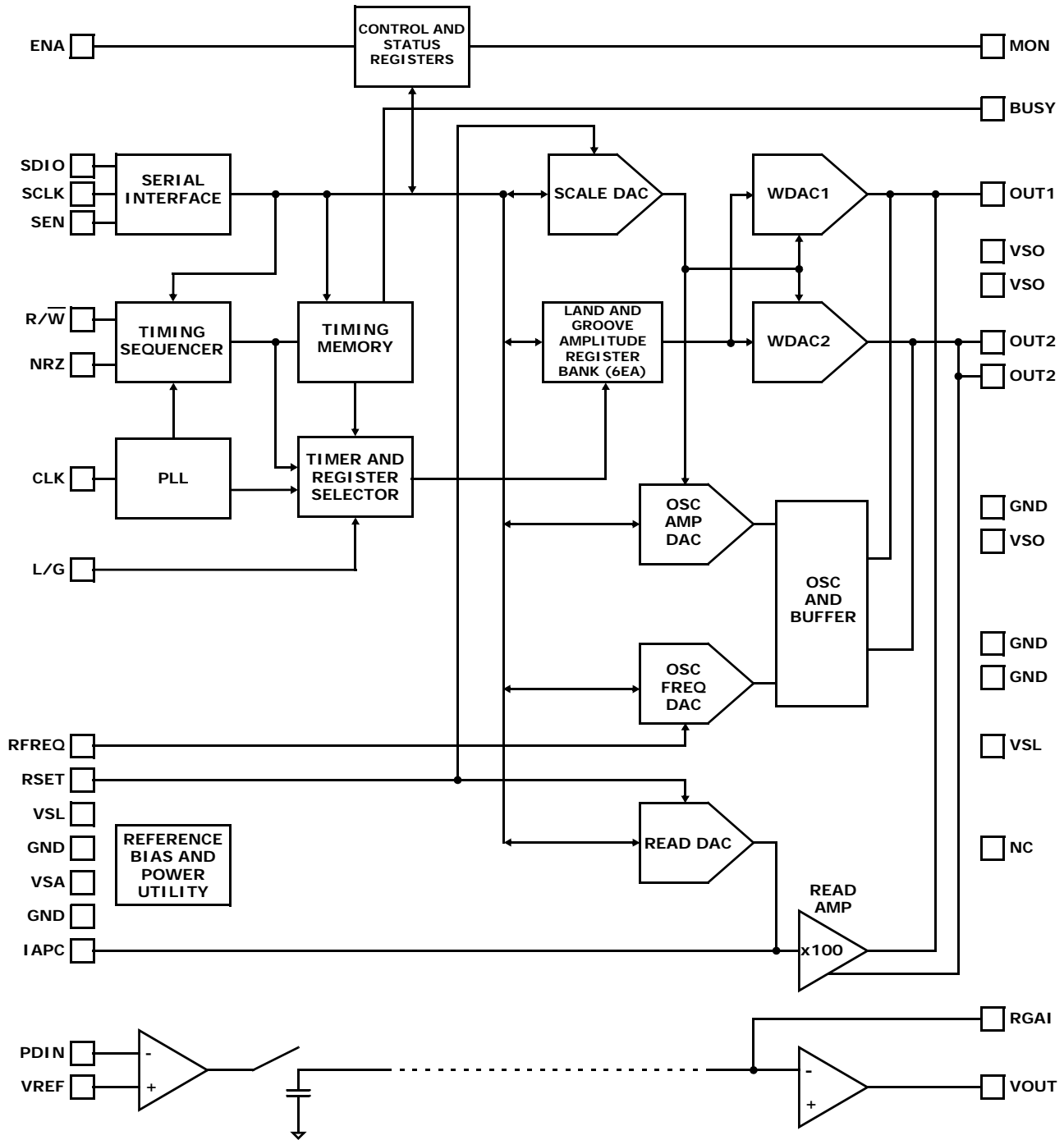


FIGURE 1. CIRCUITRY BLOCK DIAGRAM

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