

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, or 6 or more clock periods of space changing to 3, 4, 5, or 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.

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 100mAp-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 as an Option

Applications

- Combination DVD writable and CD writable drives
- DVD camcorders
- DVD video recorders

Ordering Information

PART NUMBER	PACKAGE	TAPE & REEL	PKG. DWG. #
EL6293CL	32-Pin QFN	-	MDP0046
EL6293CL-T7	32-Pin QFN	7"	MDP0046
EL6293CL-T13	32-Pin QFN	13"	MDP0046
EL6293CLZ (See Note)	32-Pin QFN (Pb-free)	-	MDP0046
EL6293CLZ-T7 (See Note)	32-Pin QFN (Pb-free)	7"	MDP0046
EL6293CLZ-T13 (See Note)	32-Pin QFN (Pb-free)	13"	MDP0046

NOTE: Intersil Pb-free products employ special Pb-free material sets; molding compounds/die attach materials and 100% matte tin plate termination finish, which is compatible with both SnPb and Pb-free soldering operations. Intersil Pb-free products are MSL classified at Pb-free peak reflow temperatures that meet or exceed the Pb-free requirements of IPC/JEDEC J Std-020B.

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