

Laser Diode Driver with Waveform Generator



The EL6298 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. NRZ and clock are LVDS.

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 EL6298 requires 3.3V and 5V supplies, with all the logical interface operating on the 3.3V supply.

The EL6298 is available in 32-pin QFN and 32-pin QFN packages for improved thermal performance and reduced footprint.

Ordering Information

PART NUMBER	PACKAGE	TAPE & REEL	PKG. DWG. #
EL6298CL	32-Pin QFN	-	MDP0046
EL6298CL-T7	32-Pin QFN	7"	MDP0046
EL6298CL-T13	32-Pin QFN	13"	MDP0046
EL6298CLZ (See Note)	32-Pin QFN (Pb-free)	-	MDP0046
EL6298CLZ-T7 (See Note)	32-Pin QFN (Pb-free)	7"	MDP0046
EL6298CLZ-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.

Features

- 4MHz - 200MHz clock
- Complete programmable laser diode driver
- 250mA maximum write output
- 8-bit x 8-bit multiplying DAC output provides 8-bit full scale adjustment and 8-bit resolution at any full scale output
- 0.12ns 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 200MHz to 600MHz
- PLL allows reduced-frequency clock on flex cable
- Separate serial input works up to 25Mb/sec
- Pb-free available

Applications

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

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