Data Sheet March 17, 2004 FN7407

Laser Diode Driver with Waveform Generator

The EL6934 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.

The architecture allows reprogramming of the timers to support different media, Blue, 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 clock and NRZ inputs can be either standard CMOS or LVDS, selectable through a program bit.

The EL6934 requires 2.5V and 5V supplies, with all the logical interface operating on the 2.5V supply.

Ordering Information

PART NUMBER	PACKAGE	TAPE & REEL	PKG. DWG. #
EL6934CLZ (Note)	32-Pin QFN (Pb-Free)	-	MDP0046
EL6934CLZ-T7 (Note)	32-Pin QFN (Pb-Free)	7”	MDP0046
EL6934CLZ-T13 (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

- Complete programmable laser diode driver
- 450mA maximum total output
- 10-bit x 10-bit multiplying DAC output provides 10-bit full scale adjustment and 10-bit resolution at any full scale output
- 60 psec timer resolution
- Two laser outputs allows read/write DVD and CD combinations
- Programmable waveform values support CD-R, CD-RW, DVD-RAM, DVD-R, DVD-RW, DVD+R, DVD+RW, and Blue
- Two analog inputs support slope and read 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 100MHz
- Programmable HFM offset when HFM is off

Applications

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

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CAUTION: These devices are sensitive to electrostatic discharge; follow proper IC Handling Procedures.
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