

Laser Diode Driver w/ Waveform Generator

The EL6935B 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 generator 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 part also has an IV amplifier with concurrent read and write sampling. The gains of the IV amplifier are programmable, eliminating the need for external potentiometers.

The flexible architecture supports different media and speeds for Blue, DVD, and CD standards. The programming is accomplished through a serial interface port. The clock and NRZ inputs can be either standard CMOS or LVDS, selectable through a program bit.

The EL6935B operates on a 5V supply for the analog circuits and a 2.5V supply for the digital circuits.

Ordering Information

| PART NUMBER | PACKAGE | TAPE & REEL | PKG. DWG. # |
|--------------------------|-------------------------|-------------|-------------|
| EL6935BCL | 38-Pin QFN | - | MDP0046 |
| EL6935BCL-T7 | 38-Pin QFN | 7" | MDP0046 |
| EL6935BCL-T13 | 38-Pin QFN | 13" | MDP0046 |
| EL6935BCLZ (Note) | 38-Pin QFN (Pb-Free) | - | MDP0046 |
| EL6935BCLZ-T7 (Note) | 38-Pin QFN (Pb-Free) | 7" | MDP0046 |
| EL6935BCLZ-T13 (Note) | 38-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

- Completely programmable laser diode driver
- 500mA 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
- 55psec 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
- Dual sampled IV amplifier with programmable sample and gain selects
- Programmable DC output when HFM is off
- Pb-free available

Applications

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

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