PRELIMINARY | Data Sheet | July 15, 2004 | FN7238.1

Dual 4-Channel Driver with Oscillator & LVDS

élantec

The EL6834 is a high performance, dual output, laser driver for writeable 'super-combo' CD - DVD drives. The ENA pin enables the chip, while the SEL1 pin selects the I_{OUT} pin. Various waveforms can be generated where the amplitude is determined by the currents flowing into I_{INR}, I_{IN2}, I_{IN3}, and I_{IN4}. The timing is determined by the signals at WEN2-WEN2B, WEN3-WEN3B, and WEN4-WEN4B. The oscillator is enabled when OSEN is high. The amplified I_{INR} current of the selected channel is enabled when the ENA pin is high. The total output current is the sum of the read current, the enabled write currents, and the oscillator current when enabled.

Usually a voltage DAC will drive a resistor that is in series with the I_{INR}, I_{IN2}, I_{IN3}, and I_{IN4} input. The resistor allows the user to optimize the current gain for each channel.

Output write current pulses are enabled when a high is applied to the WEN2-WEN2B, WEN3-WEN3B, or WEN-WEN4B pin. The write current will flow to the selected output. When SEL1 is high I_{OUT1} is selected. WENRB enables read and oscillator current when low.

The R_F oscillators frequency is determined by R_{FREQ1} or R_{FREQ2}, and its amplitude by R_{AMP1} or R_{AMP2}.

Ordering Information

PART NUMBER	PACKAGE	TAPE & REEL	PKG. DWG. #
EL6834CL	32-Pin QFN	-	MDP0046
EL6834CL-T7	32-Pin QFN	7"	MDP0046
EL6834CL-T13	32-Pin QFN	13"	MDP0046
EL6834CLZ (See Note)	32-Pin QFN (Pb-free)	-	MDP0046
EL6834CLZ-T7 (See Note)	32-Pin QFN (Pb-free)	7"	MDP0046
EL6834CLZ-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

- Two channels for CD or DVD
- Voltage-controlled output current source requiring one external set resistor per channel
- Rise time = 0.8ns
- Fall time = 0.8ns
- Channel 2 to 250mA max
- Channel 3 to 150mA max
- Channel 4 to 100mA max
- On chip oscillator with frequency and amplitude control by use of external resistors to ground
- Oscillator frequency to 600MHz
- Internal 100Ω LVDS termination
- Oscillator amplitude to $100mA_{P-P}$
- Single +5V supply (±10%)
- Chip ENAs for power savings
- Pb-free available

Applications

- Super combo drives