Dual 4-Channel Driver with Oscillator & LVDS

élantec

The EL6835 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	TEMP. RANGE	PACKAGE	PKG. DWG. #
EL6835CL	0°C to +70°C	32-Pin LPP	MDP0046

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
- External 100Ω LVDS termination
- On chip oscillator with frequency and amplitude control by use of external resistors to ground
- Oscillator frequency to 600MHz
- Oscillator amplitude to $100mA_{P-P}$
- Single +5V supply (±10%)
- Chip ENAs for power savings

Applications

- Super combo drives

Pinout

EL6835
(32-PIN LPP)
TOP VIEW