

## Features

- “Shrink-small” outline package
- Voltage-controlled output current source requiring one external set resistor per channel
- Current-controlled output current source
- CH2 to 300mA max
- CH3 to 150mA max
- Rise time = 0.8ns
- Fall time = 0.8ns
- On chip oscillator with frequency and amplitude control by use of external resistors to ground
- Oscillator to 600MHz
- Oscillator to 100mA pk/pk
- Single +5V supply ( $\pm 10\%$ )
- Disable feature for power-up protection and power savings

## Applications

- CD-RW applications
- Writable optical drives
- Laser diode current switching

## Ordering Information

Part No	Temp. Range	Package	Outline #
EL6221CU	0°C to +70°C	16-Pin QSOP	MDP0040

## General Description

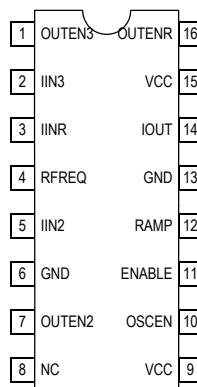
The EL6221C is a high performance three channel laser driver that provides controlled current to a grounded laser diode. Channels 2 and 3 should be used as the write channels, with switching speeds of approximately one nanosecond rise/fall time. All three channels are summed together at the I<sub>OUT</sub> output, allowing the user to create multi-level waveforms in order to optimize laser diode performance. The level of the output current is set by an analog voltage applied to an external resistor which converts the voltage into a current at the I<sub>IN</sub> pin (virtually ground). The current seen at this pin is then amplified to become a current source at pin I<sub>OUT</sub>.

An on-chip 600MHz oscillator is provided to allow output current modulation when in any mode. This is turned on when the OSCEN pin is held high and the OUTENR pin is held low. Complete control of amplitude and frequency is set by two external resistors connected to ground at pins R<sub>FREQ</sub> and R<sub>AMP</sub> (see graphs in this datasheet for further explanation).

Output current pulses are enabled when an ‘L’ signal is applied to the OUTEN pin. No output current flows when OUTEN is ‘H’, and additional laser diode protection is provided since the OUTEN input will float high when open. Complete I<sub>OUT</sub> shutoff is also achieved by holding the ENABLE pin low, which will override all other control pins.

The external resistors allow the user to accurately and independently set each amplifier transconductance by applying a voltage to each resistor, without restriction on the voltage range, thus ensuring broad voltage DAC compatibility. Alternatively, the I<sub>IN</sub> pin can be biased from a current DAC or other current source.

## Connection Diagram



# EL6221C

## 3-Channel Laser Diode Driver w/Oscillator

### PRODUCT BRIEF

Effective May 15, 2002, Elantec, a leader in high performance analog products, is now a part of Intersil Corporation.

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