

Features

- Low output noise = 4.0nA/rt-Hz
- High-performance laser diode driver
- Pin compatible with EL6257
- Voltage-controlled output current source to 150 mA per channel, requiring one external set resistor per channel
- Current-controlled output current source to 150 mA per channel
- Rise time = 1.0 ns
- Fall time = 1.1 ns
- On chip oscillator with frequency and amplitude control by use of external resistors to ground
- Oscillator to 500 MHz
- Oscillator to 100 mA pk/pk
- Single +5V supply ($\pm 10\%$)
- Disable feature for power-up protection and power savings
- TTL/CMOS control signals

Applications

- DVD-RAM high speed drives
- CD-RW applications
- Writable optical drives
- Laser diode current switching

Ordering Information

Part No	Temp. Range	Package	Outline #
EL6259CU	0°C to +70°C	QSOP-24	MDP0040

Complete Product Specifications Elantec Technical Support:

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General Description

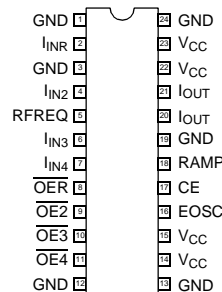
The EL6259C is a low noise four channel laser diode current amplifier that provides controlled current to a grounded laser diode. The four amplifiers can provide up to 150 mA per channel of DC or pulsed current. Channels 2, 3, and 4 must be used as the write channels, with switching speeds of approximately one nanosecond rise/fall time. All four channels are summed together at the I_{OUT} output, allowing the user to create multilevel 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_{IN} pin. The current seen at this pin is then amplified by 100X to become a current source at pin I_{OUT}.

An on-chip 500 MHz oscillator is provided to allow current modulation when in the read mode. This is turned on when the EOSC pin is held high (floating not recommended). Complete control of amplitude and frequency is set by two external resistors connected to ground at pins RFREQ and RAMP (see graphs in this data sheet for further explanation).

Output current pulses are enabled when an 'L' signal is applied to the $\overline{\text{OE}}$ pin. No output current flows when $\overline{\text{OE}}$ is 'H', and additional laser diode protection is provided since the $\overline{\text{OE}}$ input will float high when open. Complete I_{OUT} shut-off is also achieved by holding the CE pin low, which will override the $\overline{\text{OE}}$ 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_{IN} pin can be biased from a current DAC or other current source.

Connection Diagram



EL6259C - Product Brief

Low Noise 4-Channel Laser Diode Driver + Oscillator

General Disclaimer

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HIGH PERFORMANCE ANALOG INTEGRATED CIRCUITS

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