

**Features**

- Shrink-Small Package Outline
- Voltage-controlled output current source, requiring one external set resistor per channel
- Current-controlled output current source
- 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 500MHz
- Oscillator to 100mA pk/pk
- Single +5V supply ( $\pm 10\%$ )
- Disable feature for power-up protection and power savings
- Fast Settling APC Amplifier

**Applications**

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

**Ordering Information**

| Part No  | Temp. Range  | Package | Outline # |
|----------|--------------|---------|-----------|
| EL6288CU | 0°C to +70°C | QSOP-16 | MDP0041   |

**General Description**

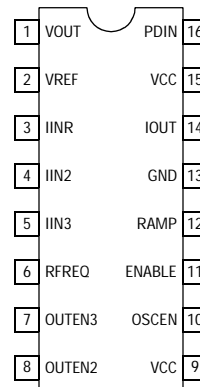
The EL6288C is a high-performance three channel laser driver that provides controlled current to a grounded laser diode. Channels 2 and 3 should be used as the write channels, with switching speeds of approximately one nanosecond rise/fall time. All three channels are summed together at the I<sub>OUT</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 500MHz oscillator is provided to allow output current modulation when in any mode. This is turned on when the OSCEN pin is held high. 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 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> shut-off is also achieved by holding the ENABLE pin low, which will override all other control pins.

The EL6288C also includes a fast settling APC amplifier designed to interface directly with the front end monitor diode and the sample-and-hold amplifier for read and write power control. Its 100MHz bandwidth and 30ns settling time enable up to 16X CD-RW design.

**Connection Diagram**



Note: All information contained in this data sheet has been carefully checked and is believed to be accurate as of the date of publication; however, this data sheet cannot be a "controlled document". Current revisions, if any, to these specifications are maintained at the factory and are available upon your request. We recommend checking the revision level before finalization of your design documentation.

# ***EL6288C - Product Brief***

***3-Channel Laser Diode Driver w/Oscillator & APC Amplifier***

## **General Disclaimer**

Specifications contained in this data sheet are in effect as of the publication date shown. Elantec, Inc. reserves the right to make changes in the circuitry or specifications contained herein at any time without notice. Elantec, Inc. assumes no responsibility for the use of any circuits described herein and makes no representations that they are free from patent infringement.

***élantec***

HIGH PERFORMANCE ANALOG INTEGRATED CIRCUITS

## **Elantec Semiconductor, Inc.**

675 Trade Zone Blvd.

Milpitas, CA 95035

Telephone: (408) 945-1323

(888) ELANTEC

Fax: (408) 945-9305

European Office: +44-118-977-6020

Japan Technical Center: +81-45-682-5820

## **WARNING - Life Support Policy**

Elantec, Inc. products are not authorized for and should not be used within Life Support Systems without the specific written consent of Elantec, Inc. Life Support systems are equipment intended to support or sustain life and whose failure to perform when properly used in accordance with instructions provided can be reasonably expected to result in significant personal injury or death. Users contemplating application of Elantec, Inc. Products in Life Support Systems are requested to contact Elantec, Inc. factory headquarters to establish suitable terms & conditions for these applications. Elantec, Inc.'s warranty is limited to replacement of defective components and does not cover injury to persons or property or other consequential damages.