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HIGH PERFORMANCE ANALOG INTEGRATED CIRCUITS

EL6245C - Product Brief

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

Features

- "Shrink-Small" Outline Package
- Voltage-controlled output current source, requiring one external set resistor per channel
- Auto oscillator on-off with OUTEN signals
- 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 (±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 #
EL6245CU	0°C to +70°C	16-Pin QSOP	MDP0041

General Description

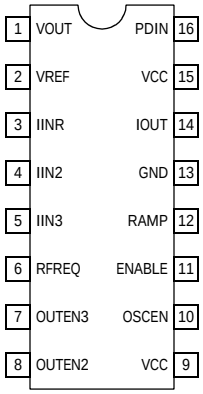
The EL6245C is a high-performance three channel laser driver that provides controlled current to a grounded laser diode. Channels 2 and 3 should be used as the write channels, with switching speeds of approximately one nanosecond rise/fall time. All three channels are summed together at the I_{OUT} output, 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_{IN} pin (virtually ground). The current seen at this pin is then amplified to become a current source at pin I_{OUT}.

An on-chip 500MHz oscillator is provided to allow output current modulation when in any mode. This is turned on only when the OSCEN and OUTEN pins are 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_{OUT} shut-off is also achieved by holding the ENABLE pin low, which will override all other control pins.

The EL6245C 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.

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General Disclaimer

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October 25, 2001

Printed in U.S.A.