

Dual 4-Channel Laser Diode Driver + Oscillator



The EL6119 is a dual four-channel laser diode current amplifier that provides controlled current to both a

CD and DVD laser diode. Channels 2, 3, and 4 should 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 (virtually ground). The current seen at this pin is then amplified to become a current source at pin I_{OUT} .

Output current pulses are enabled when an 'L' signal is applied to the WEN pin. No output current flows when WEN is 'H' and additional laser diode protection is provided since the WEN input will float high when open. Complete I_{OUT} shutoff is also achieved by holding the ENABLE pin low, which will override the WEN control pins.

Each laser driver has a separate ENABLE pin to allow total shutdown of each laser driver when not in use.

An on-chip 500MHz oscillator is provided to allow output current modulation when in read mode. The oscillator is enabled when the OSCEN pin is held high. Complete control of amplitude and frequency is set by two external resistors connected to ground at pins R_{FREQ} and R_{AMP} (see graphs in this data sheet for further explanation).

Ordering Information

PART NUMBER	PACKAGE	TAPE & REEL	PKG. DWG. #
EL6119CL	32-Pin QFN	-	MDP0046
EL6119CL-T13	32-Pin QFN	13"	MDP0046

Features

- Leadless plastic package
- Voltage controlled output current source, requiring one external set resistor per channel
- 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 100mAPK/PK
- Single +5V supply ($\pm 10\%$)
- Disable feature for power-up protection and power savings
- CMOS control signals

Applications

- CD + DVD Combo applications
- Writable optical drives
- Laser diode current switching

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