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HIGH PERFORMANCE ANALOG INTEGRATED CIRCUITS

EL6287C - Product Brief

4-Ch Laser Diode Driver + Oscillator

Features

- "Shrink-Small" Outline Package
- Voltage-controlled output current source requiring one external set resistor per channel
- Current-controlled output current source
- Rise time = 0.8 nsec
- Fall time = 0.8 nsec
- 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
- CMOS control signals

Applications

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

Ordering Information

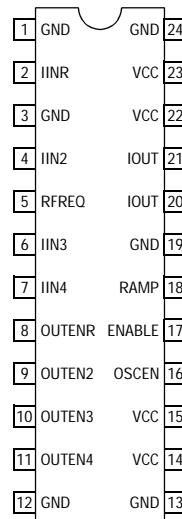| Part No	Temp. Range	Package	Outline #
EL6287CU	0°C to +70°C	24-Pin QSOP	MDP0040

General Description

The EL6287C is a four channel laser diode current amplifier that provides controlled current to a grounded laser diode. 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 (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 current modulation when in read 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). The oscillator will turn off whenever any of the OUTEN pins for channels 2, 3, or 4 (the write channels) are low (see truth table).

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

Pin	Name	Name	Pin
1	GND	GND	24
2	IINR	VCC	23
3	GND	VCC	22
4	IIN2	IOUT	21
5	RFREQ	IOUT	20
6	IIN3	GND	19
7	IIN4	RAMP	18
8	OUTENR	ENABLE	17
9	OUTEN2	OSCEN	16
10	OUTEN3	VCC	15
11	OUTEN4	VCC	14
12	GND	GND	13

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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