



# 4-Channel, LVDS, Dual-Output, Laser Diode Driver with Oscillator

## AD9665

### FEATURES

Dual, current-controlled output current sources with 4 input channels

TTL-selectable output

Stable on-chip oscillators with independent frequency and amplitude control

TTL- or LVDS-selectable write channel enables negative logic

Independent TTL oscillator enables positive logic

170 mA minimum output current for the read channel

510 mA minimum output current for Write Channel 1

330 mA minimum output current for Write Channel 2

165 mA minimum output current for Write Channel 3

950 mA typical total output current

Typical rise time/fall time of 0.8 ns

Low power consumption

Single 5 V power supply ( $\pm 10\%$ )

### APPLICATIONS

DVD-R, DVD+R, DVD-RW, DVD+RW, DVD-RAM  
supercombo drives

Magneto-optical (MO) drives

Laser diode current switching

### GENERAL DESCRIPTION

The AD9665 is a laser diode driver for high performance CD-RW and DVD recordable drives. It includes four channels for four different optical power levels: the read channel generates a continuous output power level, whereas Channel 1, Channel 2, and Channel 3 can be used as write channels that can be controlled with an LVDS or TTL interface. The W<sub>x</sub>DIS and RD<sub>IS</sub> pins are active low logic. The OSCEN pin is controlled by an active high TTL signal. All active channels are summed at the output where Write Channel 1 can contribute at least 325 mA output current, and Write Channel 2 and Write Channel 3 can contribute at least 250 mA and 150 mA, respectively. The level of the output current is set by an external resistor, which converts this voltage into a current at the W<sub>x</sub>SET pin.

An on-chip oscillator is provided to allow output current modulation and to reduce laser-mode hopping. Four external resistors permit the setting of two distinct values for the frequency and swing of the oscillator. The oscillator can output up to 100 mA p-p of current (push-pull oscillator) with a frequency range of 200 MHz to 500 MHz.

### FUNCTIONAL BLOCK DIAGRAM

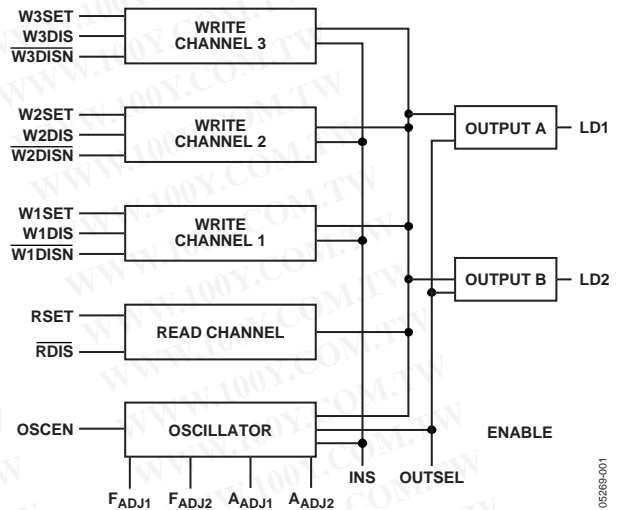
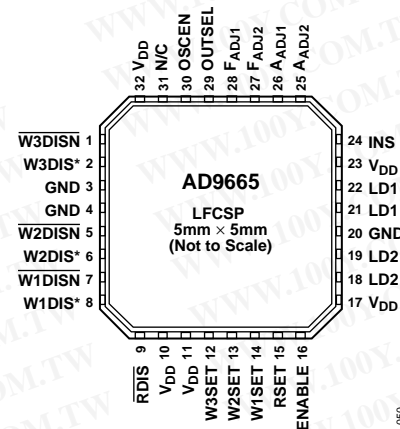


Figure 1. 4-Channel, LVDS, Laser Driver Block Diagram



\*TTL ACTIVE LOW SEE TABLE 3

Figure 2. 4-Channel, LVDS, Laser Driver Pin Configuration

For more information on the AD9665, email Analog Devices, Inc. at [high\\_current\\_drivers.com@analog.com](mailto:high_current_drivers.com@analog.com).

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