

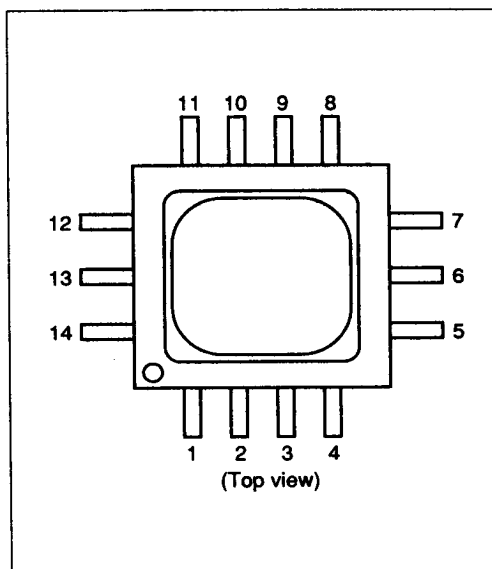
Laser Diode Driver for Optical Communication

The HA29001 is laser diode driver for fiber optic system.

Features

- Driving current; 40 mA
- Output signal rise/fall time; 100 ps
- Single power supply of -5.2 V
- 14 pin package

Pin Arrangement



Pin No.	Symbol	Function
1	N/C	Non connection
2	V_{LD}	LD connection
3	V_{LD}	LD connection
4	I_{bi}	Bias current in
5	V_{APC}	APC
6	I_b	Bias current out
7	I_s	Signal current out

Pin No.	Symbol	Function
8	GND	GND
9	GND	GND
10	GND	GND
11	V_{SD}	Shut down cont. voltage
12	V_{ref}	Input reference voltage
13	V_{in}	Signal input
14	V_{SS}	Voltage source

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Packaging Information

Part No.	Package
HA29001	FG-14

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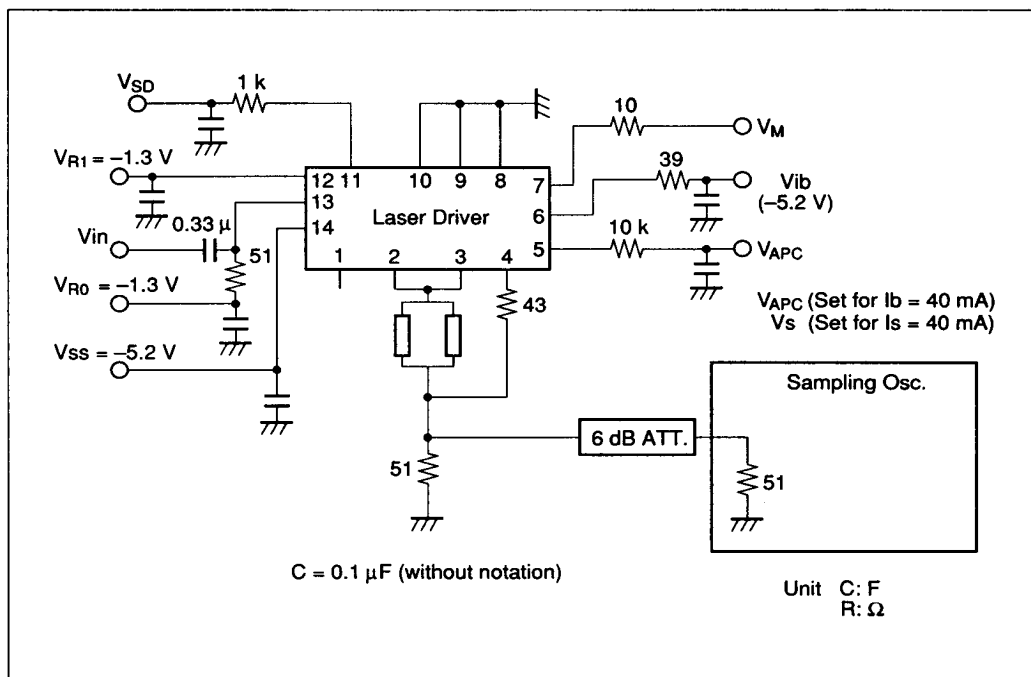
DC Characteristics ($V_{SS} = -5.2 \text{ V} \pm 5\%$)

Item	Symbol	Min	Typ	Max	Unit	Test Condition
Signal current	I_s	—	40	60	mA	See test circuit
Bias current	I_b	—	20	60	mA	See test circuit
Supply current	I_{SS}	—	40	—	mV	
Shut down voltage	V_{SDon}	—	—	-1.5	V	Signal on
	V_{SDoff}	-0.3	—	—	V	Signal off

AC Characteristics

Item	Symbol	Min	Typ	Max	Unit	Test Condition
Signal current rise time	t_r^{*1}	—	100	150	ps	$I_b = I_s = 40 \text{ mA}$
Signal current fall time	t_f^{*1}	—	100	150	ps	$I_b = I_s = 40 \text{ mA}$

Note: 1. 20% to 80%

AC Test Circuit

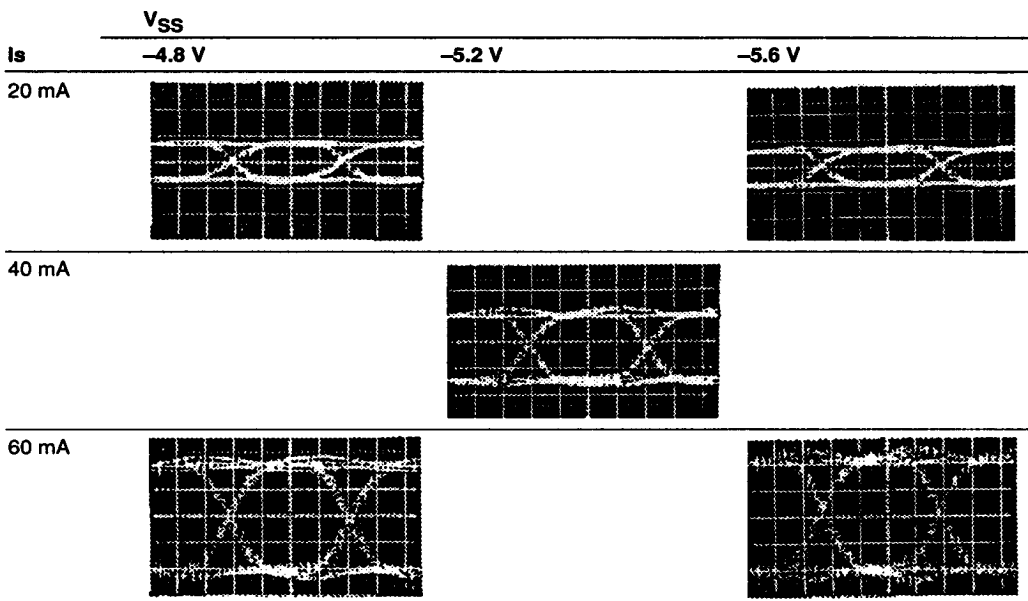
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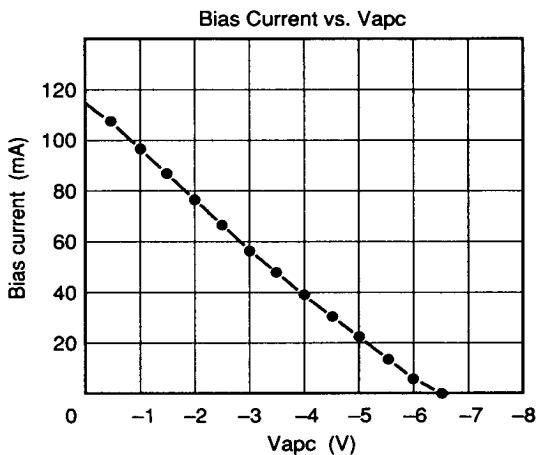
HA29001

Typical Performance ($T_a = 25^\circ\text{C}$, $V_{SS} = -5.2\text{ V}$)

Output Waveforms (2.5 Gb/s, $25\ \Omega$ load; PN15)



Note: 1. 100 ps/div



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