



# iC-HG30

## 6-Channel High-Speed Laser Switch

### Description

Six channel Laser Switch iC-HG30 enables the spike-free switching of laser diodes with well-defined current pulses at frequencies ranging from DC to 250 MHz.

Diode current is determined by the voltages at pins Clx.

The six fast switches are controlled independently via TTL inputs. Input ELVDS = hi selects LVDS type inputs and three channel mode.

A laser diode can thus be turned on and off or switched between different current levels (LDKx connected) defined by the voltages at Clx.

Each channel can be operated at up to 1A CW and 5A pulsed current depending on frequency, duty cycle and heat dissipation.

The integrated thermal shutdown feature protects the iC-HG30 from damage by excessive temperature.

iC-HG30 is compatible with iC-HG with LDKx voltages up to 30 V.

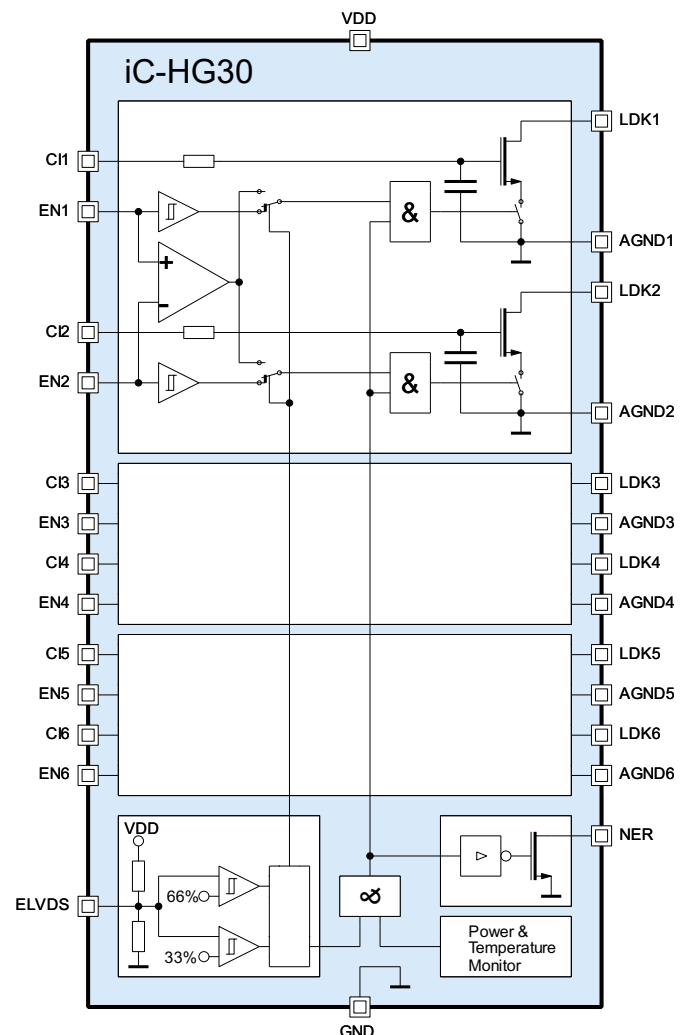
### Features

- Six channel laser switch from CW up to 250 MHz
- CW operation with up to 1A per channel
- Pulsed operation with up to 5A per channel
- Spike-free switching of the laser current
- 6 × 1 channels with TTL inputs
- 3 × 2 channels with LVDS inputs
- Operates as six independent voltage-controlled current sinks
- Outputs (LDKx) are 30V capable for stacked laser diodes
- Simple current control at pins Clx
- Clx voltage < 3V for full CW current
- Wide supply voltage range from 3 to 5.5V
- All channels can be paralleled for up to 6 A CW and 30A pulsed operation
- Open drain error output
- Thermal shutdown

### Applications

- TOF camera lighting
- LIDAR lighting
- Pump lasers
- Laser projection
- Data transmission
- Camera lighting

### Block Diagram



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### Key Specifications

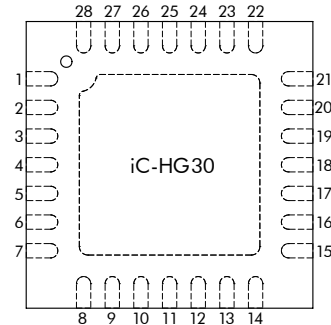
#### General

Permissible Supply Voltage	3.0 to 5.5 V
Laser Drive Current	up to 6 A

#### Laser Driver

Permissible Voltage at LDKx	-0.3 to 30 V
Permissible CW Current in LDKx	1 A max.
Saturation Voltage at LDKx $I(LDKx) = 900 \text{ mA}$	2 V
Current Matching all Channels	0.9 to 1.1
Laser Current Rise/Fall Time	1 ns max.

### Pin Configuration



### Pin Functions

No.	Name	Function
1	CI1	Current control voltage channel 1
2	CI2	Current control voltage channel 2
3	CI3	Current control voltage channel 3
4	GND	Ground
5	CI4	Current control voltage channel 4
6	CI5	Current control voltage channel 5
7	CI6	Current control voltage channel 6
8	AGND6	Analog ground channel 6
9	LDK6	Laser diode cathode channel 6
10	AGND5	Analog ground channel 5
11	LDK5	Laser diode cathode channel 5
12	AGND4	Analog ground channel 4
13	LDK4	Laser diode cathode channel 4
14	EN6	TTL switching input channel 6 Negative LVDS Input channel 5 and 6
15	EN5	TTL switching input channel 5 Positive LVDS Input channel 5 and 6
16	EN4	TTL switching input channel 4 Negative LVDS Input channel 3 and 4
17	EN3	TTL switching input channel 3 Positive LVDS Input channel 3 and 4
18	VDD	Supply voltage
19	ELVDS	TTL/LVDS Input selector
20	EN2	TTL switching input channel 2 Negative LVDS Input channel 1 and 2
21	EN1	TTL switching input channel 1 Positive LVDS Input channel 1 and 2
22	NER	Error monitor output
23	LDK3	Laser diode cathode channel 3
24	AGND3	Analog ground channel 3
25	LDK2	Laser diode cathode channel 2
26	AGND2	Analog ground channel 2
27	LDK1	Laser diode cathode channel 1
28	AGND1	Analog ground channel 1

### Application Example

