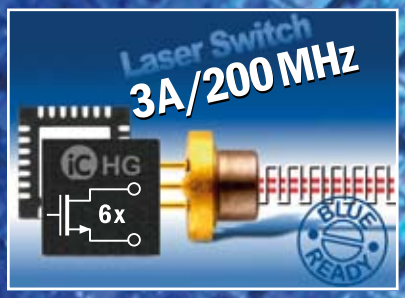
iC-HG

3 A LASER SWITCH



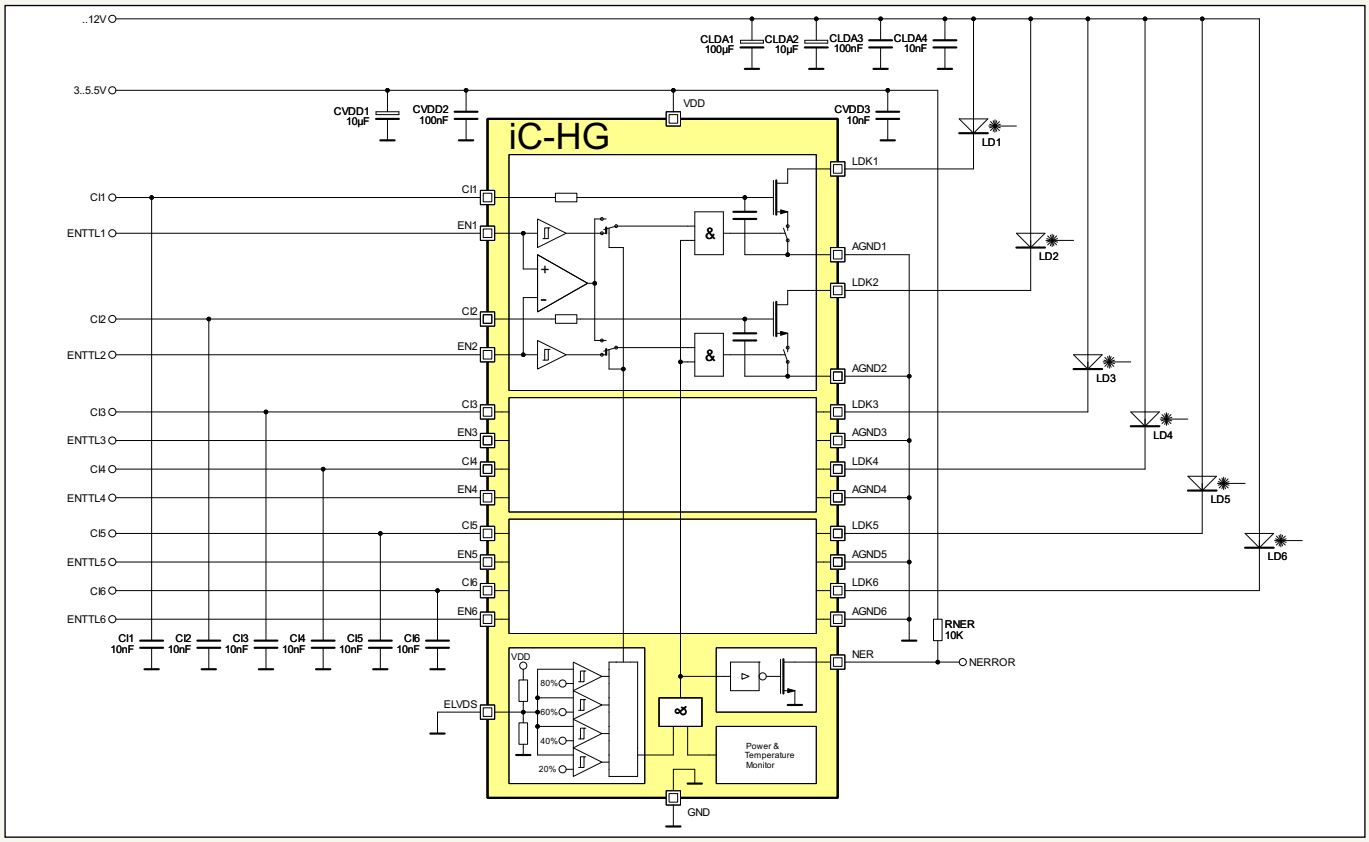
Six channel Laser Switch iC-HG enables the spike-free switching of laser diodes with well-defined current pulses at frequencies ranging from DC to 200 MHz. The diode current is determined by the voltages at pins CIx. The six fast switches are controlled independently via TTL inputs.
Input ELVDS = hi selects LVDS type inputs and three channel mode. The laser diode can thus be turned on and off or switched between different current levels (LDKx connected) defined by the voltages at CIx.
Each channel can be operated up to 500 mA DC current depending on the heat dissipation. The integrated thermal shutdown feature protects the iC-HG from damage by excessive temperature.

Applications

- Pump lasers
- Laser projection
- Laser TV

Features

- Six channel laser switch from CW up to 200 MHz
- CW operation with up to 500 mA per channel
- Spike-free switching of the laser current
- 6 x 1 channels with TTL inputs
- 3 x 2 channels with LVDS inputs
- Six independent voltage-controlled current sinks
- Switches (LDKx) are 12 V capable for blue laser diodes
- Fast and slow switching mode
- Simple current control at pins CIx
- CIx voltage < 3 V for full current
- Wide supply voltage range from 3 to 5.5 V
- All channels can be paralleled for 3 A operation
- Multiple iC-HGs can be connected in parallel for higher currents
- Open drain error output
- Thermal shutdown



iC-Haus

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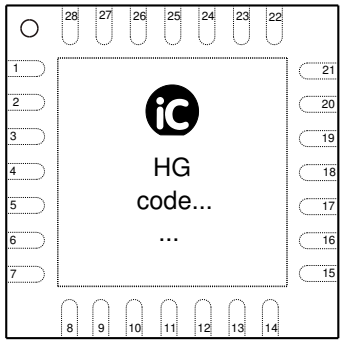
Pin Functions

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 Fast/Slow 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

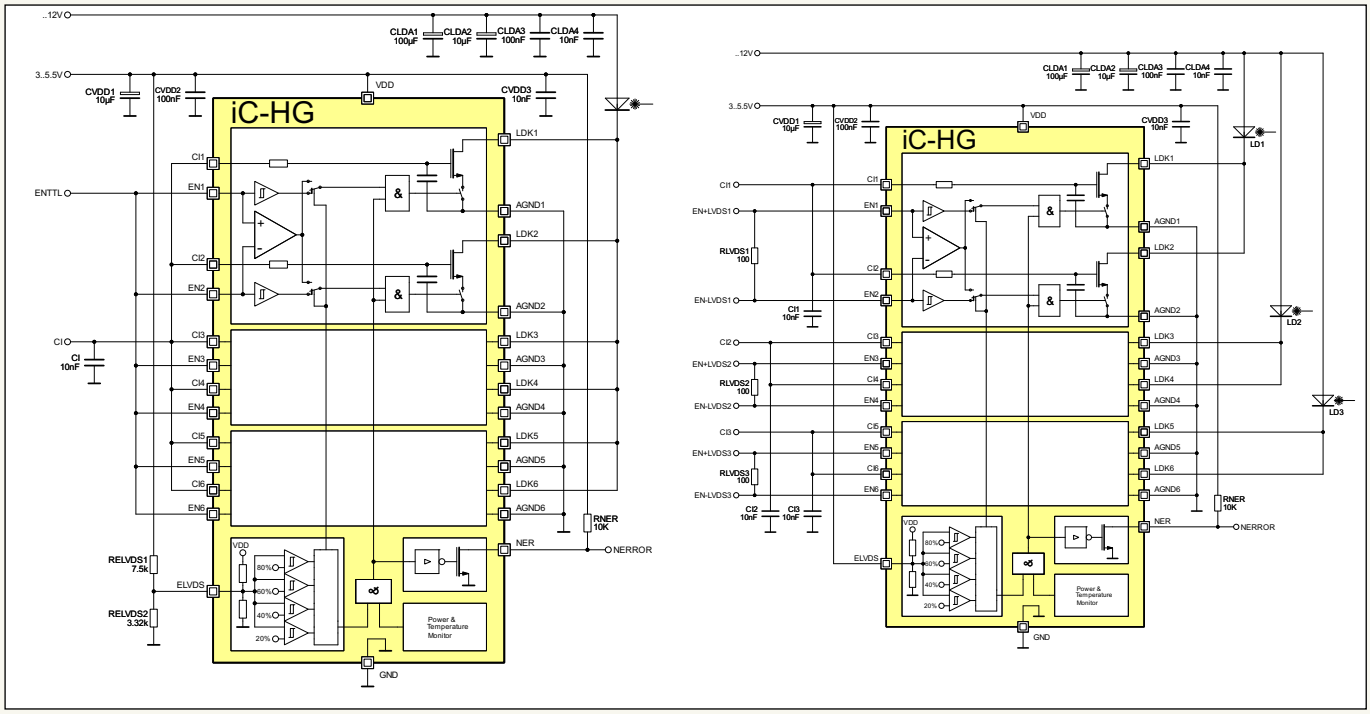
Pin Configuration QFN28 5x5 mm²



Key Specifications

General	
Permissible Supply Voltage	3 to 5.5 V
Laser Current	up to 3 A

Laser Driver	
Permissible Voltage at LDKx	-0.3 to 12 V
Permissible CW Current in LDKx	500 mA max.
Saturation Voltage at LDKx I(LDKx) = 450 mA	1.5 V max.
Current Matching all Channels	0.9 to 1.1
Laser Current Rise/Fall Time	1 ns max.
Propagation Delay	14 ns max.



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