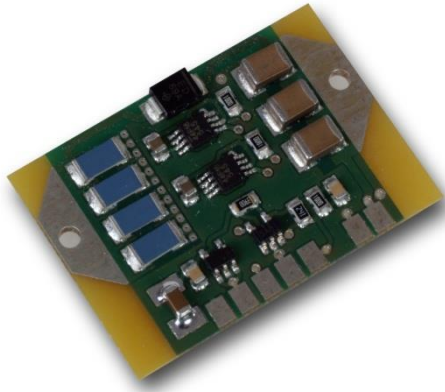


HLD 150 SERIES

HIGH CURRENT / HIGH SPEED PULSED LASER DIODE-DRIVER



- laser current up to 150 A
- pulsewidth 50 nsec to 1 usec
- rise-/ falltime ≤ 20 nsec
- drives up to 5 kW optical power
- TTL-input for external triggering
- level adjustment by supply voltage
- efficient transient protection
- small low cost OEM-unit

The **HLD 150 series of laser diode drivers** provides its user with an outstanding powerful tool to serve special applications demanding both for **ultrafast pulses and very high currents**.

In this way also **stacked laser diodes and multikilowatt laser bars** can be operated at ultrashort pulsewidths.

The current amplitude can be adjusted from **zero to 150 A** simply by varying the voltage level of the main power supply from zero to 195 V.

The maximum **duty cycle is limited to 0,01 %**, to keep the power dissipation within a reasonable range. (For higher duty cycles please contact the factory).

The length of the **laser pulse is controlled by an external TTL signal**.

With proper rf interconnection techniques **rise- and fall times as low as 15 nsec @ 150 A** are attainable.

The driver requires a low power **auxiliary supply of 12 V / 0,1 A** and a **variable main power supply** adjustable from **0 to 195 V**, also with only a few mA.

Integrated protection circuitry provides for a controlled power up / down sequence, additional circuit elements protect the expensive laser source from be damaged by ESD or current transients.

The driver is suited for laser elements with **operating voltages starting at 2 V up to 30 V** or more.

SPECIFICATIONS FOR THE HS-LD-150.0

laser current range	0 ... 150 A adjustable by main supply voltage
laser current control equation	$U_{HV} = U_{LD} + 1,10 \cdot I_{LD}^1$
compliance voltage	$\geq 30 \text{ V @ } 150 \text{ A}$
pulsewidth	50 ... 150 nsec controlled by ext. TTL signal
rise time (20 % ... 80 %)	$\leq 15 \text{ nsec @ } 150 \text{ A}$
fall time (80 % ... 20 %)	$\leq 15 \text{ nsec @ } 150 \text{ A}$
duty cycle	$\leq 10^{-5}$
intrapulse laser current droop	$\leq 0,02 \% / \text{ nsec}$
external clock input	TTL-compatible input resistance 50 Ω
auxiliary supply voltage	12 V / 0.1 A
main power supply	0 ... + 195 V / 0.001 A
operating temperature range	- 20 °C ... + 50°C
design	OEM-type module
dimensions	36,4 x 35 x 6 mm

¹ UHV → main supply voltage [V]

ULD → laser diode operating voltage [V] @ operating current ILD

ILD → desired laser operating current [A]