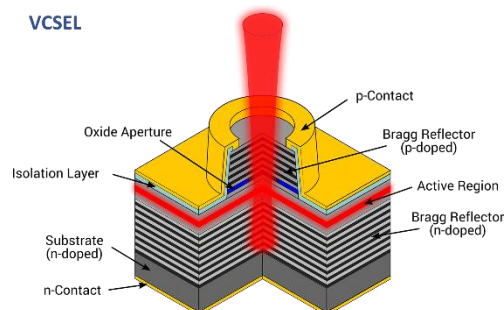


# Laser Gain Modules (Passively cooled)

The DATASHEET, April 2023



## Passively cooled Laser Gain Modules



A heart of Diode-Pumped Solid-State (DPSS) lasers or laser amplifiers are **Laser Gain Module** (pump chamber). By evolving laser gain modules, Geola Digital can provide DPSS laser gain modules based on **Vertical Cavity Surface Emitting Laser (VCSEL)** pumping engine technology. Our DPSS laser gain module engines assures uniform gain distribution, high pumping efficiency and long life time. We have two types of gain modules, namely **Water cooled gain module** and **Passively cooled gain modules**. Typical air cooled DPSS Gain modules can be applicable for Nd:YAG Master Oscillator or Nd:YAG laser amplifier. The customized gain modules can be also provided on request.

### Typical Passively Cooled Laser Gain Models\*

Model No.	Rod Diameter	Chip Quantity	Pump Power at 200 $\mu$ s	Pulse Energy at 200 $\mu$ s
SLD-4x3-4	$\varnothing 4$	12	1800	> 90 mJ
SLD-4x4-4	$\varnothing 4$	16	2400	> 120 mJ
SLD-4x5-4	$\varnothing 4$	20	3000	> 150 mJ
SLD-4x6-4	$\varnothing 4$	24	3600	> 180 mJ
SLD-4x7-4	$\varnothing 4$	28	4200	> 210 mJ
SLD-4x8-5	$\varnothing 5$	32	4800	> 288 mJ
SLD-4x10-5	$\varnothing 5$	40	6000	> 360 mJ

\* Specifications marked 'typical' are indications of typical performance and will vary with each unit we manufacture

### Main advantages

- Low wavelength shift (**0.07 nm/K**)
- Wide operation temperature range **-20 °C — +75 °C**
- High temperature working **up to 75°C**
- Up to **>20G shots** life-time
- Stored energy is **up to 30%** from optical pump energy
- Uniform pumping distribution
- Good power/size form factor

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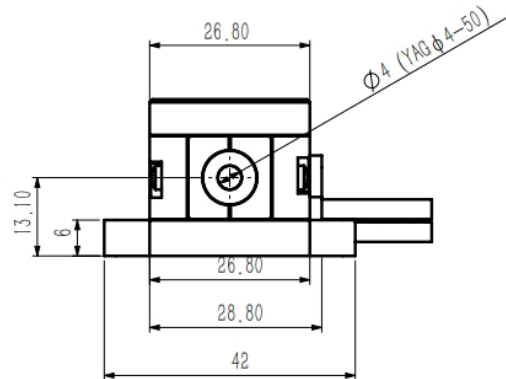
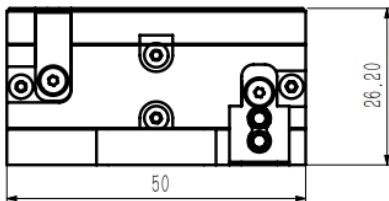


## Application

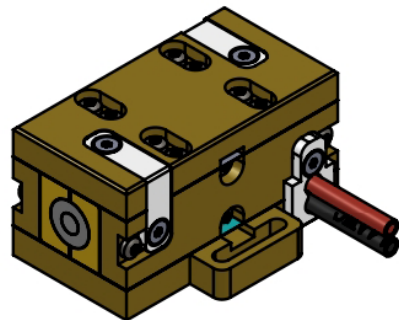
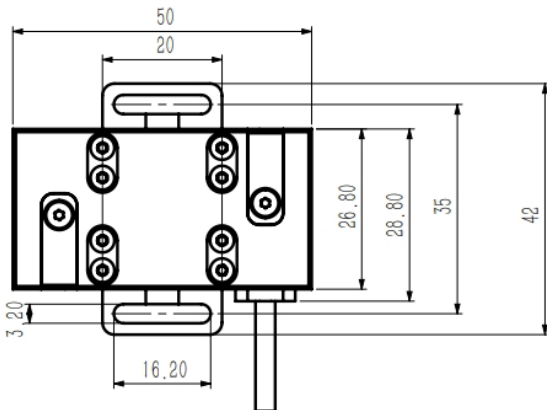
- Gain module for air cooled DPSS master oscillator
- Gain module for air cooled DPSS Nd:YAG laser amplifier
- Gain module for potential military application

## Dimensions\*\*

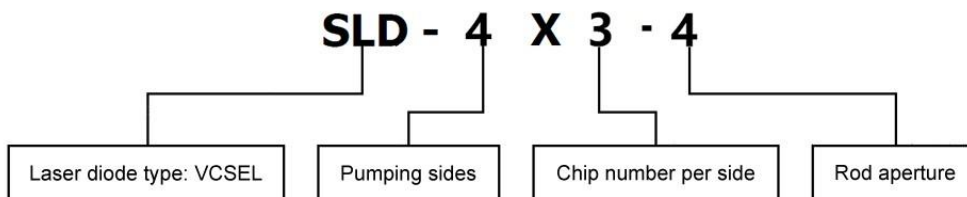
SLD-4x4-4



\*\* one of design example



## Ordering information



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