

# EXTENDED LASER MODULE

## ELM Series

The **ELM** (Extended Laser Module) is our newest laser development, consisting of the **ELM1064**, **ELM532** and **ELM355**, pumped by an external fiber coupled 808 nm laser. The ELM-Series is a **single mode passive q-switched laser** and generates pulses of a few nanoseconds (sub nanosecond regime also available) with a peak power greater than 70 kW or repetition rate up to 100 kHz. We can offer custom specific parameters and heatsink depending on the integrated bonded chip.

By designing this laser, the low cost, compactness, resistance against mechanical stress and flexibility of the laser was our major concern.

These pulsed lasers are used, where high pulse intensities are needed, especially for mobile applications in different fields.



For example in Laser Induced Breakdown Spectroscopy (LIBS), marking, micromachining, photonic fiber pumping (Super Continuum generation), LIDAR, range finding and as a seeding master oscillator for high power solid state lasers.

	ELM1064	ELM532	ELM355
Wavelength	1064 nm	532 nm	355 nm
Laser material	Nd:YAG		
Q-switch material (passiv)	Cr4+:YAG		
Operation Mode	TEM00		
Average Power *	> 2000 mW	> 500 mW	> 100 mW
Peak Power	>70 kW	> 20 kW	> 5.5 kW
Pulse energy	>80 µJ	>40 µJ	>15 µJ
Pulse Width	850 ps -5 ns	700 ps - 4 ns	550 ps - 3 ns
Divergence (half angle); typ.	3 mrad	3 mrad	3 mrad
Beam waist (diameter)	240 µm		
Repetition rate *	0-25 kHz		
Pulse to pulse jitter (rms) @8 kHz measured	<3%		
Timing jitter	>4 µs		
Beam quality M <sup>2</sup>	< 1.3		

The ELM Series laser system is an OEM versions of an Impex HighTech GmbH diode-pumped solid state laser. As such, it is intended only for integration into other equipment. The ELM Series laser does not comply with Center for Devices and Radiological Health (CORH) standards. The customer is responsible for CORH certification of any system that incorporates an ELM Series laser.

