



Femtosecond Pulsed Laser

FSPL Series

Data Sheet

Overview

The FSPL series is a line of high-power femtosecond pulsed lasers that can deliver high output levels up to 50 Watts. The laser is available at wavelengths of 343nm, 515nm and 1030nm, and constructed with features of short pulse duration, high repetition rate, high average power, and good beam quality. The laser is commonly used in sapphire marking, ceramic cutting, semiconductor cutting, film scribing, physics experiment, and many other applications.

Features

- 343nm, 515nm, and 1030nm wavelengths
- High output power 1000 mW to 50000 mW
- Narrow pulse width <300 fs
- High repetition rate 500kHz-2MHz
- Good beam quality

Applications

- Sapphire marking
- Ceramic cutting
- Semiconductor cutting
- Film scribing
- Physics experiment

343-1030 nm Specifications

Parameter	FSPL343	FSPL515	FSPL1030
Wavelength	343±5 nm	515±5 nm	1030±5 nm
Output power	5W	20W	50W
Single pulse energy	5uJ (5uJ@1MHz)	20uJ (20uJ@1MHz)	50uJ (50uJ@1MHz)
Repetition rate	500kHz-2MHz		
Pulse duration	<300fs @1MHz		
Peak power	17MW@1MHz	67MW@1MHz	167MW@1MHz
Ave power stability (over 4 hours)	<3%	<3%	<3%
Transverse mode	TEM ₀₀	TEM ₀₀	TEM ₀₀
Beam quality (M ²)	<1.3	<1.3	<1.3
Beam diameter at aperture	~1.0 mm	~1.0 mm	~3.0 mm
Beam divergence, full angle	<3.0 mrad	<3.0 mrad	<1.0 mrad
Polarization ratio	>100:1		
Cooled method	Water cooled		
Operating temperature	15-30°C		
Power supply	220/110VAC		
Expected lifetime	10,000 hours	10,000 hours	10,000 hours
Warranty period	10 months	10 months	10 months

Remarks:

- Specifications of the pulsed laser is based on the laser pulsed at the specified repetition rate. If the laser is run at a different repetition rate, the output characteristics may change.
- Specifications are subject to change without notice.