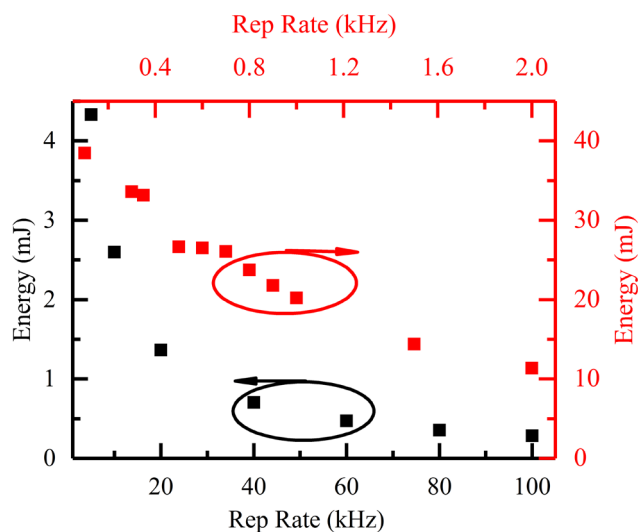




ELPN-1645 Series

Er:YAG Nanosecond Pulsed Lasers

NEW PRODUCT



Typical output energy vs pump power characteristics for different repetition rates for low (0.01-2 kHz shown in red) and high (2-100 kHz shown in black) rep rate modifications



IPG Photonics' ELPN Erbium:YAG nanosecond pulsed laser provides 25-200 ns pulses at 1.645 μm with pulse energies up to 35 mJ and output powers up to 25 W. Low and high repetition rate modifications operate over 0.01-2 kHz and 2-100 kHz frequency ranges, respectively. The acousto-optically Q-switched Er:YAG head is pumped by IPG's efficient and reliable erbium fiber laser. The Er:YAG-1645 pulsed laser addresses lidar remote sensing, range-finding, track illumination, materials processing, marking, resistor trimming, as well as scientific and medical applications. Higher average powers, pulse energies and other options are available upon request. Please contact your IPG Representative with your requirements.



Applications

- ▶ LIDAR/Remote Sensing
- ▶ Medical Applications
- ▶ Track Illuminator
- ▶ Material Processing
- ▶ Range Finder
- ▶ OPO Pump Source



Features

- ▶ Output Power up to 25 W
- ▶ TEM₀₀ Beam Mode
- ▶ Pulse Energy 1-35 mJ
- ▶ 1617 nm Operation Option
- ▶ Variable Pulse Width Option
- ▶ Energy Amplification Option
- ▶ Single-frequency Option
- ▶ Repetition Rate 0.01-100 kHz

ELPN-1645 Series

Er:YAG Nanosecond Pulsed Lasers

Optical Characteristics	ELPN-1645-15-50-15-LRR (AC or WC)	ELPN-1645-4-50-20-HRR (AC or WC)
Mode of Operation	Acousto-optically Q-switched	
Wavelength, nm	1645, 1617	
Linewidth FWHM, nm	<0.5 nm	
Maximum Average Power, W	25	25
Maximum Peak Power, kW	1000	200
Maximum Pulse Energy*, mJ	35	5
Pulse Duration, ns	30-100	25-220
Repetition Rate**, kHz	0.01-2	2-100
Polarization	Linear, >100:1	
Output Beam Mode, M ²	≤1.2	
Beam Diameter (FW, 1/e ²), mm	1.5	
Warm-up Time, min	5 from standby, 15 from cold start	

* Output energies >35 mJ are available upon request.

** Custom repetition rates are available upon request.

General Characteristics	
Pump Laser Cooling	Air-cooled
Pump Laser Dimensions (W × D × H), mm	448 × 420 × 268
Optical Head Cooling	Air-cooled or water-cooled
Optical Head Dimensions (W × D × H), mm	270 × 300 × 110 (air-cooled) 260 × 206 × 72 (water-cooled)
Supply Voltage 50-60 Hz, VAC	110-240
Power Consumption, W	100-800

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MAX. AVERAGE OUTPUT POWER: 50 W
MAX. PEAK OUTPUT POWER: 2 MW
PULSE DURATION: 20-250 ns
PULSE REPETITION RATE: 0.01-120 kHz
WAVELENGTH RANGE: 1600-1700 nm

DANGER - INVISIBLE LASER
RADIATION AVOID EYE OR SKIN
EXPOSURE TO DIRECT OR
SCATTERED RADIATION
CLASS 4 LASER PRODUCT
IEC 60825-1:2014

The Power to Transform®