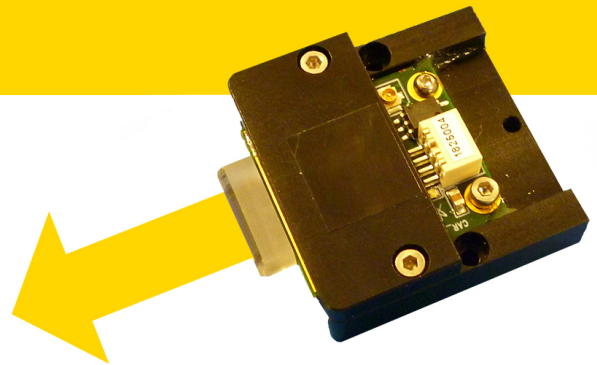


Pulsed laser diode illuminator (QD-Qxy01-ILO)

Laser solutions by LUMIBIRD

Ultra-short pulse illuminator with fast-axis collimation



MAIN FEATURES

- **μJ CLASS NIR LASER DIODE ILLUMINATOR**
 - Standard wavelength : 905 nm
- **MHz PULSE REPETITION RATE**
- **SUPERGAUSSIAN TEMPORAL PULSE SHAPE**
 - < 3 ns (FWHM)
- **ELECTRICAL-TO-OPTICAL EFFICIENCY UP TO 25 %**
 - High efficiency diode bars
 - High efficiency current pulse generator with integrated DC-DC convertor
- **UP TO 1 W AVERAGE POWER WITH NATURAL CONVECTION SUCH AS:**
 - 10 μJ pulse energy at 100 kHz
 - 5 μJ pulse energy at 200 kHz
- **ON-CHIP LASER DIODE DESIGN**
- **ROBUST DESIGN**
 - High reliability
 - Shock and vibration resistant
 - Qualified for defense and space applications

APPLICATIONS

- 3D FLASH LIDAR
- SCANNING LIDAR
- TIME OF FLIGHT

MARKETS

- MEDICAL
- AUTOMOTIVE
- CIVIL ENGINEERING
- SECURITY
- DEFENSE & SPACE
- AEROSPACE

OPTIONS

- EXTERNAL POWER SUPPLY
- TEC COOLING & FAN

OUTPUT ENERGY AT 25°C

OUTPUT ENERGY	PULSE WIDTH	MAXIMUM FREQUENCY
2 μJ	< 3 ns	1 MHz
5 μJ		400 kHz

Energy can be adjusted from 10% to 100% by external DC power supply applied on J1.

OTHER SPECIFICATIONS

PARAMETERS	UNIT		
STACK CHARACTERISTICS			
Number of diode bars		Up to 1	
BEAM CHARACTERISTICS			
		WITHOUT COLLIMATION	WITH COLLIMATION
Spot width in SA ⁽¹⁾ (FWHM)	mm	10 or 5	
Slow axis divergence (FWHM)	deg	< 12	
Spot height in FA ⁽¹⁾ (FWHM)	mm	0.002	2
Fast axis divergence ⁽²⁾ (FWHM)	deg	< 40	< 0.3
Wavelength at 25°C ⁽³⁾	nm	905 (± 5 Typ.)	
Spectral width	nm	< 10	
Polarization		TE mode	
ELECTRICAL REQUIREMENTS			
	CONNECTOR	WITH HIGH VOLTAGE ON BOARD	EXTERNAL HIGH VOLTAGE
Low voltage DC power supply	J1	12 VDC / < 0.1 A	12 VDC / < 0.1 A
High voltage DC power supply			0-60 VDC / < 0.1 A 10 A peak
Energy adjustment voltage supply ⁽⁵⁾		0-5 VDC / < 0.1A ⁽⁴⁾	Adjustment via high voltage power supply
Trigger signal	J2	Pulse mode, 10 ns ≤ width ≤ 20 ns Frequency up to 1 MHz	
OPERATING CONDITIONS			
Operating temperature	°C	+ 15 to + 40	
Storage temperature	°C	- 20 to + 80	
Humidity		Non condensing for humidity rate lower than 70 %	

(1) SA : Slow axis, FA : Fast axis

(2) FAC : Fast axis collimation

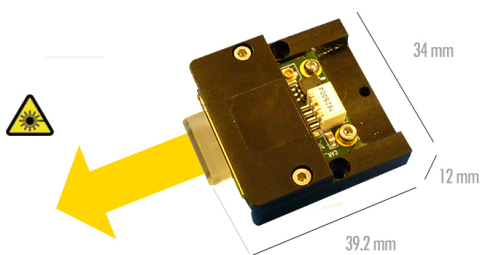
(3) Variation of wavelength with temperature is approximately 0.3 nm/°C.

(4) Without any DC voltage (0-5VDC), the output energy is maximum. When applying DC voltage between 0 and 5VDC, the output energy can be adjusted.

(5) When the output energy is adjusted from 10% to 100%, the pulse width will decrease as well as the output energy (at 10% of maximum energy, pulse duration will be reduced by 50 %).

DIMENSIONS

EXTERNAL HIGH VOLTAGE VERSION



PIMK 10802 OR 10803

Many options and configurations are available. Please contact Lumibird to find the best match for your needs and compatibility between options.



Lumibird has locations across the globe that are available to provide support for any product, service or inquiry.

Visit www.lumibird.com to connect with any of our global sites.

