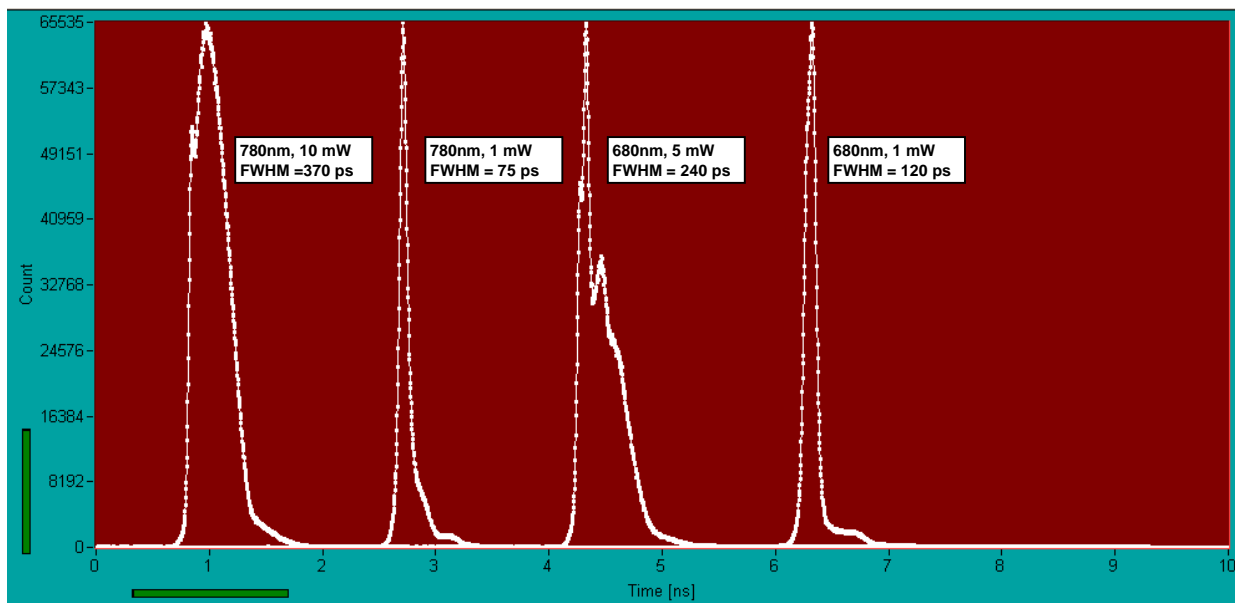


BHLP-700

Red and NIR Picosecond Diode Laser Modules

Pulse width down to 100 ps
Average power up to 10 mW
Repetition rate 50 MHz
Wavelength 685 nm, 785 nm
Low skew trigger output
Extremely low RF noise
Cooled laser diode
Shutdown / startup within 2 μ s - fast multiplexing capability
Simple +12V power supply
Compact design - no external controller unit
Interfaces directly to all bh TCSPC modules



Diffuse Optical Tomography
Luminescence Lifetime of NIR Fluorophores
Fluorescence Correlation
Time-Correlated Single Photon Counting
Experiments



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BHLP-700

Optical

Repetition Rate	50 MHz
Wavelength	685 nm, 785 nm ¹⁾
Pulse Width (FWHM, Power 1 mW, typical value)	120 ps
Pulse Width (FWHM, Power 5 mW, typical value)	300 ps
Peak Power	300 mW ²⁾
Average CW power (adjustable)	0.2 mW to 10 mW ³⁾
Stability of Repetition Rate	± 100 ppm
Pulse-to Pulse Jitter	< 10 ps
Power and pulse shape stabilisation after 'Laser on' signal	2 µs
Power and pulse shape stabilisation after switch-on	2 min

Trigger Output

Pulse Amplitude	-100 mV (peak) into 50 Ω
Pulse Width	1 ns
Output Impedance	50 Ω
Connector	SMA
Delay from Trigger to Optical Pulse	< 500 ps
Jitter between Trigger and Optical Pulse	< 10 ps

Control Inputs

/Laser Off (Shutdwn)	TTL / CMOS low ⁴⁾
Shutdwn delay	< 100 ns
Power and pulse shape stabilisation after end of '/Laser Off'	2 µs
External Power Control	analog input, 0 to +5 V

Power Supply

Power Supply Voltage	+12 V
Power Supply Current	200 mA to 1 A ⁵⁾

Mechanical Data

Dimensions	110 mm x 66 mm x 78 mm
Mounting Thread	two M6 holes

Maximum Values

Power Supply Voltage	0 V to +15 V
Voltage at /Laser Off input	-2 V to +7 V
Voltage at Ext. Bias Input	-2V to +7V
Ambient Temperature	0 °C to 30 °C ⁶⁾

1) Other wavelengths from 635nm to 1300nm are available. Power and pulse width parameters may differ for wavelengths other than specified above. Please contact bh.

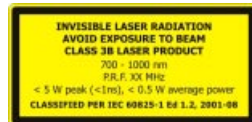
2) Typical value, sample tested only.

3) Recommended power adjust range. Please note that the pulse width changes with the power. Power levels above the given range can be selected, but may impair the lifetime of the laser diode.

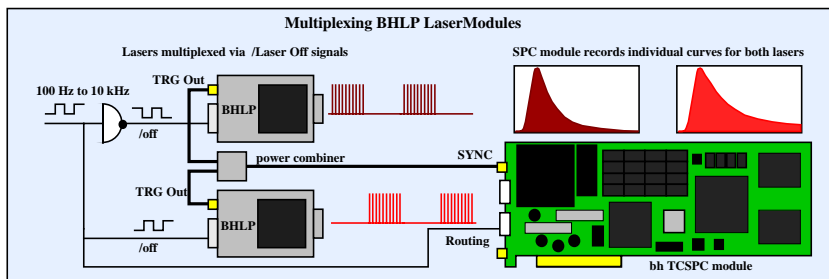
4) All inputs have 10 kΩ pull-up resistors. Open input is equivalent to logic 'high'.

5) Dependent on ambient temperature. Cooling current changes due to temperature regulation of laser diode

6) Operation below 13 °C may result in unstable power or extended warm-up time.



Caution: Class 3B laser product. Avoid exposure to beam. Light emitted by the device may be harmful to the human eye and skin. Please obey laser safety rules when operating the devices. Complies with US federal laser product performance standards.



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