

The EPL Series

Picosecond Pulsed Diode Lasers

EPL-375, EPL-405, EPL-445, EPL-450, EPL-475, EPL-485, EPL-510
EPL-635, EPL-640, EPL-655, EPL-670, EPL-785, EPL-800, EPL-980.



EDINBURGH
INSTRUMENTS

Photonics Division



The EPL picosecond pulsed diode lasers are a family of high performance, cost effective excitation sources for fluorescence lifetime measurements. In Time Correlated Single Photon Counting (TCSPC) they bridge the gap between the nanosecond flashlamp and expensive mode locked Titanium Sapphire femtosecond lasers.

The EPL lasers are pre-adjusted for an optimum pulse width, with particular attention paid to reducing a secondary shoulder. The output has a typical pulse width of less than 100 ps.

The EPL lasers are robust, maintenance free, easy to operate and have proprietary beam conditioning optics.

EPL Product Features:

- Optimised for TCSPC
- 10 Pre-set Repetition Frequencies from 20 KHz to 20 MHz
- Spectrally Purified Output
- Fully Integrated, Compact Design
- Extremely Low RF Radiation
- Optimised Collimated Beam
- Drive Electronics Included

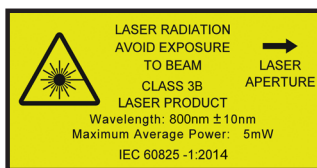
Technical Specifications

	EPL-375	EPL-405	EPL-445	EPL-450	EPL-475	EPL-485	EPL-510	EPL-635	EPL-640	EPL-655	EPL-670	EPL-785	EPL-800	EPL-980
Nominal Wavelength (nm)	375	405	445	450	475	485	510	635	638	655	672	782	800	978
Wavelength Range (nm)	369-381	398-410	437-446	442-458	470-478	480-488	505-515	630-640	636-642	652-658	669-675	779-787	795-806	975-983
Linewidth (nm)	< 1.5	< 2.0	< 3.0	< 7.0	< 4.5	< 7.0	< 5.0	< 2.5	< 2.5	< 2.5	< 2.5	< 4.0	< 6.0	< 5.0
Max. Pulse Width @10 MHz (ps)	90	90	110	350	100	200	280	95	100	90	80	95	120	120
Typical Pulse Width @10 MHz (ps)	75	60	95	200	90	140	200	80	85	70	65	75	100	95
Typical Average Power @ 20 MHz (mW)	0.15	0.11	0.10	0.15	0.15	0.10	0.07	0.13	0.25	0.15	0.15	0.12	0.15	0.07
Min. Average Power @ 20 MHz (mW)	0.10	0.09	0.07	0.10	0.10	0.06	0.05	0.08	0.15	0.12	0.10	0.09	0.10	0.04
Typical Peak Power @10 MHz (mW)	140	110	50	50	80	35	25	80	155	120	130	115	100	30
Min. Peak Power @10 MHz (mW)	80	80	35	25	65	20	20	60	110	80	75	80	60	25

Pulse Repetition Frequencies (MHz)	20	10	5	2	1	(KHz)	500	200	100	50	20
Pulse Period (ns)	50	100	200	500	1000	(µs)	2	5	10	20	50

Bias Supply	15 – 18V dc, 15W (2.1 mm DC jack)
Trigger Output	SMA, NIM Standard
Interlock Input	Binder 712 (RS464-454), (short circuit – interlock healthy)
Key Switch	Yes
Cooling	Yes, actively controlled
Beam Quality: Near Field Dimensions	≤4.75 mm (fast axis), ≤1.75 mm (slow axis)
Beam Quality: Divergence	≤1.5 mrad (fast axis), ≤0.75 mrad (slow axis)
Spectral Conditioning	by interference filter
Physical Dimensions	Overall: 168 mm length x 64 mm x 64 mm. collimator tube: ø30 mm x 38 mm
Tapped Holes for Stud Mount	2 off M6
Weight	800 g
Laser Safety	The EPL 375, 785, 800 and 980 are Class 3B lasers. All other EPL Lasers are Class 3R

We have a policy of continuing product development and reserve the right to amend specification without prior notice.



CLASS 3R/3B LASER PRODUCT.

Avoid exposure to beam. Light emitted by the laser may be harmful to the human eye and to skin. Please obey laser safety regulations.

This product complies with the US federal laser product performance standards.

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