

DFB & DBR Laser Diodes

updated weekly
inventory subject to prior sales



Distributed Feedback (DFB) and Distributed Bragg Reflector (DBR) laser diodes feature a frequency-selective structure within the laser chip, which restricts the laser emission to a single longitudinal mode. The lasing wavelength is tuned by varying either the driver current or the chip temperature. Single-frequency operation is usually maintained over several hundred GHz without any mode-hops. In the table below, WL indicates the design wavelength. P is the maximum output power of the diode. WLmin and WLmax denote the wavelength range accessible via temperature tuning and dL/dT is the thermal tuning coefficient in nm/K.

Note that the range between WLmin and WLmax is usually, but not always, mode-hop free. If your application requires guaranteed mode-hop-free tuning, please inquire with TOPTICA Photonics. Note that the range between WLmin and WLmax is usually, but not always, mode-hop free. If your application requires guaranteed mode-hop-free tuning, please inquire with TOPTICA Photonics. Further information e.g. regarding electric tuning, fast modulation options, spectroscopic applications and locking to resonance lines is available upon request.

Diodes with a checkmark in the "4-laser check" column may have power restriction when used with the 4-laser upgrade. Please inquire.

The linewidth value refers either to the typical instantaneous linewidth of the DL pro or typical short term linewidth if followed by [5μs] (*); if no value please contact TOPTICA sales for an estimation. Please inquire for more technical data on the frequency noise (e.g. frequency noise density).

Diodes with a TO-3 or butterfly-type package include a built-in thermistor and thermoelectric cooler. For other diodes (5.6 mm or 9 mm housings), we recommend TOPTICA's patented ColdPack for precise temperature control.

The central wavelength is provided with a tolerance of +/- 1nm, unless indicated otherwise. All spectroscopy diodes are guaranteed to meet the spectroscopy wavelength, but not necessarily at the centre of the scanning range.

(*) Link to paper: "Linewidth-measurement"

WL nm	P mW	dL/dT nm/K	Linewidth Δν in kHz	4-Laser Check	Article Number	Stock	Remark
633.0		0.04	1000 [5μs]		LD-0633-0010-DBR-1	> 3	
760.0		0.07	20	√	LD-0760-0080-DBR-1	> 3	
761.3	40	0.06	2000 [5μs]		LD-0760-0040-DFB-1	3	For O2 Spectroscopy, TO-3
770.1	60	0.06	1000		LD-0770-0060-DBR-2	u.r.	For K spectroscopy (D1 line), TO-8
778.1	140	0.06	500		LD-0778-0140-DBR-1	u.r.	For Rb 2PT, TO-8
779.9	80	0.06	2000 [5μs]	√	LD-0780-0080-DFB-2	u.r.	For Rb spectroscopy [1], TO-3
780.0	80	0.06	2000 [5μs]	√	LD-0780-0080-DFB-2	u.r.	For Rb spectroscopy [1], TO-3
780.0	120	0.07			LD-0780-0120-DBR-1	1	
780.2	140	0.06			LD-0780-0120-DBR-5	> 3	For Rb Spectroscopy [1]
784.3	100	0.06	2000 [5μs]		LD-0785-0100-DFB-2	u.r.	TO-3
785.3	100	0.06	2000 [5μs]		LD-0785-0100-DFB-2	u.r.	TO-3

[1] Note: The diodes reach the targeted spectroscopy wavelength, though not necessarily at the center of the tuning range.

u.r. : upon request

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WL nm	P mW	dL/dT nm/K	Linewidth $\Delta\nu$ in kHz	4-Laser Check	Article Number	Stock	Remark
795.0	80	0.06	600 [5 μ s]		LD-0795-0080-DFB-1	3	For Rb spectroscopy (D1 line)
795.0	140	0.06	30		LD-0795-0120-DBR-4	> 3	For Rb Spectroscopy D1 line [1]
808.0	140	0.06	500		LD-0808-0140-DBR-1	u.r.	WL \pm 0.6nm, TO-8
811.0	10	0.06			LD-0811-0020-DFB-1	1	
851.2	140	0.06	2000 [5 μ s]	√	LD-0852-0150-DFB-1	u.r.	For Cs spectroscopy [1], TO-3
851.4	140	0.06	2000 [5 μ s]	√	LD-0852-0150-DFB-1	u.r.	For Cs spectroscopy [1], TO-3
852.0	140	0.06	2000 [5 μ s]	√	LD-0852-0150-DFB-1	u.r.	For Cs spectroscopy [1], TO-3
852.3	190	0.06			LD-0852-0300-DBR-3	1	For Cs Spectroscopy [1]
854.0	100	0.06	160	√	LD-0854-0100-DFB-1	> 3	
861.0	20	0.07			LD-0860-0020-DFB-1	u.r.	
866.0	20	0.07			LD-0860-0020-DFB-1	2	
894.6	180	0.06	500		LD-0895-0180-DBR-1	u.r.	For Cs spectroscopy (D1 line), TO-8
895.0	40	0.07			LD-0895-0040-DBR-1	2	For Cs spectroscopy [1]
935.0	30	0.08			LD-0935-0030-DFB-1	u.r.	
936.0	80	0.06			LD-0935-0080-DFB-1	u.r.	
1051.0	30	0.1			LD-1053-0030-DFB-1	1	Butterfly + pigtail
1064.0	30	0.1			LD-1064-0030-DFB-1	> 3	Butterfly + pigtail
1065.0	30	0.1			LD-1064-0030-DFB-1	1	Butterfly + pigtail
1315.0	20	0.1			LD-1315-0020-DFB-1	1	Butterfly + pigtail
1470.0	20	0.12			LD-1470-0020-DFB-1	u.r.	Butterfly + pigtail
1479.0	20	0.12			LD-1470-0020-DFB-1	1	Butterfly + pigtail
1550.0	40	0.1		√	LD-1550-0040-DFB-1	2	Butterfly + pigtail

[1] Note: The diodes reach the targeted spectroscopy wavelength, though not necessarily at the center of the tuning range.

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1550.0	100	0.11	1000 [5 μ s]	√	LD-1550-0100-DFB-1	2	Butterfly + pigtail
1553.0	40	0.1		√	LD-1550-0040-DFB-1	1	Butterfly + pigtail
1572.5	40	0.1		√	LD-1550-0040-DFB-1	1	Butterfly + pigtail

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