

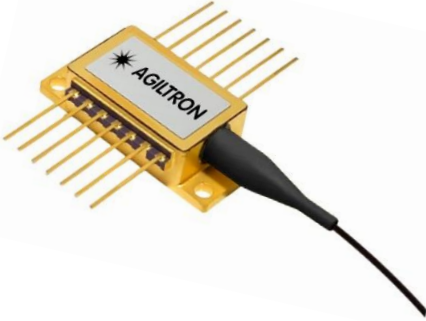
Fiber Coupled High Power Narrow-Line Multimode Laser

785nm, 1W, 0.05nm linewidth, butterfly TEC package, 105/125 fiber



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Features

- Wavelength accuracy: ± 0.5 nm
- Wavelength stability: < 5 pm
- Line width (FWHM): < 1 cm^{-1}
- Built-in Thermo-Electric Cooler
- Simple and compact
- Economical
- Convenient fiber delivery
- Adjustable optical power

Applications

- Raman Spectroscopy
- Flow cytometry
- Sensing
- Military



This wavelength-stabilized fiber-coupled laser series in a 14-pin butterfly package is built utilizing PD-LD's patented Volume Bragg Grating (VBG®) technology. This award-winning technology is used to stabilize and shape the emission spectrum of high power laser diodes for numerous applications including solid-state laser pumping, fiber laser pumping, high-resolution Raman spectroscopy and other applications requiring high-power temperature-stabilized narrow line width laser source.

Specifications

Parameter	Min	Typical	Max	Unit
Center Wavelength ^[1]	784.5	785	785.5	nm
Wavelength Stability ^[2]			5	pm
Output Power		0.5	1.0	W
Output Power Stability ^[3]		1		%
Operating Voltage	1.9		2.1	V
Operating Current		1	2	A
Threshold Current		0.43	0.5	A
TEC Current			2	A
TEC Voltage			4	V
Slope Efficiency		0.5		W/A
Spectral Line Width (FWHM)		0.05	0.07	nm
		0.8	1.13	cm^{-1}
TEC Set Temperature Range ^[4]	± 5			$^{\circ}\text{C}$
Operating Case Temperature	-10	25	55	$^{\circ}\text{C}$
Fiber Type	105 core/125 cladding/250 jacket/0.22 NA			
Connector Type	FC/APC (angle polish is recommended for optimum performance)			

Notes:

[1]. A. Other wavelengths are available. Contact sales.

[2]. Day to day stability at set internal temperature

[3]. Over 8 hours of continuous operation in constant power mode

[4]. This set point refers to the TEC inside the package. Typical set point is room temperature or 25°C . Specific recommended set point is provided in the shipping document with each package.

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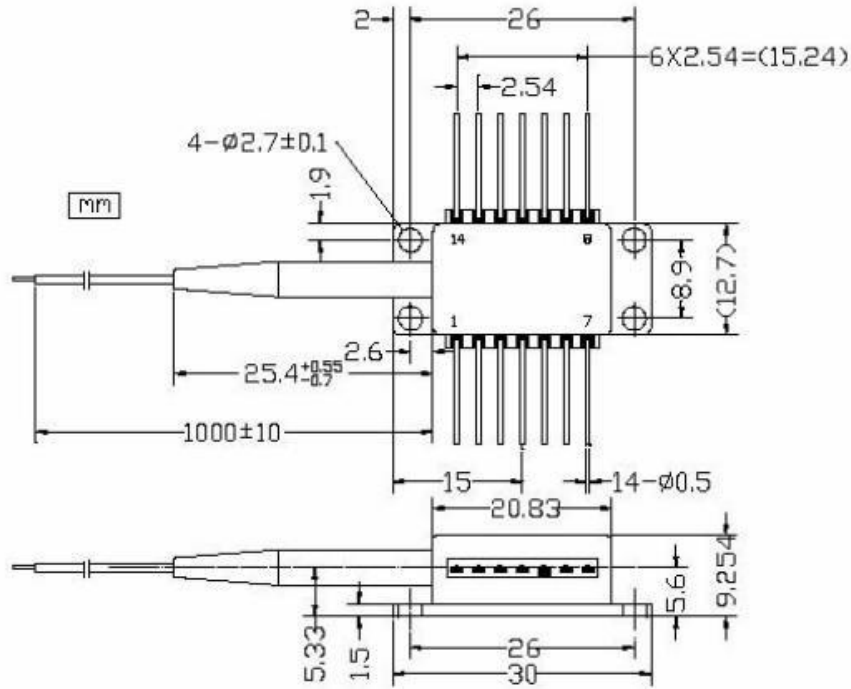
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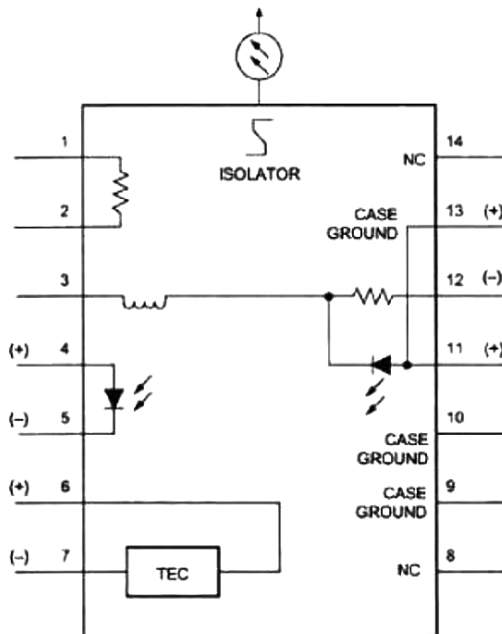
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Mechanical Dimension (mm)



*Product dimensions may change without notice. This is sometimes required for non-standard specifications.

PIN Assignment



14-pin BTF Package

PIN	Function
1	Thermistor
2	Thermistor
3	LD (-)
4	MPD (+)
5	MPD (-)
6	TEC (+)
7	TEC (-)
8	NC
9	Case
10	Case
11	LD (+), Case
12	LD (-), RF
13	LD (-), Case
14	NC

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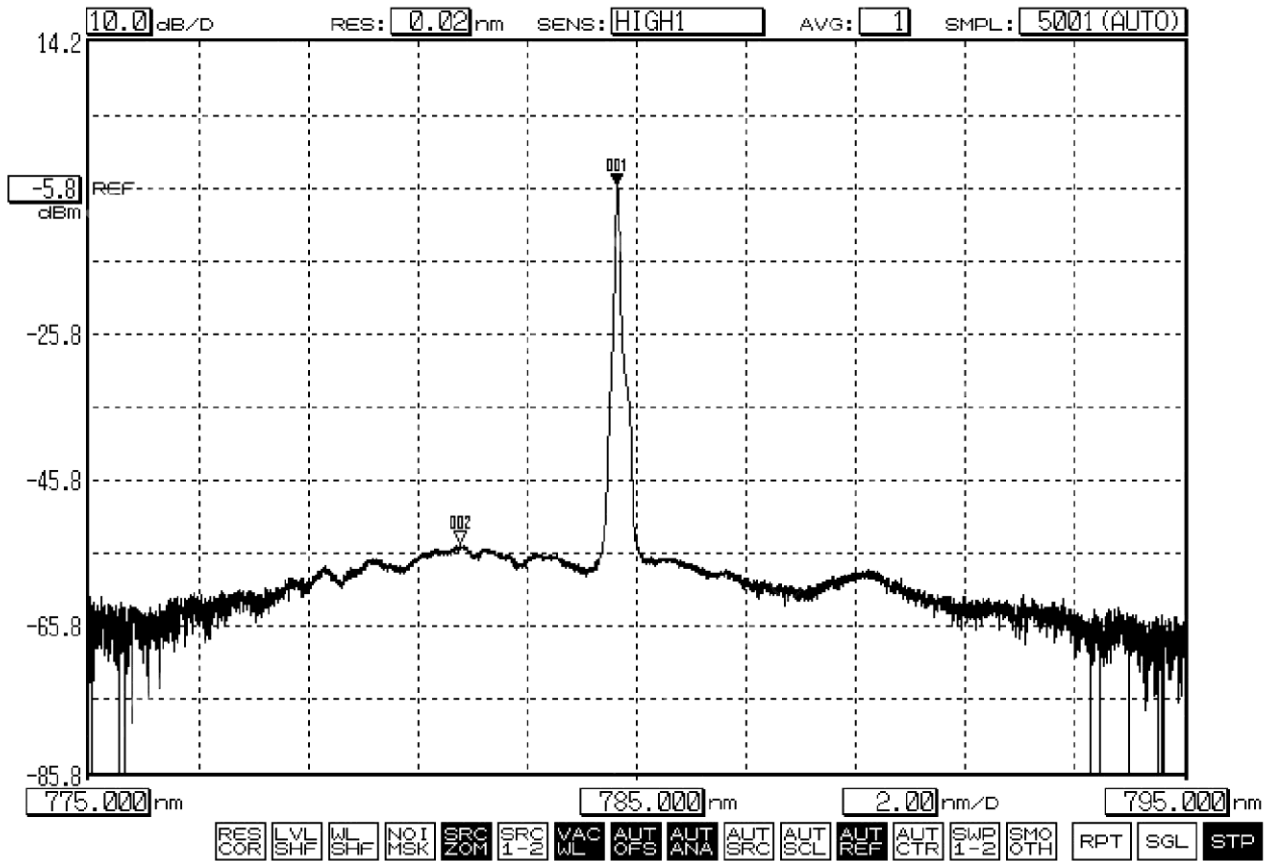
Typical Spectrum

YOKOGAWA ◆

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<DFB-LD ANALYSIS>				A:WRITE /DSP			
SMSR:	49.06dB	OSNR:	49.15dB(/0.10nm)	B:FIX	/BLK	C:FIX	/BLK
PEAK WL:	784.6480nm	PK LEVEL:	-5.77dBm	σ:	0.0237nm	D:FIX	/BLK
3.00dB WIDTH:	0.0511nm	CTR WL:	784.6465nm	Kσ:	0.0474nm	E:FIX	/BLK
MODE OFFSET:	-2.8800nm	POWER:	-3.98dBm	F:FIX	/BLK	G:FIX	/BLK

<MEAS CONDITION>		2X SPEED	
START:	775.000nm	STOP:	795.000nm
CENTER:	785.000nm	SPAN:	20.0nm



Ordering Information

Prefix	Wavelength	Output Power	Linewidth	TEC Cooling	PD	Fiber Type	Connector
NLML-	785nm = 785 Special = 0	>0.5W = 1 >1W = 2	0.05nm = 1 0.1nm = 2	Yes = 2 Non = 1	None = 1 Yes = 2	105/125 = 1 Special = 0	FC/PC = 1 Special = 0

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Benchtop Matching Laser Diode Driver



Agiltron cost-effective LDCB series benchtop control kit is designed for easy laser diode mounting and precise control. It incorporates a high-precision, low-noise auto-feedback drive electronics to ensure constant output power or a constant driving current and an integrated temperature control unit maintains optimal operating conditions. The system provides up to 1A driving current and up to 2A TEC cooling current. Each system features a front fiber output connector. The user interface includes an intuitive LCD display for independent control of output power and temperature via two front rotating knobs. The LDCB also includes a universal power supply compatible with 100 to 240 VAC. The LDCB has a built-in isolator option to prevent reflection-induced laser emissions instability. The LDCB is designed as a laser diode and TEC controller kit for customer to install laser diode. It has three types of pluggable laser mounts of butterfly, DIL, and TOCAN. The TOCAN mount contains an external TEC that maintains a constant temperature for wavelength stability.

For details please click: <https://agiltron.com/product/laser-diode-tec-controllers-benchtop-kit/>

Turn-Key Module Matching The Laser Diode



The Agiltron LDCM series laser source module is designed for OEM applications and features all-in-one high reliability and highly stable laser output. The LDCM contains high-precision, low-noise, auto-feedback laser diode drive electronics to ensure constant output power or driving current and an integrated temperature controller that maintains optimal operating conditions. An optional fiber optical isolator can be integrated to prevent reflection-induced laser emission instability, which is essential for achieving highly stable lasers. Agiltron produces isolators from 370nm to 2600nm. The system provides up to 1A driving current and up to 2A TEC cooling current. Each unit features a single FC/APC connector output and two front rotating knobs for independent setting of laser output power and temperature. A toggle switch allows selection between constant current control mode and feedback constant output power mode.

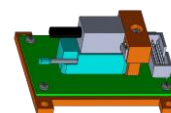
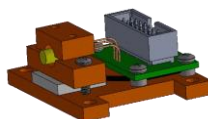
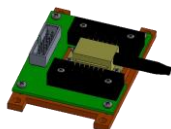
For details please click: <https://agiltron.com/product/laser-diode-tec-controllers-module/>

Laser Driver Kit



Agiltron cost-effective LDCD series module control kit is designed for easy laser diode mounting and precise control. It incorporates a high-precision, low-noise auto-feedback drive electronics to ensure constant output power or a constant driving current and an integrated temperature control unit maintains optimal operating conditions. The system provides up to 1A driving current and up to 2A TEC cooling current. It has three types of pluggable laser mounts of butterfly, DIL, and TOCAN. The TOCAN mount contains an external TEC that maintains a constant temperature for wavelength stability. It comes with cables to connect between the mounting module to the driving module, making integration convenient.

For details please click: <https://agiltron.com/product/laser-diode-tec-controllers-compact/>



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Caution Electrostatic Sensitivity



- Never touch laser diode and the module using hands
- Always use protections when handle a laser diode
- Recommend mounting the laser diode using an ionic gun and ESD finger cots



Laser Safety

This product meets the appropriate standard in Title 21 of the Code of Federal Regulations (CFR). FDA/CDRH Class 1M laser product. This device has been classified with the FDA/CDRH under accession number 0220191. All versions of this laser are Class 1M laser products, tested according to IEC 60825-1:2007 / EN 60825-1:2007. An additional warning for Class 1M laser products. For diverging beams, this warning shall state that viewing the laser output with certain optical instruments (for example eye loupes, magnifiers, and microscopes) within a distance of 100 mm may pose an eye hazard. For collimated beams, this warning shall state that viewing the laser output with certain instruments designed for use at a distance (for example telescopes and binoculars) may pose an eye hazard.

Wavelength = 1.3/1.5 μm .

Maximum power = 30 mW.



*Caution - Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

*IEC is a registered trademark of the International Electrotechnical Commission.