

Fiber Coupled VCSEL

(Multimode Fiber)



DATASHEET

BUY NOW



Agiltron offers a variety of fiber pigtailed VCSELs (Vertical Cavity Surface Emitting Laser) in ready to use fiber pigtail coupled packages. Packaging options are fully customizable, including integrated isolator, MEMS attenuator, and wavelength tunable VCSELs in a fiber coupled co-axial assemblies.

VCSEL devices may also be specified with or without internal monitoring function.

Features

- Low Operating Current
- High Speed
- Hermetical Seal
- PD Available
- Low Cost

Specifications

Parameter	Min	Typical	Max	Unit
Wavelength	600	850	1550	nm
FWHM		0.85		nm
Operating Current	2	6		mA
Output power		1		mW
Response time		100		ps
Laser Continuous Average Current		6		mA
Laser Peak Forward Current		10		mA
Laser Reverse Voltage			8	V
Operating Temperature	0		75	°C
Storage Temperature	-40		85	°C
Lead solder temperature			260	°C

Applications

- Medical and Dermatology
- Holography
- Metal Cutting/Engraving
- Microfabrication

Note: The specifications provided are for general applications with a cost-effective approach. If you need to narrow or expand the tolerance, coverage, limit, or qualifications, please [\[click this link\]](#):

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P +1 781-935-1200

E sales@photonwares.com

W www.agiltron.com

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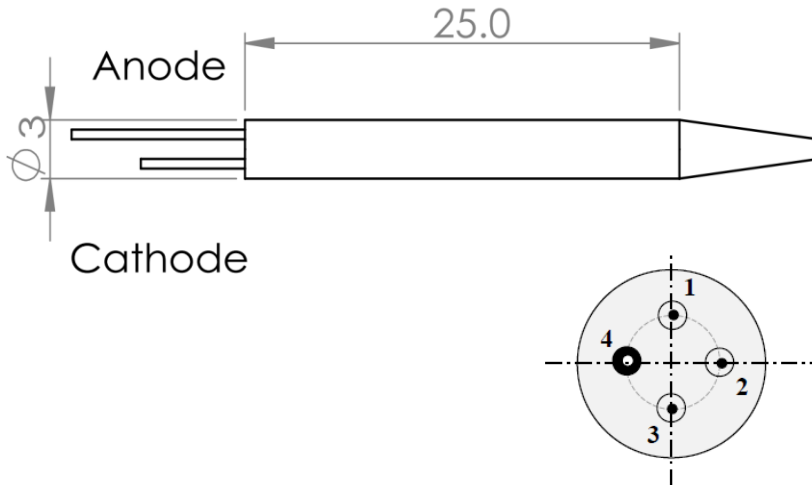
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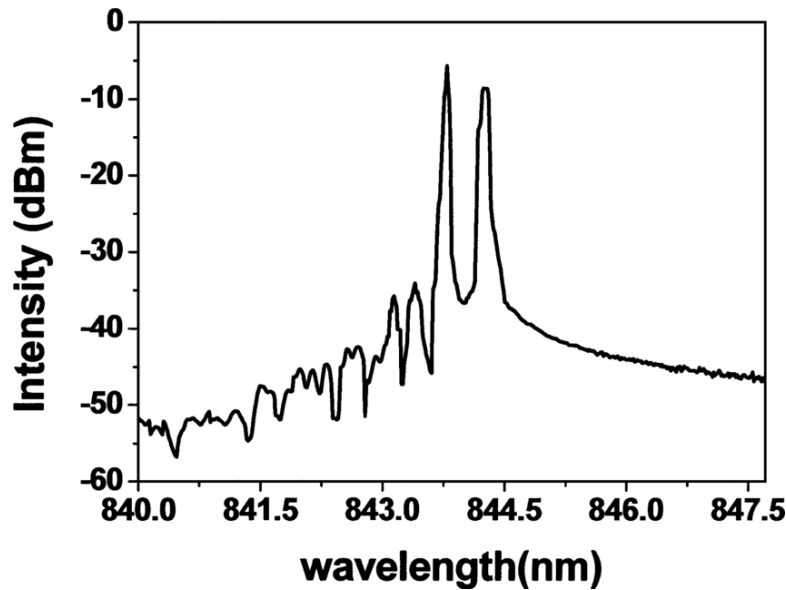
Packaging Information



- PIN Layout:**
- 1. VCSEL Cathode / PD Cathode
 - 2. PD Anode
 - 3. VCSEL Anode
 - 4. Case

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

Typical Emission Spectrum



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Ordering Information

Prefix	Wavelength	PD Integrated	Package	Fiber Type	Fiber Cover	Fiber Length	Connector
FCVL-	850nm = 85 1550nm = 15	PD = 1 No PD = 0	Standard = 10 Isolator = 20 VOA = 02 Special = 00	50/125 = 2 62.5/125 = 3 Special = 0	Bare fiber = 1 900um tube = 2 Special = 0	0.25m = 1 0.5m = 2 1m = 3 Special = 0	None = 1 FC/PC = 2 FC/APC = 3 SC/PC = 4 SC/APC = 5 LC/PC = 7 LC/APC = A LC/UPC = U Special = 0

Application Notes

Fiber Core Alignment

Note that the minimum attenuation for these devices depends on excellent core-to-core alignment when the connectors are mated. This is crucial for shorter wavelengths with smaller fiber core diameters that can increase the loss of many decibels above the specification if they are not perfectly aligned. Different vendors' connectors may not mate well with each other, especially for angled APC.

Fiber Cleanliness

Fibers with smaller core diameters (<5 μm) must be kept extremely clean, contamination at fiber-fiber interfaces, combined with the high optical power density, can lead to significant optical damage. This type of damage usually requires re-polishing or replacement of the connector.

Maximum Optical Input Power

Due to their small fiber core diameters for short wavelength and high photon energies, the damage thresholds for device is substantially reduced than the common 1550nm fiber. To avoid damage to the exposed fiber end faces and internal components, the optical input power should never exceed 20 mW for wavelengths shorter 650nm. We produce a special version to increase the handling by expanding the core side at the fiber ends.