850nm VESEL Optic Transmitter

Multimode fiber coupling

DATASHEET

BUY NOW

The VEST family fiber optic transmitters are high performance devices packaged for data communication links. This transmitter uses an 850nm GaAlAs vertical surface emitting diode (VESEL) and is specifically designed to efficiently launch optical power into fibers ranging in size from 50/125µm up to 200/300µm diameter fiber for up to 100MHz data transmission speed. VESEL transmitter is well suited for multimode fiber transmission with improved mode stability than using edge emitting lasers. This product's combination of features including high optical power, high speed, and efficient coupled power makes it an ideal transmitter for integration into all types of short distance data communications equipment.

The mechanical package is intended for PC Board or panel mounting. Custom special fiber interface and mounting formats are available.

Features

- High Stability
- Low Cost
- 50MHz

Applications

- Ethernet
- Video Transmission

Specifications

Parameter		Min	Typical	Max	Unit
Peak Fiber Test Optical Power (Iop=6mA, 50/125 MM fiber)		0.1		0.3	mW
Threshold Current	Iop=6mA, T=25°C	0.4	0.9	1.5	mA
	Iop=6mA, T=-5~85°C	0.3		1.7	mA
Supply Current (CW)		3	6	10	mA
Wavelength		840	850	860	nm
Spectral Bandwidth (Iop=6mA, RMS)				0.85	nm
Rise/Fall time (CW)				0.1	ns
Differential Resistance (Iop=6mA, RMS)		25	50	65	Ω
Monitor Current (PD) (Iop=6mA, RMS)		50			uA
Dark Current (PD) (-3V, P=0mW)				100	nA
Storage Temperature		-40 ~ +85			°C
Operating Temperature		0 ~ +70			°C
Lead Solder Temperature		260			°C
Max Forward Current		10			mA
Max Reverse Voltage		5			V

Notes:

1. Threshold Current is based on the two line intersection method specified in GR-468-Core. Line 1 from 4 mA to 6mA. Line 2 from 0mA to 0.5mA.
2. Series Resistance is the slope of the Voltage-Current line from 5 to 8 mA.
3. Slope efficiency is the slope of the best fit LI line from 5 mA to 8mA using no larger than 25 mA test interval points. Measured with a 50/125µm fiber.

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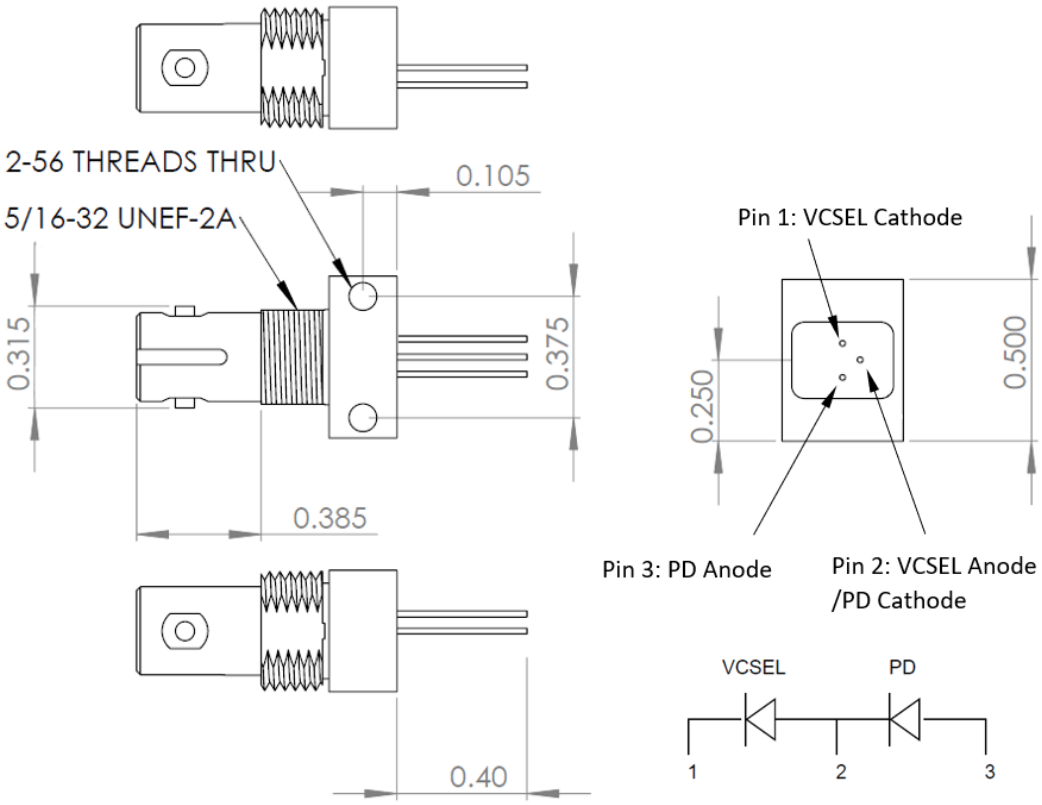
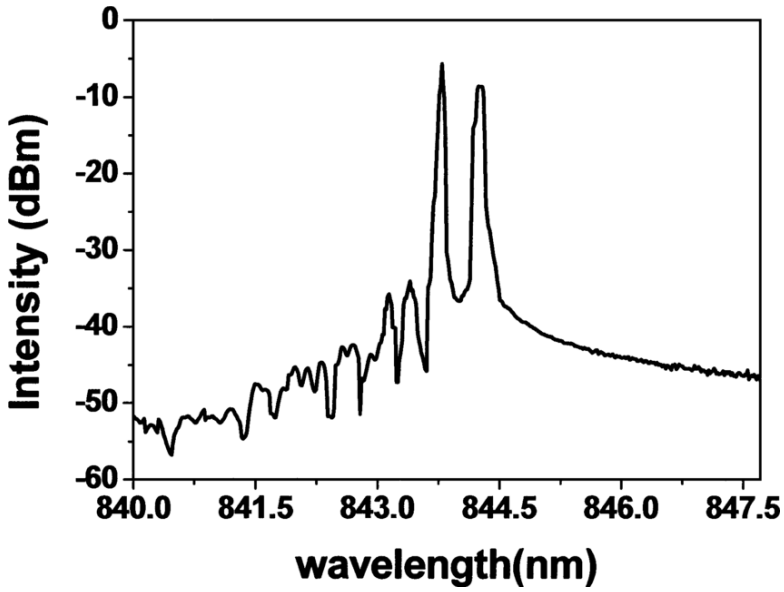
Mechanical Dimensions (mm)



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

Typical Emission Spectrum



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Ordering Information

	☐	☐☐☐☐	☐	☐	☐	☐
Prefix	**Model**	**Wavelength**	**Power Level**	**Fiber Type**	**Package**	**Connector**
VCET-	Multimode = 2	850nm = 0850 1310nm = 1310 1550nm = 1550 Special = 0000	0.02mW = 1 0.05mW = 2 0.1mW = 3 0.2mW = 4 0.3mW = 5 Special = 0	50/125 = 5 62/125 = 6 Special = 0	Standard = 1 Isolation ring = 2 Special = 0	ST = 1 LC/PC = 2 FC/PC = 3 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 how handling by expanding the core side at the fiber ends.

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