VENUSLAB
OPTOELECTRONICS

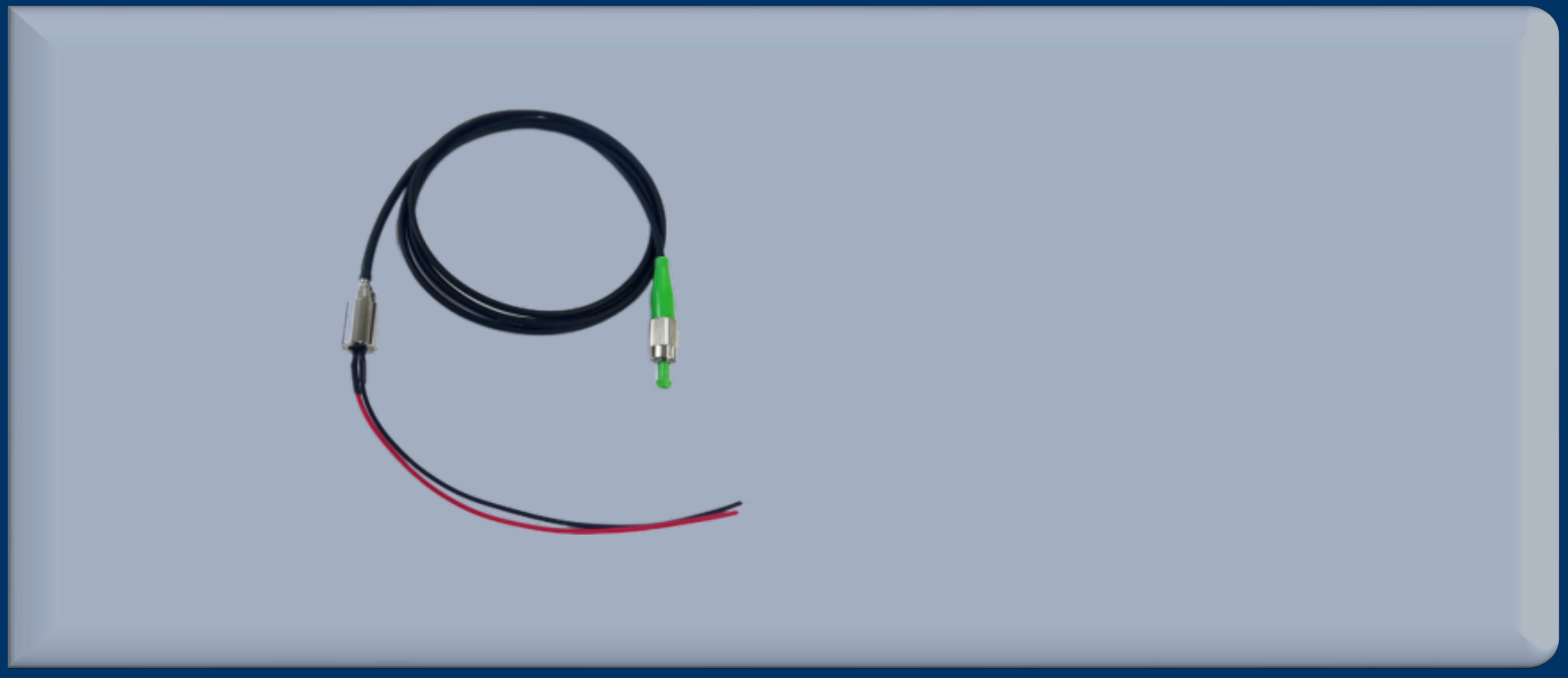
Precision Meets Simplicity

Fiber-Coupled Laser Sources

VL Fiber-Coupled Laser Sources

A stable fiber laser solution with high coupling efficiency, high spot quality, and strong compatibility

- Excellent optical performance
- Wide compatibility
- Rich parameter options
- Reliable stability design



One Platform Many Possibilities

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Overview

Introduction:

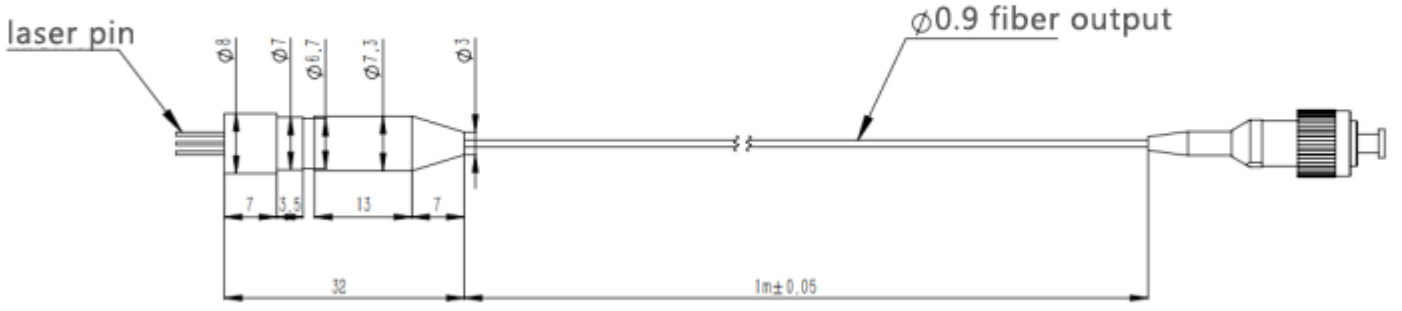
Taking semiconductor laser tubes (laser diodes, LD) as the core, the VL Fiber-Coupled Laser Series adopts the TO packaging form. This packaging is usually used for low-power LD lasers, featuring a compact structure and high stability, which can provide a solid foundation for the stable operation of the lasers.
In terms of optical output optimization, all products in the series adopt an integrated fiber-coupled output form, combined with a conformal gradient-index lens. This design not only ensures high efficiency of LD laser coupling into the optical fiber, but also enables the LD laser after fiber output to conform to the Gaussian spot intensity distribution to the greatest extent, effectively optimizing the output spot quality and providing a high-quality laser light source for subsequent applications.In terms of technical parameters, this series of products covers a wide wavelength range, from 400nm to 1064nm, which can meet the needs of different fields for lasers with specific wavelengths. The continuous output power also has a large range, from 10mW to 3500mW, and can be flexibly selected according to the power requirements of actual application scenarios.

Features:

- The entire series adopts TO packaging
- The entire series adopts an integrated fiber-coupled output form
- The entire series uses multimode optical fibers, suitable for multi-beam transmission scenarios
- Pigtail ends support a variety of common fiber optic connectors

Dimensions:

Unit:mm



Specifications

Common Parameter Specification Table

Parameter Category	Specific Parameters
Basic Package Params	
Package Type	TO Package (Coaxial Package)
Core Device	Semiconductor Laser Tube (Laser Diode, LD)
Optical Core Params	
Central Wavelength Range	400nm - 1064nm
Continuous Output Power	10mW - 3500mW
Spectral Width	2.0nm; 3.0nm for some models
Wavelength Temperature Coefficient	0.3nm/℃
Output Spot Distribution	Gaussian Spot Intensity Distribution
Laser Safety Class	Class 4
Fiber Key Params	
Fiber Type	Multimode Fiber
Numerical Aperture (NA)	0.22
Fiber Length	≥1m
Fiber Core Diameter (Optional)	50μm, 100μm, 105μm, 200μm; 25μm, 40μm for some models
Connector (Optional)	FC/APC, FC/PC, SMA905, ST, 2.5 Ferrule
Fiber Usage Limit	Bending Diameter ＞ 300×Fiber Diameter

Electrical Performance Params	
Power Supply Requirement	Current Source Power Supply
Operating Voltage Range	1.55V - 8.0V
Threshold Current Range	12mA - 550mA
Operating Current Range	40mA - 4000mA
Safety & Usage Requirements	
Electrostatic Sensitivity	Electrostatic Sensitive Device (ESD)
Temperature Usage Requirement	Adequate Heat Dissipation or Cooling Required
Core Component Protection	No Damage to Emitting Surface (Cavity Surface), Prevent Core Contamination and Mechanical Damage

Explore Series

VLFL-400-MF-FP-2000	2000	4.7-5.5	1860-2200	430-530	1=LD-, 2=LD+	395-405
VLFL-405-MF-FP-130	130	5.0-6.0	130-180	40-70	1=LD+, 2=Empty, 3=LD-	400-410
VLFL-405-MF-FP-300	300	4.5-5.5	250-400	140-200	1=LD+, 2=Empty, 3=LD-	395-414
VLFL-405-MF-FP-500	500	5.0-6.0	430-630	70-180	1=LD-, 2=LD+	400-410
VLFL-405-MF-FP-800	800	5.0-6.0	650-750	125-225	1=LD-, 2=LD+	400-410
VLFL-445-MF-FP-1000	1000	5.5-6.0	1200-1500	190-300	1=LD-, 2=LD+	440-460
VLFL-450-MF-FP-60	60	5.5-6.0	110-130	30-40	1=LD+, 2=Empty, 3=LD-	445-455
VLFL-455-MF-FP-3500	3500	5.5-6.0	3500-4000	220-400	1=LD-, 2=LD+	450-460
VLFL-465-MF-FP-1000	1000	3.7-4.9	1600-1800	300-550	1=LD-, 2=LD+	458-472
VLFL-488-MF-FP-50	50	6.5-7.0	110-135	30-40	1=LD+, 2=Empty, 3=LD-	485-491
VLFL-505-MF-FP-50	50	6.5-7.0	180-240	40-70	1=LD+, 2=Empty, 3=LD-	500-510
VLFL-520-MF-FP-60	60	6.6-7.7	160-180	60-90	1=LD-, 2=LD+, 3=PD+	516-522
VLFL-520-MF-FP-80	80	6.7-8.0	160-260	70-95	1=LD+, 2=Empty, 3=LD-	516-522
VLFL-520-MF-FP-200	200	5.2-6.3	500-840	100-400	1=LD-, 2=LD+	510-530
VLFL-520-MF-FP-1000	1000	5.2-6.3	1350-1600	340-440	1=LD-, 2=LD+	510-530

VLFL-633-MF-FP-70	70	2.6-3.0	170-230	70-100	1=LD+, 2=Empty, 3=LD-	630-636
VLFL-638-MF-FP-120	120	2.8-3.3	210-240	50-70	1=LD-, 2=LD+	635-641
VLFL-638-MF-FP-150	150	2.8-3.3	220-260	40-70	1=LD-, 2=LD+, 3=PD+	635-641
VLFL-638-MF-FP-1000	1000	2.3-3.0	1300-1600	300-400	1=LD-, 2=LD+	635-641
VLFL-660-MF-FP-80	80	2.8-3.3	100-135	40-70	1=LD+, 2=LD-, 3=Empty	655-665
VLFL-670-MF-FP-10	10	2.3-2.6	40-80	20-40	1=LD-, 2=LD+, 3=Empty	668-672
VLFL-670-MF-FP-1000	1000	2.3-2.6	40-80	20-40	1=LD-, 2=LD+, 3=Empty	668-672
VLFL-685-MF-FP-40	40	2.7-3.0	100-140	30-60	1=LD-, 2=LD+, 3=Empty	682-688
VLFL-785-MF-FP-100	100	2.0-2.5	120-160	30-50	1=LD+, 2=LD-, 3=Empty	780-790
VLFL-808-MF-FP-100	100	2.0-2.4	185-190	40-60	1=LD+, 2=Empty, 3=LD-	798-818
VLFL-830-MF-FP-150	150	1.8-2.6	170-240	55-80	1=LD-, 2=LD+, 3=Empty	820-840
VLFL-850-MF-FP-150	150	1.8-2.7	180-240	55-80	1=LD-, 2=LD+, 3=Empty	840-860
VLFL-905-MF-FP-150	150	1.9-2.4	240-280	30-60	1=LD-, 2=LD+, 3=Empty	895-915
VLFL-940-MF-FP-150	150	1.8-2.4	270-320	20-40	1=LD-, 2=LD+, 3=Empty	930-950
VLFL-980-MF-FP-200	200	1.55-2.0	70-85	12-20	1=LD-, 2=LD+, 3=Empty	970-990
VLFL-1064-MF-FP-40	20 (Typical Value in Document)	1.8-2.0	120-135	15-18	1=LD-, 2=LD+, 3=Empty	1065-1075

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