II-VI

GDL-7020L

Low-Noise Green Laser

PRODUCT OVERVIEW

The low-noise GDL laser, based on II-VI's proprietary microchip laser-cavity technology, is a compact 532 nm laser with an internal photodiode for closed-loop power control. The GDL laser is specially designed for OEM applications that require small size and high-reliability performance. Since its introduction in 2003, the GDL laser family has been enhanced with improved characteristics to meet the requirements of diverse applications. With its superior low-noise performance, high PER, and compact size, the GDL is an ideal 532 nm laser source for the life sciences, especially in portable devices.

Features

- Compact size
- Low-noise performance
- High reliability
- Automatic power control function

Applications

- Biotechnology
- Life sciences
- Laser displays
- Surveying equipment

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Low-Noise Green Laser

Product Specifications

Parameter		Min	Typical	Max	Conditions
Optical					
Wavelength		531 nm	532 nm	533 nm	
Output Power		16 mW	20 mW	24 mW	
Power Stability		-	±2%	±5%	APC, 2 h @ constant temp.
Operating Temperature (case)		Recommended temperature on data sheet			
Residual IR		-	-	1%	
Beam Diameter			0.1 mm		At output window
Beam Divergence		-	7 mrad	9.5 mrad	Full angle, $1/e^2$
Roundness		90%	95%	100%	
M Squared		-	1.1	1.2	
RMS Noise(20Hz~4MHz)			0.30%	0.50%	At recommended temperature
Polarization Extinction Ratio		100 :1			
Electrical					
LD Working Current		-	300 mA[1]	600 mA	
LD Working Voltage		-	2.0 V	2.3 V	
Monitor Current		80 μA	150 μA	280 μA	20 mW at recommended temp.
GDL Power Consumption		-	0.6 W	1.38 W	
Mechanical					
Laser Head Dimensions	Length	-	-	15.5 mm	
	Diameter	10.48 mm	10.50 mm	10.52 mm	
Beam Alignment Tolerance	Position (Δr)		0.1 mm	0.3 mm	
	Angle		7 mrad	15 mrad	
Laser Weight			3.3 g		
Reliability					
Storage Humidity		5%~85% RH[2]			
Storage Temperature		-40 to 80°C			
Shock		1500 g, 0.5 ms, 6 shocks, 3 axes, 2 shocks/axis			
Vibration		20~2000 Hz, 0.02 g^2/Hz, 3 axes, 1 h/axis			
Expected Lifetime (MTTF)		10,000 h	-	-	At rated power & room temp.

[1]Tcase = 25°C; P= 20 mW.

[2]Non-condensing.

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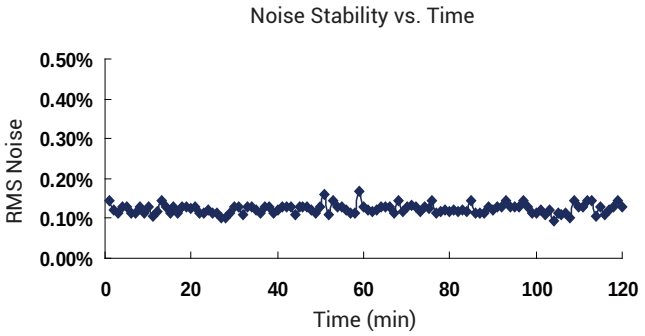
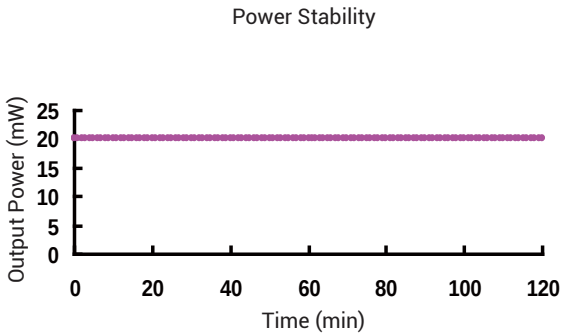
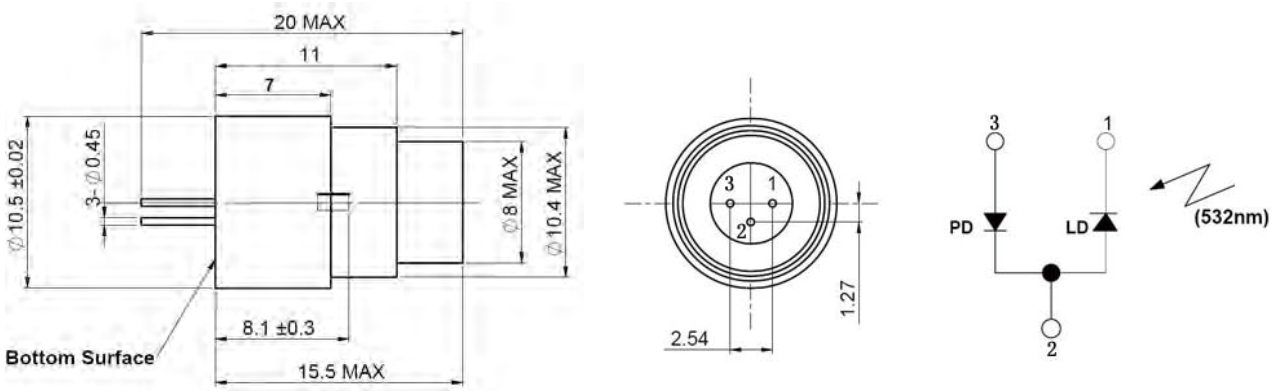
Typical Output Performance





Dimensions and Pin Configuration (Unit: mm)



Pin Configuration: 1. LD Cathode; 2. COM*; 3. PD Anode
Note: *LD Anode and PD Cathode