



GMP450 Series – 450nm Blue Dot Laser Diode Modules *12mm Diameter*



Overview

The Lasermate GMP450 series laser modules are compact 450nm blue laser diode modules designed for precision applications such as pointing, leveling, and sensing. Housed in a 12mm diameter cylindrical package, these modules integrate an Automatic Power Control (APC) circuit, ensuring output stability and protecting the laser diode from current fluctuations. Their small form factor makes them ideal for use in portable or embedded systems where space and performance are critical.

Features

- 450nm blue laser diode output
- Automatic Power Control (APC) circuit for enhanced reliability
- Compact cylindrical package (Ø12mm)
- Output power stability 5%

Applications

- Pointing
- Leveling
- Sensing

Product Overview

Part Number	Wavelength (nm)	Optical output power (mW)	Laser class	Operating voltage (V DC)	Operating Current (mA)	Operating temperature (°C)
GMP450-1F5	450	0.5-0.99	II	3-5	<300	-10 to +50
GMP450-5F5	450	3-4.99	IIIa	3-5	<300	-10 to +50

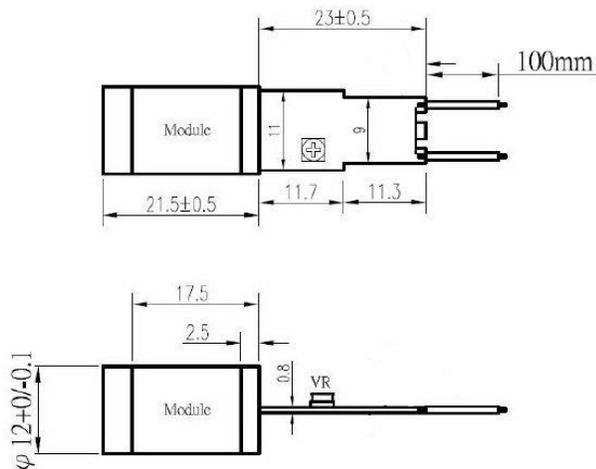
Specifications of GMP450 Series 450nm Blue Laser Diode Modules

Wavelength	450+/-10 nm	
Output Power @ 25 °C	0.5-0.99 mW	3-4.99 mW
Laser Class	Class II	Class IIIa
Operating Current ⁽¹⁾ @ 25 °C	<300mA	
Operating Voltage	3-5V DC	
Circuit Design	APC (Automatic Power Control)	
Operation Mode	CW	
Beam Divergence	< 1 mrad	
Beam Diameter	< 3mm at aperture	
Stability ⁽²⁾	≤ ±5% @ constant temperature	
Connector ⁽³⁾	Black wire (-); red wire & brass case (+)	
Operating Temperature	-10 to 50 °C	
Storage Temperature	-10 to 70 °C	
Dimensions (LxWxH)	∅12mm x L. 21.5+/-0.5 mm (brass housing) + W. 11 x L. 23 mm (driver circuit board)	

Notes:

1. If you run this laser module with DC power supply, please set the current of DC power supply between 1A and 0.9A.
2. Additional heat sink or cooling fan may be needed to disperse the heat and to avoid the laser module from becoming overheated.
3. Brass case is positive.

Mechanical Outline (unit: mm)



Additional Notes

- The GMP450 series laser modules are designated solely as OEM components for incorporation into the customer's end products. Therefore, it is the customer's responsibility to comply with FDA requirements of FDA 21CFR, section 1040.10 and 1040.11 for complete laser products. For the code of FDA regulations, please refer to [FDA Performance Standards for Light-Emitting Products](#) for detailed information.
- Specifications are subject to change without notice.



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