

## Specifications

Platform	742		
Model	1-532	3-532	5-532
<b>Optical</b>			
Output Power (mW)	0.5-0.99	1.5-3.0	3-5
Wavelength (nm)	532		
Mode	TEM <sub>00</sub>		
Class	IIIa		
Lens	Plastic		
Focus	Fixed		
Operation Mode	CW		
M <sup>2</sup>	<2		
Linear Polarization	Standard ≥ 4:1		
Spectral Line width (nm)	<0.1		
Beam Diameter, 1/e <sup>2</sup> (mm)	<1		
Beam Divergence (mrad)	<1.4		
Output Power Stability for 1 hr	<±5% (typical 1%)		
<b>Electrical/Mechanical</b>			
Operating Voltage (VDC)	3.3-5		
Operating Current (A)	<0.40		
Circuit Design	APC		
Lead Length (mm)	150		
Housing Material	Anodized Al		
Length (mm)	60		
Diameter (mm)	20		
MTTF (hrs)*	>5,000		
<b>Environmental</b>			
Operating Temperature (°C)	10-50		
Operating Temperature (°C)	20-30		

\* MTTF (mean time to failure) is based on the MTTF rating of high power 808nm diode laser from the laser diode manufacturer.

### Important - Caution

Any final product or system of which this laser diode module forms a component part must incorporate the appropriate safety features, including emission indicator, beam attenuator (shutter), key switch, and warning label in order to fully comply with the safety regulations for laser units and laser systems specified by the regulatory/standards organizations such as FDA, BS, and ISO.

It is the responsibility of the designer/manufacturer of the final product or system into which the laser diode module is incorporated to ensure that it is compliant with the applicable regulations and where necessary to register/certify the final product with the regulatory/certifying authorities before its release for use or sale.

NOTE: This information is subject to change without notice and is presented only as a guide for the application of this product. No liability can be assumed for loss or damage, however caused, from the information of this note.

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# Application Note

## Introduction

This model is a self-contained compact laser diode module. Its features include output power stabilization and integral drive circuitry. It is an ideal replacement for a Helium Neon Laser in many applications, conveying many benefits due to its superior ruggedness and compact size.

## Typical Applications

- Alignment
- Positioning
- Metrology
- Event/Edge Detection
- Security
- Education
- Leveling
- Robotic Control
- Lab Experimentation

## About this Diode Module

This Diode Pumped Solid State Green Laser Module, uses a diode pumped Nd:YVO<sub>4</sub> crystal coupled with KTP as a frequency doubler. The APC (Automatic Power Control) circuit is designed for maximum stability in optical output power.

## Housing Isolation

To insure good thermal contact between the laser diode and the body of the module, the diode package is connected to the positive supply line. The coating on the module casing is insufficient to provide substantial electrical isolation, therefore the module casing should not be connected to the negative supply or to a negative earth.

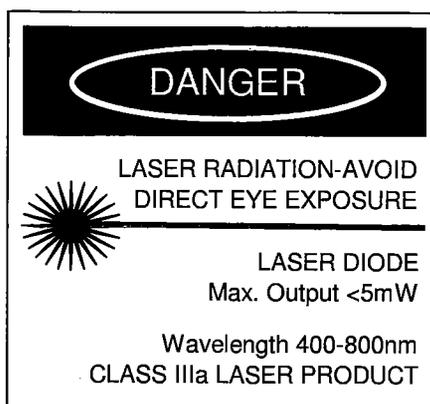
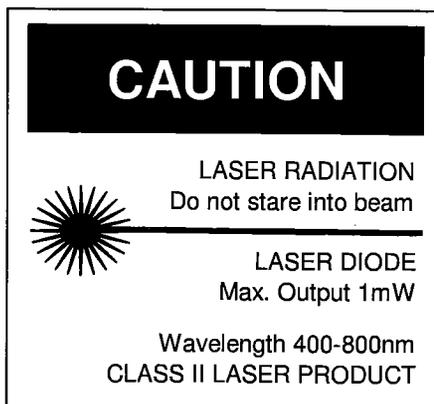
## Heat Sinking

One of the most common causes for diode failure is overheating. The life expectancy of the diode will be reduced if it is operated outside of the recommended temperature specification. Normal mounting of the module should be adequate, but additional heat sinking may be required depending on the duty cycle.

## Safety

The output of this model is factory preset to meet Class IIIa(3a) limits as defined in 21CFR part 1040.10.

The nature of the laser radiation hazard is clearly shown by means of a warning label affixed to each module.



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