BEA LASERS

Specifications

Platform	**160-_-__**				
Model	1-635	1-650	3-650	5-650	1-670
Optical					
Optical Power Output (mW)	0.9	0.9	3	4.5	0.9
Power Stability (%)	<5	<5	<5	<5	<5
Wavelength (nm)	635	650	650	650	670
Class	II	II	IIIa	IIIa	II
Lens	Plastic				
Focus	Adjustable				
Focus Range (mm)	150 - Inf.				
Beam Shape	Ellipse				
Beam Size at Aperature (mm)	5				
Beam Size at Nearest Focus (um)	100				
Beam Divergence (mRad)	0.5				
Beam Position (mRad)	<25	<25	<30	<30	<30
Emission Indicator	N/A				
Electrical/Mechanical					
Operating Voltage (VDC)	3-6				
Operating Current (mA)	25-40				
Lead Length	13"				
Electrical Connections	Red lead + ; Black lead -				
Supply Rail Rejection	20:1				
Reverse Polarity Protection	Internal protection against supply polarity reversal at rated voltage				
Housing Material	Annodized Aluminum				
Weight (gm)	13.6				
Length (mm)	29				
Diameter (mm)	12				
Environmental					
Operating Temperature (°C)	-10 to +40				
Storage Temperature (°C)	-20 to +65				
Operating Humidity (%rh)	90				
M.T.T.F. (hrs)	>10,000	>20,000	>20,000	>20,000	>20,000

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.

The Class II (2) and Class IIIa (3a) models of this laser diode module are fully compliant with 21 CFR part 1040.10 provided that a readily accessible on/off switch is permanently connected in series with the electrical DC supply to the module.

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
- Bar Code Readers
- Education
- Leveling
- Robotic Control
- Lab Experimentation

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.

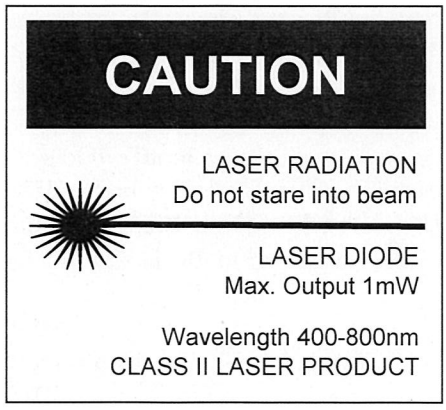
Heat Sinking

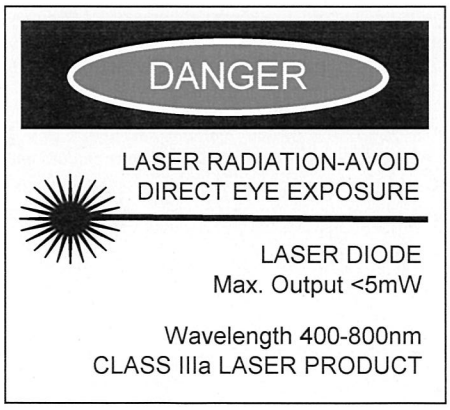
One of the most common causes for diode failure is overheating. The life expectancy of the diode will be reduced if it is operated outside of the recommended temperature specification. Normal mounting of the module should be adequate, but additional heat sinking may be required depending on the duty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

Safety

The output of this model is factory preset to meet Class II (2), and 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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