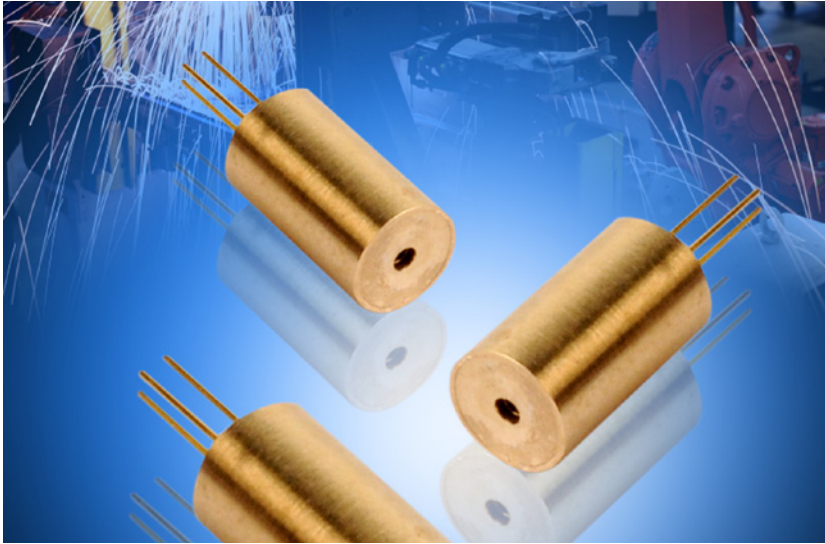


Micro Laser diode collimators



650nm micro laser diode collimators

The 650nm micro laser diode collimator measures a tiny 4.5mm in diameter with a length of only 8mm. It has been designed specifically for use in applications requiring high laser beam alignment accuracy where size is a critical factor.

It has a lasing wavelength of 650nm, elliptical output beam of 8.0 x 6.5mm at 5 metres, high bore sighting accuracy of $<0.2^\circ$, beam divergence of 0.5mrad max, collimated output power of 3mW and pointing stability of $<0.2\text{mrad}/^\circ\text{C}$.

Operating current is 25mA, operating voltage is 2.2V and operating temperature range is from -10°C to $+70^\circ\text{C}$.

The micro laser diode collimator has been designed as a complete low cost, high volume system for OEM use. They consist of a brass housing, 3.3mm diameter laser diode and high quality glass collimating lens in a lightweight 4.5mm cylindrical package.

Electrical connections are made via the laser diode pins. The lens may be factory-set to produce either a collimated beam or focused spot.

Direct access to the laser diode and photodiode connections provide maximum flexibility in the configuration of the electrical interface. Drive electronics can be supplied if required.

Other wavelengths and output powers are available on request.

Key Features

- Visible light $\lambda = 650\text{nm}$
- Collimated output power 3mW
- High boresight accuracy 0.2°
- Elliptical output beam
- Pre-fitted 3.3mm dia. laser diode
- $\varnothing 4.5\text{mm}$ housing
- High quality glass lens
- Factory-set collimated / focused output

Applications

- Industrial and automotive alignment
- Positioning and sensing
- Bar code scanning
- Process control
- Machine vision
- Targeting applications

Product Specifications

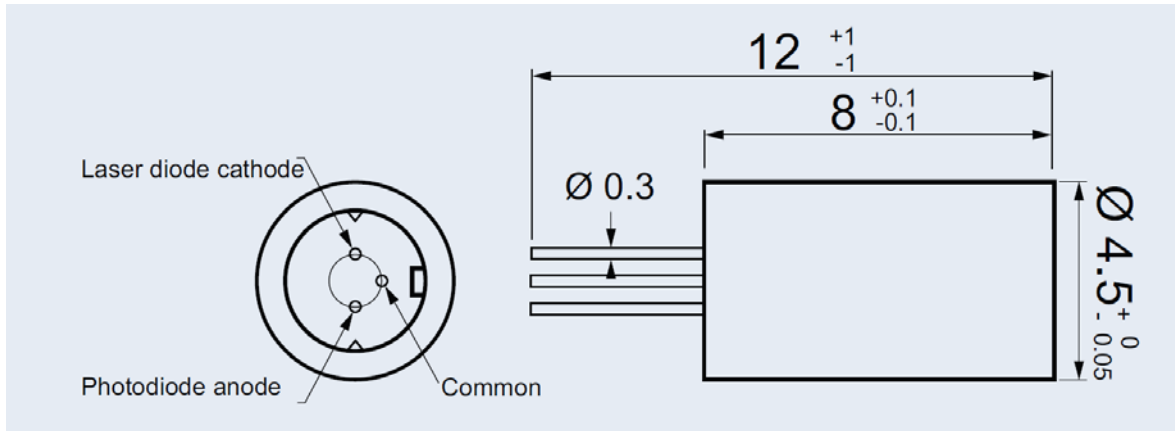
(T_c=25 C)

	Typ.	Unit
Wavelength	650	nm
Collimated Output Power	3.5	mW
Beam Size (1/a ² measured at 5m)	8.0x6.5	mm
Beam Divergence	0.5	mrad
Pointing Stability	<0.2	mrad/ °C
Bore Sighting (typ)	<0.2	°
Threshold Current	20	mA
Operating Current	25	mA
Operating Voltage	2.2	V
Monitor Current	0.2	mA
Operating Temperature	-10 to +70	°C
Storage Temperature	-40 to +80	°C
Length (excluding laser diode pins)	8.0	mm
Diameter	4.5 + 0.00/-0.03mm	mm
Housing Material	Brass	

Part Numbering

MIC - 650 - 3

Dimensional Diagram



Laser Safety

The light emitted from these devices has been set in accordance with IEC60825. However, staring into the beam, whether directly or indirectly, must be avoided. IEC60825 classifies laser products into three different categories depending on light emitted, wavelength and eye safety.

CLASS II

“Caution”, visible laser light less than 1.0mW. Considered eye safe, normal exposure to this type of beam will not cause permanent damage to the retina.

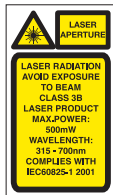
CLASS IIIIR

“Danger”, visible laser light between 1.0mW and 5.0mW. Considered eye safe with caution. Focusing of this light into the eye could cause some damage.

CLASS IIIIB

“Danger”, infrared (IR), and high power visible lasers considered dangerous to the retina if exposed.

NB: It is important to note that while complying with the above classifications, unless otherwise stated, our laser diode products are not certified and are designed solely for use in OEM products. The way in which the device is used in the final product may alter its original design classification, and it is the responsibility of the OEM to ensure compliance with the relevant standards.



NB. Without the inclusion of laser drive circuits, the output powers cannot be set in accordance with EN60825 since they are designed for OEM use and not certified devices as defined in the specification. The manufacturer of the complete laser product is responsible for complying with the requirements of EN60825. Manufacturers of products using laser ast 35 sq. cm. be used, Thermal transfer cream can be used to improve contact and heat dissipation.

Heat Sinking

If the case temperature of the laser diode exceeds its maximum specification, premature or catastrophic failure may occur. To ensure the maximum life of the laser diode, it is recommended that an additional electrically insulated heatsink, of at least 35 sq. cm. be used, Thermal transfer cream can be used to improve contact and heat dissipation.

Do not restrict air circulation around the device. Specifications subject to change without notice. E&OE

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