



## Miniature laser diode collimator 785nm

### Key features

- Visible light  $\lambda = 785\text{nm}$
- Elliptical output beam
- Collimated output power 0.9mW
- Pre-fitted laser diode
- Factory set, collimated/ focused output
- High reliability

### Applications

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

### MLDC-103-P 785nm Miniature Laser Diode Collimator

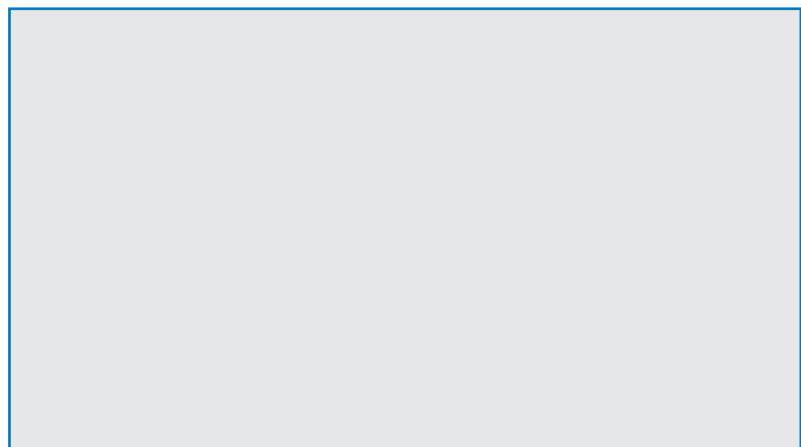
The MLDC-103-P has an elliptical output beam of 3.5 x 1.5mm, beam divergence of 0.6mrad max, collimated output power of 0.9mW, pointing stability of  $<0.2\text{mrad}/^\circ\text{C}$  and bore sighting of  $<2.0^\circ$ . Operating current is 42mA, threshold current is 35mA and operating temperature is from  $-10^\circ\text{C}$  to  $+60^\circ\text{C}$ . It is supplied with pre-fitted laser diode and factory set, collimated or focused output.

The MLDC-103-P miniature laser diode collimator has been designed as a complete low cost, high volume system for OEM use.

It consists of an aluminium housing, laser diode and collimating lens in a lightweight, 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.



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### Optical, Electrical & Mechanical Characteristics (T<sub>c</sub> = 25°C)

Part no. MLDC-103-P	Typ.	Unit
Wavelength	785	nm
Collimated Output Power	0.9	mW
Beam Size (1/e <sup>2</sup> measured at lens)	3.5 x 1.5	mm
Beam Divergence	0.6 max	mrاد
Pointing Stability	<0.2	mrاد/°C
Bore Sighting	<2.0	°
Threshold Current	35	mA
Operating Current	42	mA
Monitor Current	0.5	mA
Operating Temperature	-10,+60	°C
Storage Temperature	-40,+80	°C
Length (excluding laser diode pins)	10	mm
Diameter	8+0.05/-0.00mm	
Housing Material	HE30 Anodised Aluminium	
Finish	Anodised	

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 diode collimators should be fully familiarised with EN60825 before using such devices.

#### 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.

**WARNING:** The anodised housing is internally connected to the positive supply rail. Damage to the external anodised surfaces will result in the housing being at positive potential.

Specifications subject to change without notice. E&OE



#### 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 IIIR

"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 IIIB

"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.

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