

4mW 850nm Dot Laser Module

VM-0850G-004M-AD-0A0

Features

- VCSEL light source
- Low divergence angle
- No stripes & No noise
- Wavelength drift 0.07nm/°C
- Low thermal resistance
- High power conversion efficiency

Applications

- Oil fume monitor
- Smoke detector
- Dust detector
- PM2.5/PM10
- Medical and beauty application
- Smart housing system
- Sensor equipment



Description

This product is designed with a self-developed high-quality VCSEL laser diode, and the appearance is designed with a copper material for better heat dissipation. Compared with EEL light sources, it has high peak power and lower power consumption, and does not cause wavelength drift due to temperature changes, and its performance is more reliable. Its emission pulse width is also narrow, and it does not need temperature and optical compensation. It has a wider working environment temperature than the traditional EEL light source. At the same time, it has the advantages of small size, light weight, low price, long lifetime, and high reliability; It can be used in oil fume monitoring, medical lighting, smart home, positioning, designated marking, and other fields, and is an ideal invisible light source.

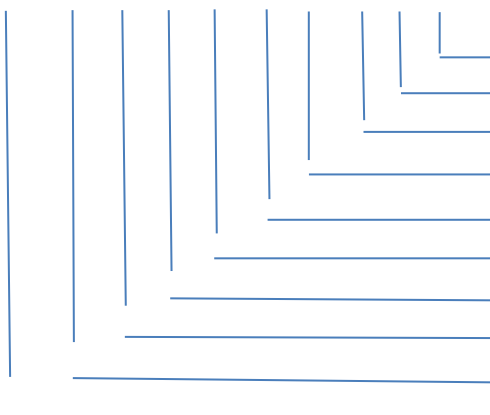
PRODUCT IDENTIFY

| Part Number | Description |
|----------------------|-----------------------------|
| VM-0850G-004M-AD-0A0 | 850nmDot Shape Laser module |

CODE RULES

VM- 0850G-004M -A D - 0 A 0

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩



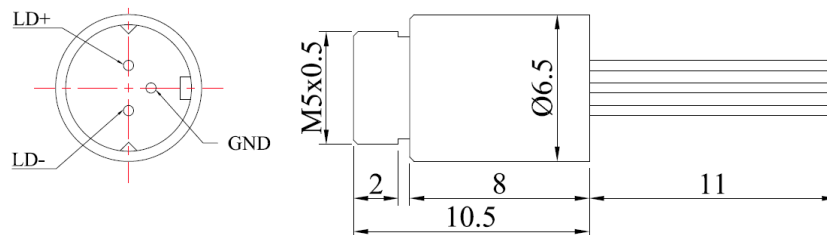
Annex, option=0
 Product version, A
 Accessories 0 = standard
 Shape, D = dot
 Angle, A = 0-5 degree
 Units, M =milliwatt
 Power value, 4
 Laser class: G=Class 2R
 Wavelength, 850nm
 Product classification, **VCSEL Module**

I. Specifications

| Parameters | Typical values | Unit | Remarks |
|-----------------------|----------------|------|-------------------------|
| Lifetime | 20000 | H | - |
| Wavelength | 850 | nm | - |
| Optical power | 4 | mW | - |
| Rated current | 12 | mA | - |
| Power consumption | 30 | mW | - |
| Beam emission angle | 7±1 | mrad | - |
| Operating voltage | DC 2.5 | V | - |
| Storage temperature | -20 to +80 | °C | - |
| Operating temperature | -20 to +60 | °C | - |
| Waterproof | IP20 | - | - |
| Dimensions | Φ6.5×10.5 | mm | Customizable |
| Beam spot | Dot | - | - |
| Laser classification | Class 2R | - | Laser goggle when using |
| Weight | 2 | g | - |

Note: Electro-Optical Characteristic with a package or diffuser would require further evaluation. Values are based on limited sample size and estimated values.

II. Mechanic schematic



III. Laser Product Safety

The output power of this module is classified as class 2R, one can refer to IEC 60825-1:2014 《Laser Product Safety: Part 1: Devices classification, requirements and user's Manual》.

IV. Copyright Statement

This documentation is wholly owned by Brightlaser Ltd. Any one, any organization or third part may not partly or wholly copy, reproach the documentation. Otherwise, anyone can be prosecuted.

V. Revision History

| Revisions | Date | Description |
|-----------|------------|----------------------------|
| V.01 | 2021/12/01 | The first official Version |

Laser diode product components are intended for use in a user-devised end system. However, these products are capable of emitting laser radiation. Extreme care must be exercised during their operation. Only persons familiar with the appropriate safety precautions should operate a laser product. Directly viewing the laser beam or exposure to specular reflections must be avoided. Serious injury may result if any part of the body is exposed to the beam. The eye is extremely sensitive to the infrared radiation and therefore, proper eye wear must be worn at all times. Use of optical instruments with these products may increase eye hazard. Always wear eye protection when operating.

