

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.

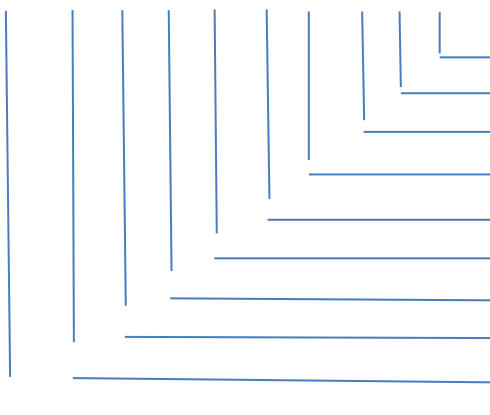
PRODUCT IDENTIFY

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



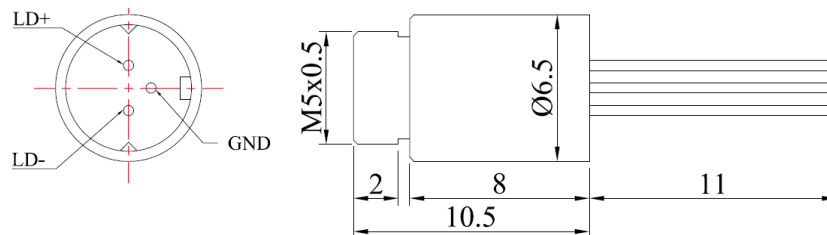
- Annex, option=0
- Product version, A
- Accessories 0 = standard
- Shape, D = dot
- Angle, A = 0-5 degree
- Units, M =milliwatt
- Power value, 4
- Laser class: G=Class 2R
- Wavelength, 850nm
- Product classification, **VCSEL Module**

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