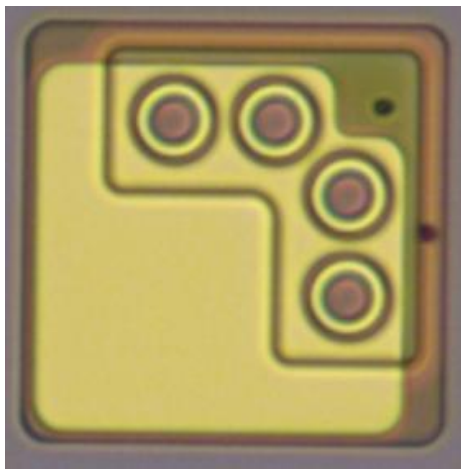


# 670nm 12mW VCSEL Laser Chip

Part No.: D-V0670M-0012-0007

Suitable for pulse power applications and the power is 12mW



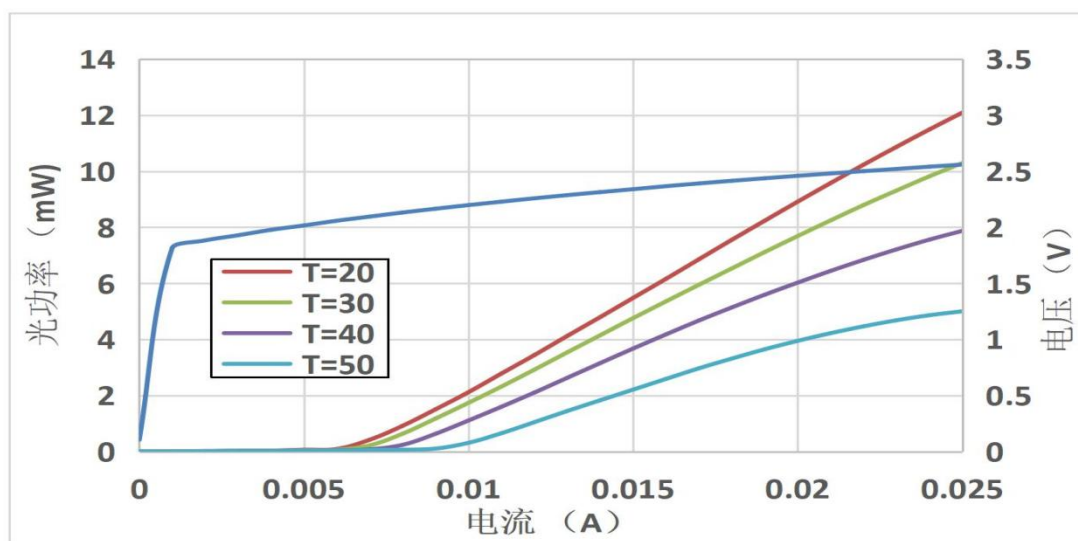
## Features

- VCSEL (Vertical-Cavity Surface-Emitting Laser)
- High efficiency and reliability
- Stable central wavelength, narrow line width
- Doughnut shaped, symmetrical far field
- Surface mountable

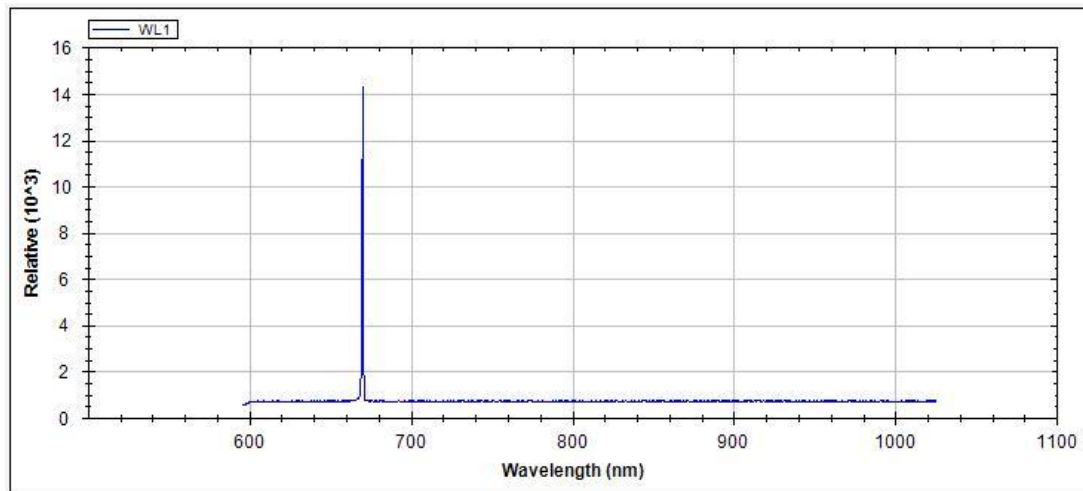
## Applications

- Sensor light source
- Consumer electronic products
- Machine vision
- Red lighting

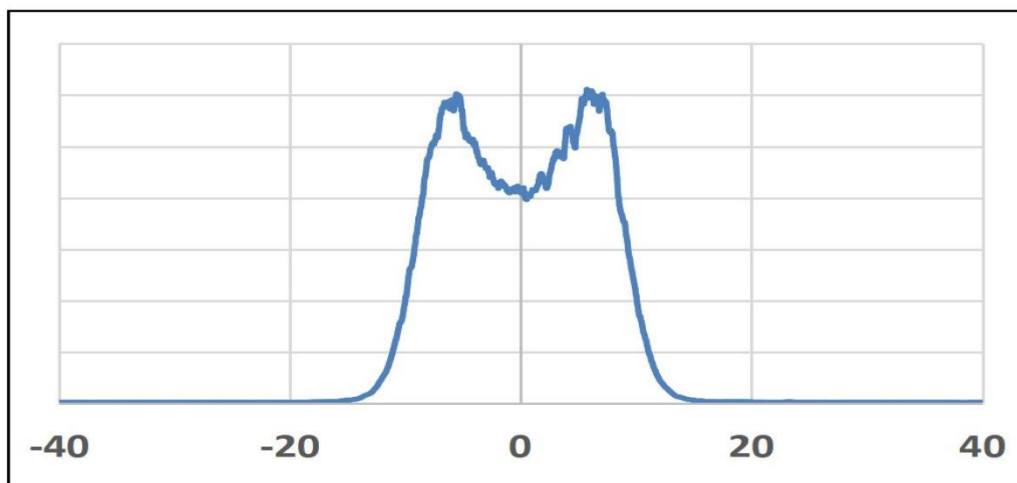
## L-I-V Curve



## Spectroscopy



## FFDA (Far-Field Divergence Angle) (~23° at 25 mA)

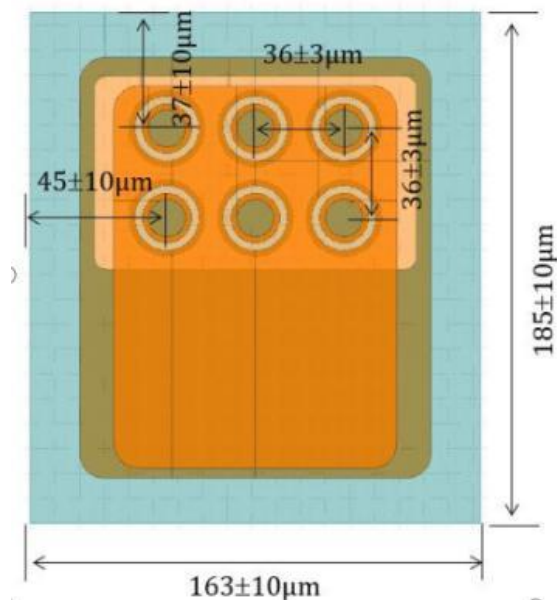


**Electrical Optical Characteristics**

| Parameter                           | Symbol          | Unit | Min. | Typ. | Max | Note      |
|-------------------------------------|-----------------|------|------|------|-----|-----------|
| Threshold Current                   | I <sub>th</sub> | mA   |      | 7.5  |     |           |
| Forward Voltage                     | V <sub>F</sub>  | V    |      | 2.6  |     | IF = 25mA |
| Output Power                        | P <sub>op</sub> | mW   | 9.0  | 12   |     | IF = 25mA |
| Slop Efficiency                     | SE              | W/A  |      | 0.6  |     |           |
| Power Conversion Efficiency         | PCE             | %    |      | 16   |     | IF = 25mA |
| Wavelength                          | λ <sub>op</sub> | nm   | 667  | 670  |     |           |
| Divergence Angle(1/e <sup>2</sup> ) |                 | deg  |      | 23   |     | IF = 25mA |

**25°C, QCW Model (Pulse length 0.5ms, 1% Duty Cycle )**

## Mechanical Specifications



| 参数<br>Parameter                                  | 规格<br>Specification                                    |
|--------------------------------------------------|--------------------------------------------------------|
| 芯片尺寸<br>Die size                                 | $163 \pm 10 \mu\text{m} \times 185 \pm 10 \mu\text{m}$ |
| 芯片厚度<br>Die Thickness                            | $130 \pm 10 \mu\text{m}$                               |
| 光孔数目<br>Number of Emitters                       | 6                                                      |
| 焊盘尺寸 (正极)<br>Bond Pad Size (Anode Pad)           | $115 \pm 3 \mu\text{m} \times 80 \pm 3 \mu\text{m}$    |
| 背面电极尺寸 (负极)<br>Back Electrode Size (Cathode Pad) | $163 \pm 10 \mu\text{m} \times 185 \pm 10 \mu\text{m}$ |

