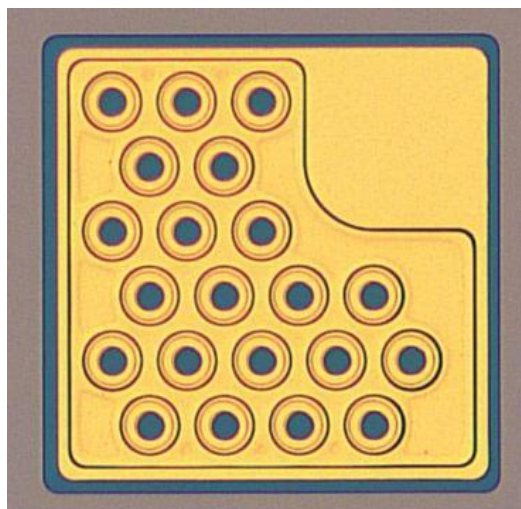


# 680nm 50mW VCSEL Laser Chip

Part No.: D-V0680M-0050-0013

Suitable for pulse power applications and the power is 50mW



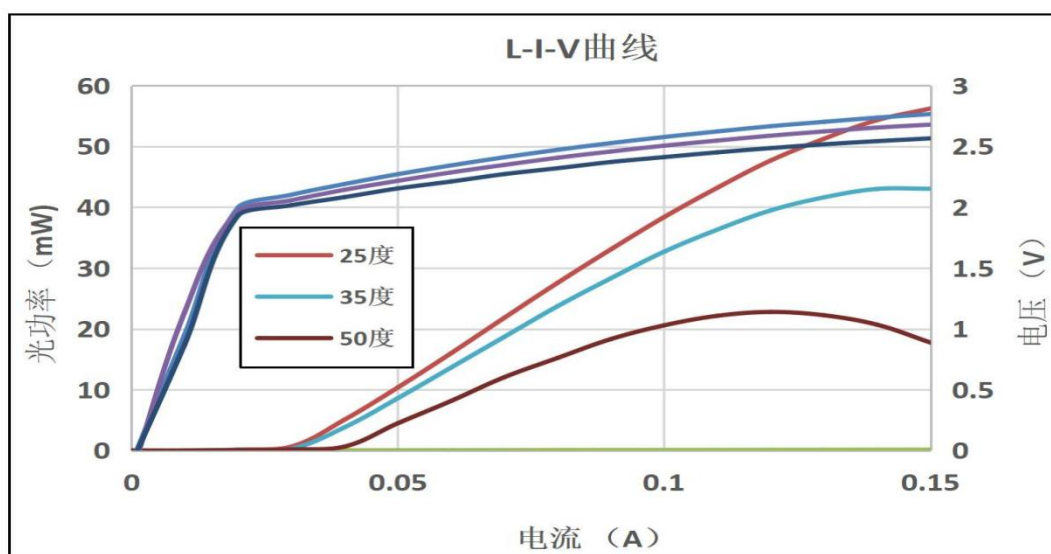
## Features

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

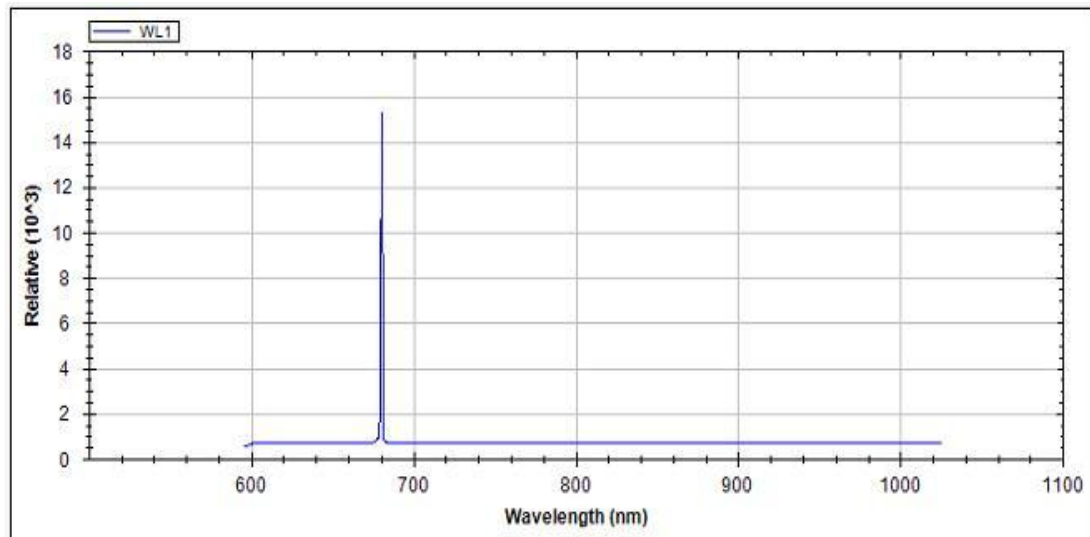
## Applications

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

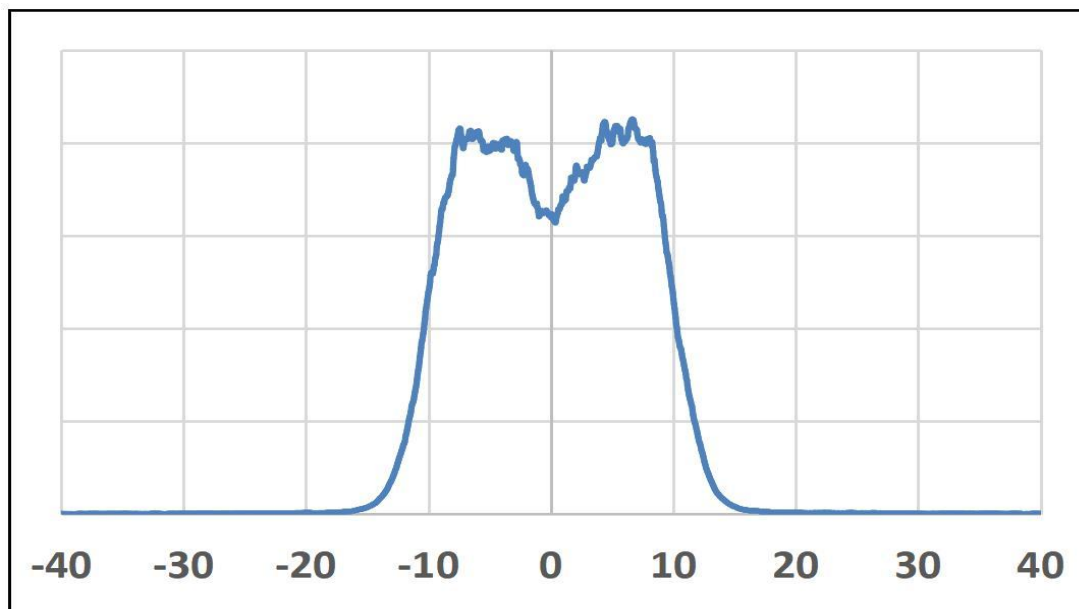
## L-I-V Curve



## Spectroscopy



FFDA (Far-Field Divergence Angle) (~23° at 30 mA )

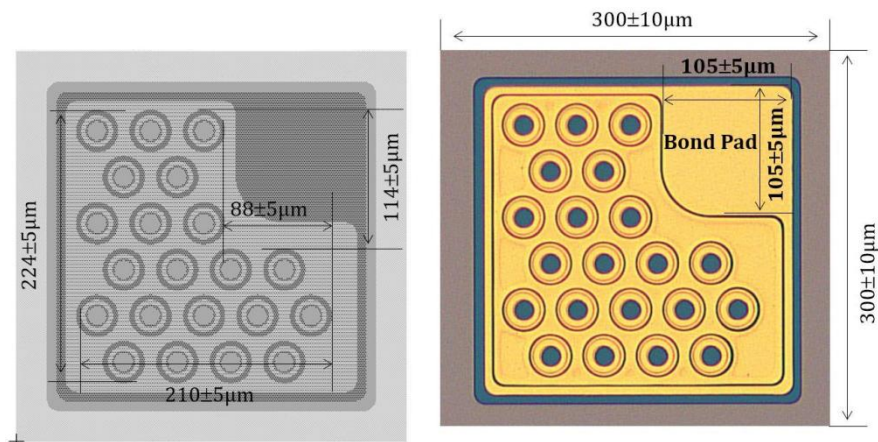


**Electrical Optical Characteristics**

| Parameter                           | Symbol          | Unit | Min. | Typ. | Max | Note       |
|-------------------------------------|-----------------|------|------|------|-----|------------|
| Threshold Current                   | I <sub>th</sub> | mA   |      | 32   |     |            |
| Forward Voltage                     | V <sub>F</sub>  | V    |      | 2.75 |     | IF = 140mA |
| Output Power                        | P <sub>op</sub> | mW   | 48   | 55   |     | IF = 140mA |
| Slop Efficiency                     | SE              | W/A  | 0.5  | 0.6  |     |            |
| Power Conversion Efficiency         | PCE             | %    |      | 15   |     | IF = 140mA |
| Wavelength                          | λ <sub>op</sub> | nm   | 675  | 680  |     |            |
| Divergence Angle(1/e <sup>2</sup> ) |                 | deg  |      | 23   |     | IF = 140mA |

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

## Mechanical Specifications



| 参数 Parameter                                     | 规格 Specification    |
|--------------------------------------------------|---------------------|
| 芯片尺寸<br>Die size                                 | 300±10μm x 300±10μm |
| 芯片厚度<br>Die Thickness                            | 130±10μm            |
| 光孔数目<br>Number of Emitters                       | 21                  |
| 焊盘尺寸 (正极)<br>Bond Pad Size (Anode Pad)           | 105±5μm             |
| 背面电极尺寸 (负极)<br>Back Electrode Size (Cathode Pad) | 300±10μm x 300±10μm |

