



## Product Status Information

HL8337MG-A is Not Recommended for New Design (NRND) status. Please refer to successor product below for new design and adoption.

| NRND Product  | Successor Product   |
|---|---|
| HL8337MG-A  | HL85022MG   |
| <a href="https://www.ushio.co.jp/jp/products/product_file/file/UIE_DS_HL8337MG.pdf">https://www.ushio.co.jp/jp/products/product_file/file/UIE_DS_HL8337MG.pdf</a> | <a href="https://www.ushio.co.jp/jp/products/product_file/file/UIE_DS_HL85022MG.pdf">https://www.ushio.co.jp/jp/products/product_file/file/UIE_DS_HL85022MG.pdf</a> |

For the “Product Life Cycle” definition, please refer to below link.

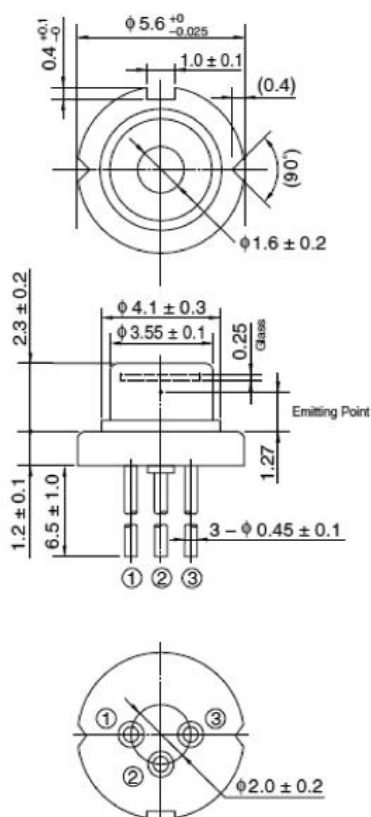
Japanese; <https://www.ushio.co.jp/jp/laser/news/500958.html>

English; <https://www.ushio.co.jp/en/laser/news/500958.html>

## HL8337MG-A/38MG-A

830nm / 50mW GaAlAs Laser Diode

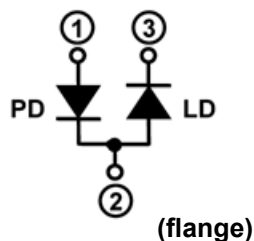
### Outline



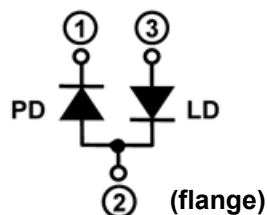
(Unit:mm)

### Internal Circuit

HL8337MG-A



HL8338MG-A



### Features

- Operation temperature: -10~+60°C
- Optical output power: 50mW(CW)
- Infrared lasing: 830nm Typ.
- Low operating voltage: 2.4V Max.
- Package:  $\phi 5.6$ mm
- Single transverse mode
- TE mode oscillation

### Application

- Sensor application
- Night vision
- Machine vision
- Light source of optical equipments

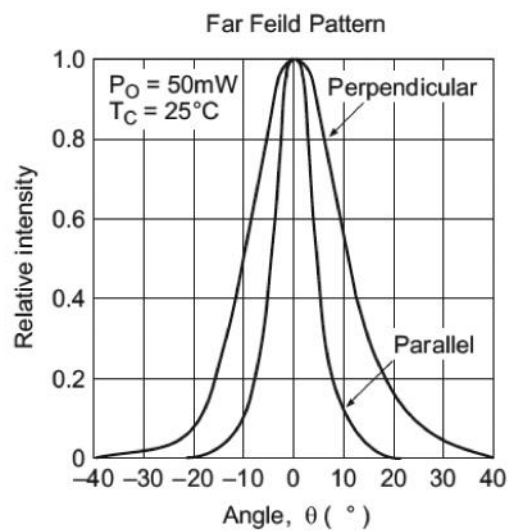
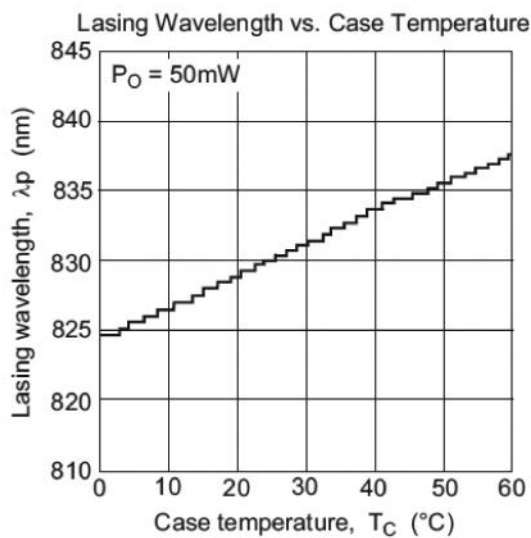
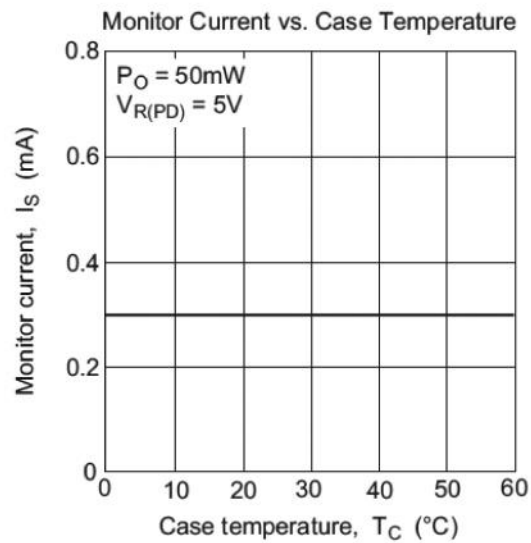
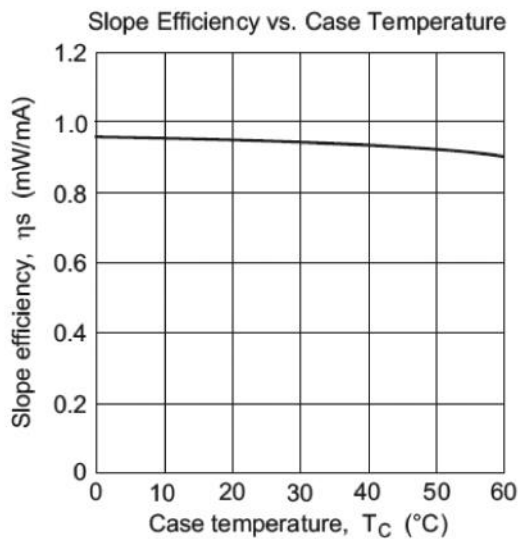
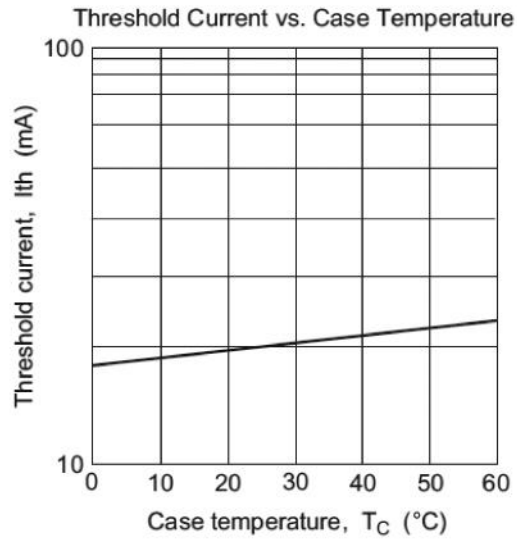
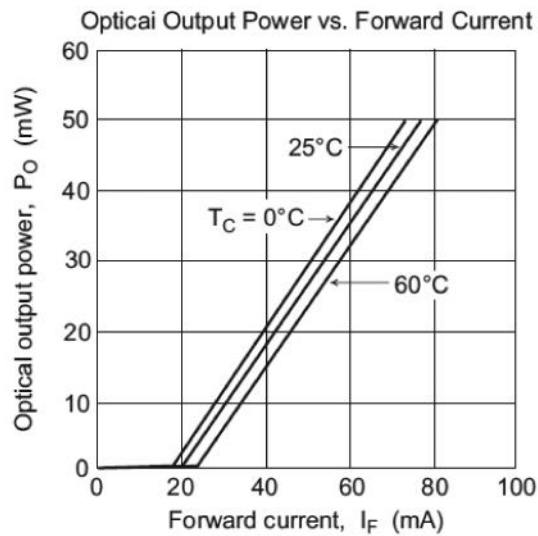
**Absolute Maximum Ratings (Tc=25°C)**

| Item                  | Symbol             | Ratings   | Unit |
|-----------------------|--------------------|-----------|------|
| Optical output power  | Po                 | 50        | mW   |
| LD Reverse Voltage    | V <sub>R(LD)</sub> | 2         | V    |
| PD Reverse Voltage    | V <sub>R(PD)</sub> | 30        | V    |
| Operating Temperature | T <sub>opr</sub>   | -10 ~ +60 | °C   |
| Storage Temperature   | T <sub>stg</sub>   | -40 ~ +85 | °C   |

**Optical and Electrical Characteristics (Tc=25°C)**

| Parameter  | Symbol          | Min  | Typ  | Max  | Unit | Test Condition                     |
|--|-----------------|------|------|------|------|------------------------------------|
| Threshold current                                | I <sub>th</sub> | -    | 20   | 40   | mA   | -                                  |
| Operating current                                | I <sub>op</sub> | -    | 75   | 100  | mA   | Po=50mW                            |
| Operating voltage                                | V <sub>op</sub> | -    | 1.9  | 2.4  | V    | Po=50mW                            |
| Beam divergence<br>Parallel to the junction      | θ//             | 6    | 9    | 12   | °    | Po=50mW,<br>FWHM                   |
| Beam divergence<br>Perpendicular to the junction | θ⊥              | 18   | 22   | 26   | °    | Po=50mW,<br>FWHM                   |
| Lasing Wavelength                                | λ <sub>p</sub>  | 820  | 830  | 840  | nm   | Po=50mW                            |
| Monitor Current                                  | I <sub>s</sub>  | 0.10 | 0.25 | 0.50 | mA   | Po=50mW,<br>V <sub>R(PD)</sub> =5V |

## Typical Characteristic Curves



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