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# HL8325G

GaAlAs Laser Diode



ODE-208-582C (Z)

Rev.3  
Mar. 2005

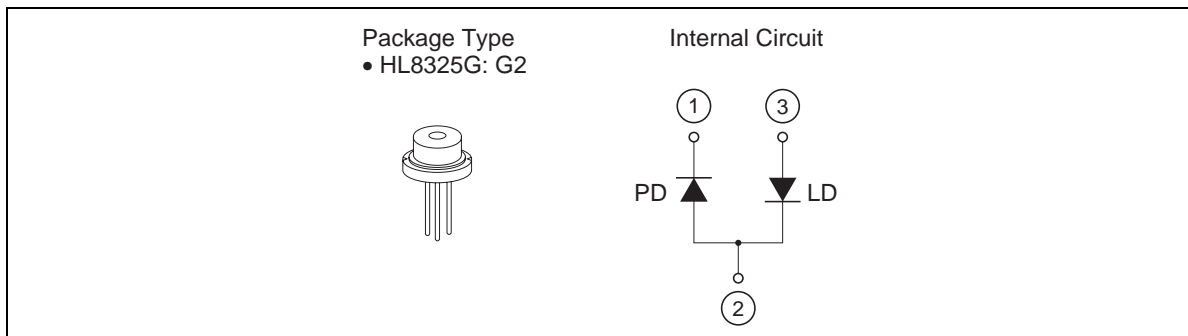
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## Description

The HL8325G is a high-power 0.8  $\mu\text{m}$  band GaAlAs laser diode with a TQW (triple quantum well) structure. Its internal circuit configuration is suitable for operation on a single positive supply voltage. It is suitable as a light source for optical disk memories, card readers and various other types of optical equipment.

## Features

- Infrared light output:  $\lambda_p = 820$  to  $840$  nm
- High power: standard continuous operation at 40 mW (CW), pulsed operation at 50 mW
- Built-in monitor photodiode
- Single longitudinal mode



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## HL8325G

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### Absolute Maximum Ratings

( $T_C = 25^\circ\text{C}$ )

| Item                        | Symbol                | Value      | Unit             |
|-----------------------------|-----------------------|------------|------------------|
| Optical output power        | $P_O$                 | 40         | mW               |
| Pulse optical output power  | $P_{O(\text{pulse})}$ | 50 *       | mW               |
| Laser diode reverse voltage | $V_{R(\text{LD})}$    | 2          | V                |
| Photo diode reverse voltage | $V_{R(\text{PD})}$    | 30         | V                |
| Operating temperature       | $T_{opr}$             | -10 to +60 | $^\circ\text{C}$ |
| Storage temperature         | $T_{stg}$             | -40 to +85 | $^\circ\text{C}$ |

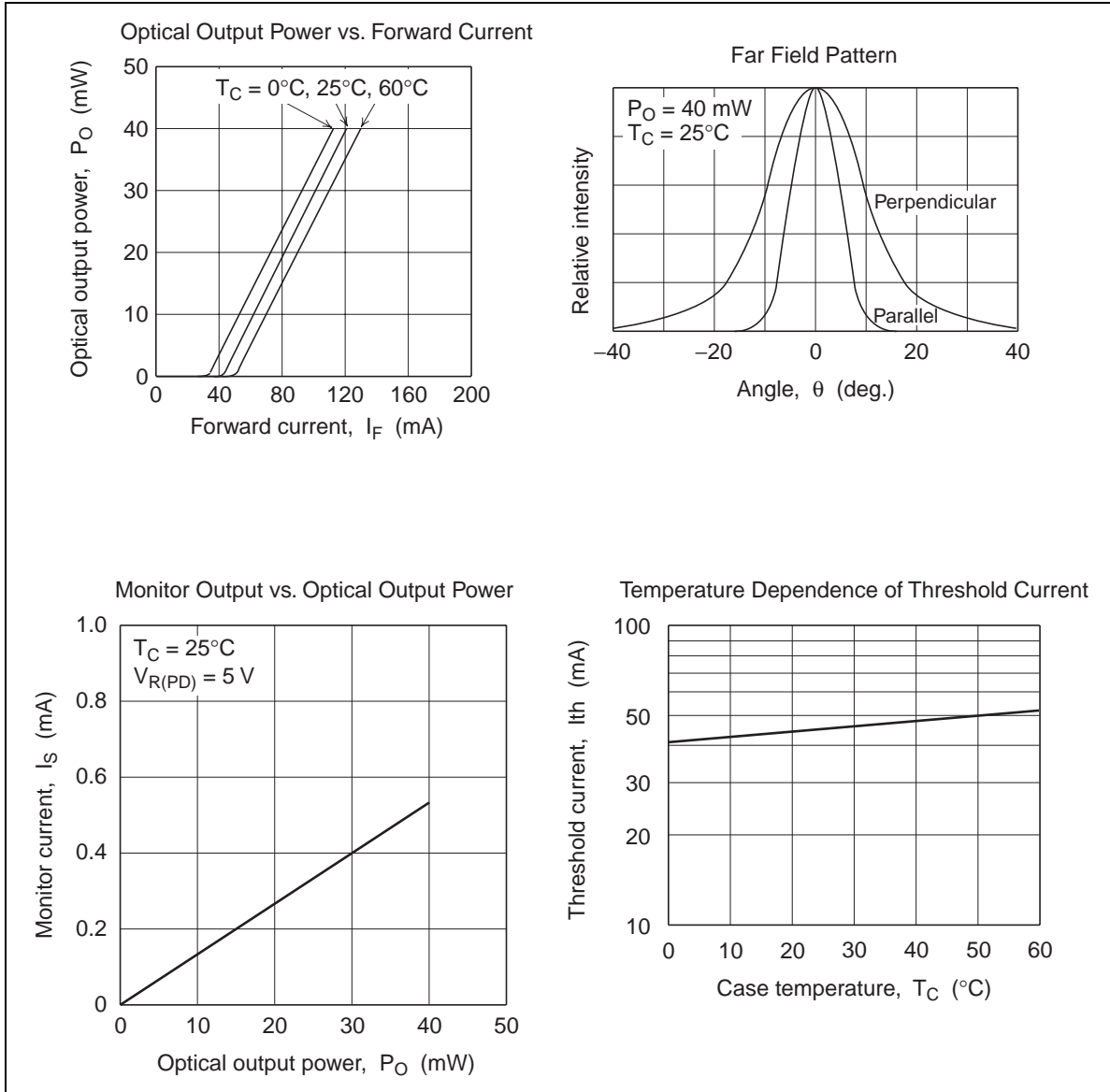
Note: Pulse condition : Pulse width = 1  $\mu\text{s}$ , duty = 50%

### Optical and Electrical Characteristics

( $T_C = 25^\circ\text{C} \pm 3^\circ\text{C}$ )

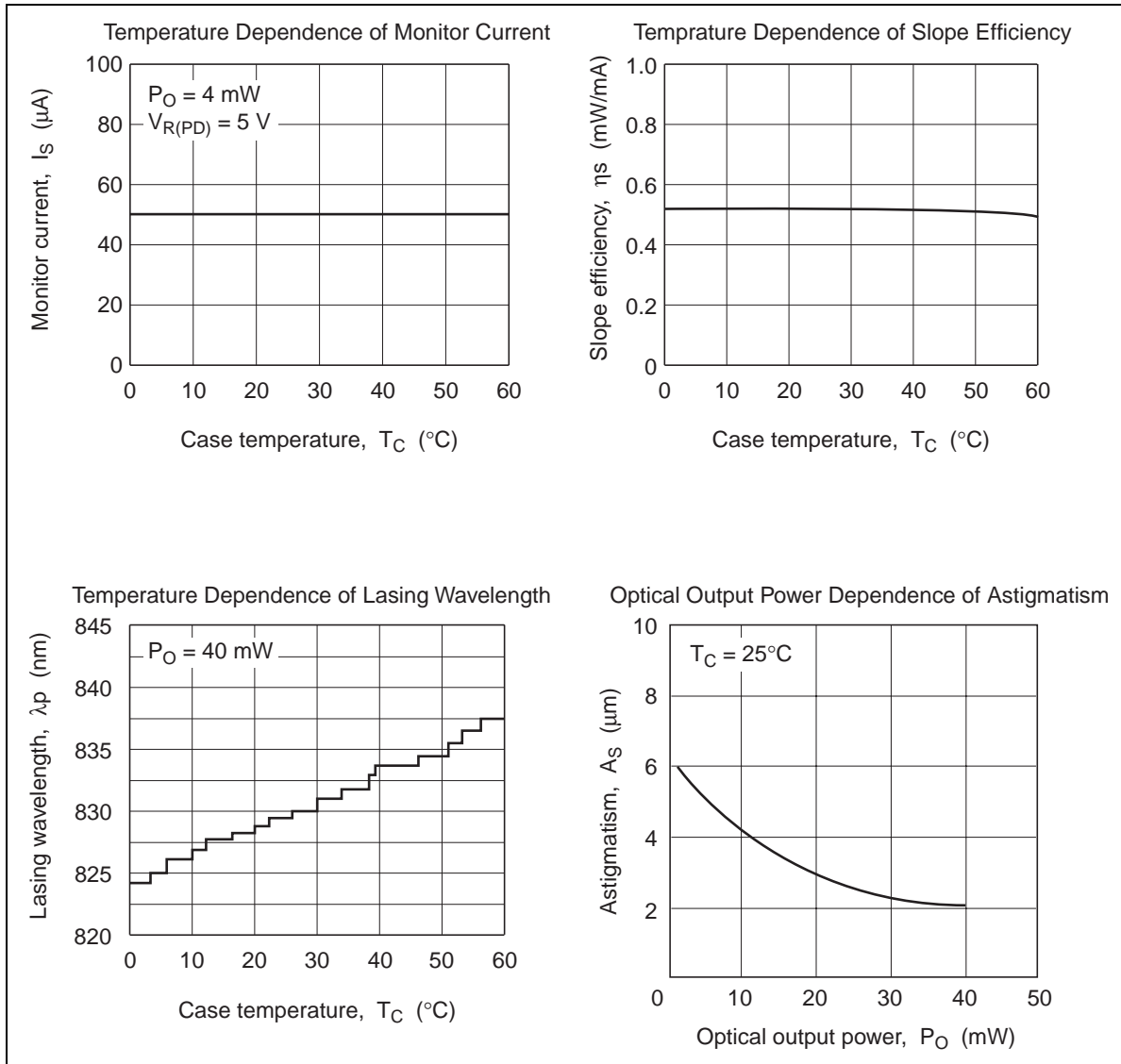
| Item  | Symbol           | Min | Typ | Max | Unit          | Test Conditions  |
|---|------------------|-----|-----|-----|---------------|--|
| Threshold current                             | $I_{th}$         | —   | 40  | 70  | mA            | —  |
| Slope efficiency                              | $\eta_s$         | 0.4 | 0.5 | 0.9 | mW/mA         | $24 \text{ (mW)} / (I_{(32\text{mW})} - I_{(8\text{mW})})$ |
| Beam divergence parallel to the junction      | $\theta_{//}$    | 7   | 10  | 14  | deg.          | $P_O = 40 \text{ mW}$ , FWHM                               |
| Beam divergence perpendicular to the junction | $\theta_{\perp}$ | 18  | 22  | 32  | deg.          | $P_O = 40 \text{ mW}$ , FWHM                               |
| Asigmatism                                    | $A_s$            | —   | 5   | —   | $\mu\text{m}$ | $P_O = 4 \text{ mW}$ , NA = 0.4                            |
| Lasing wavelength                             | $\lambda_p$      | 820 | 830 | 840 | nm            | $P_O = 40 \text{ mW}$                                      |
| Monitor current                               | $I_s$            | 20  | 40  | 130 | $\mu\text{A}$ | $P_O = 4 \text{ mW}$ , $V_{R(\text{PD})} = 5 \text{ V}$    |

Typical Characteristic Curves



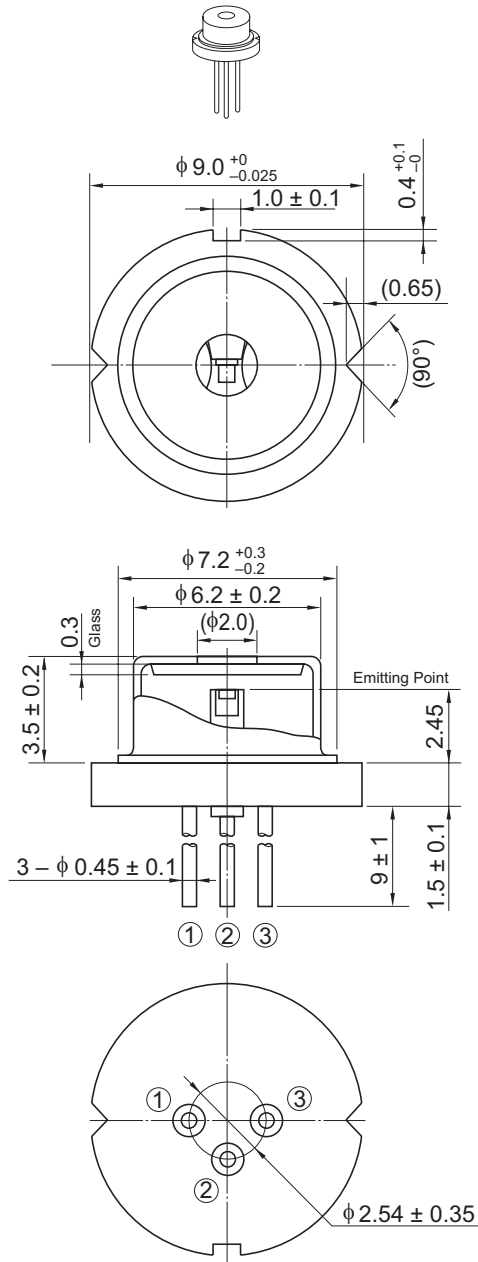
# HL8325G

## Typical Characteristic Curves (cont)



Package Dimensions

As of July, 2002  
Unit: mm



|                        |       |
|------------------------|-------|
| OPJ Code               | LD/G2 |
| JEDEC                  | —     |
| JEITA                  | —     |
| Mass (reference value) | 1.1 g |

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## HL8325G

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When disposing of the product, please follow the laws of your country and separate it from other waste such as industrial waste and household garbage.
3. Definition of items shown in this CAS is in accordance with that shown in Opto Device Databook issued by OPJ unless otherwise specified.

### Sales Offices



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