
HL8325G

GaAlAs Laser Diode

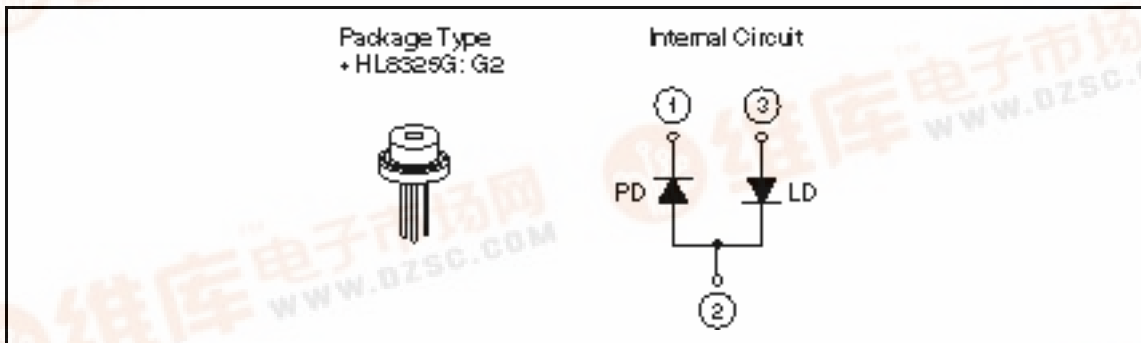
HITACHI

Description

The HL8325G is a high-power 0.8 μm band GaAlAs laser diode with a TQW (triple quantum well) structure. Its internal circuit configuration is suited 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: $\lambda = 820$ to 840 nm
- High power: standard continuous operation at 40 mW (CW), pulsed operation at 50 mW
- Built-in monitor photodiode
- Single longitudinal mode



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

Item	Symbol	Rated Value	Units
Optical output power	P_O	40	mW
Pulse optical output power	$P_{O(\text{pulse})}$	50* ¹	mW
LD reverse voltage	$V_{R(\text{LD})}$	2	V
PD 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	$^\circ\text{C}$

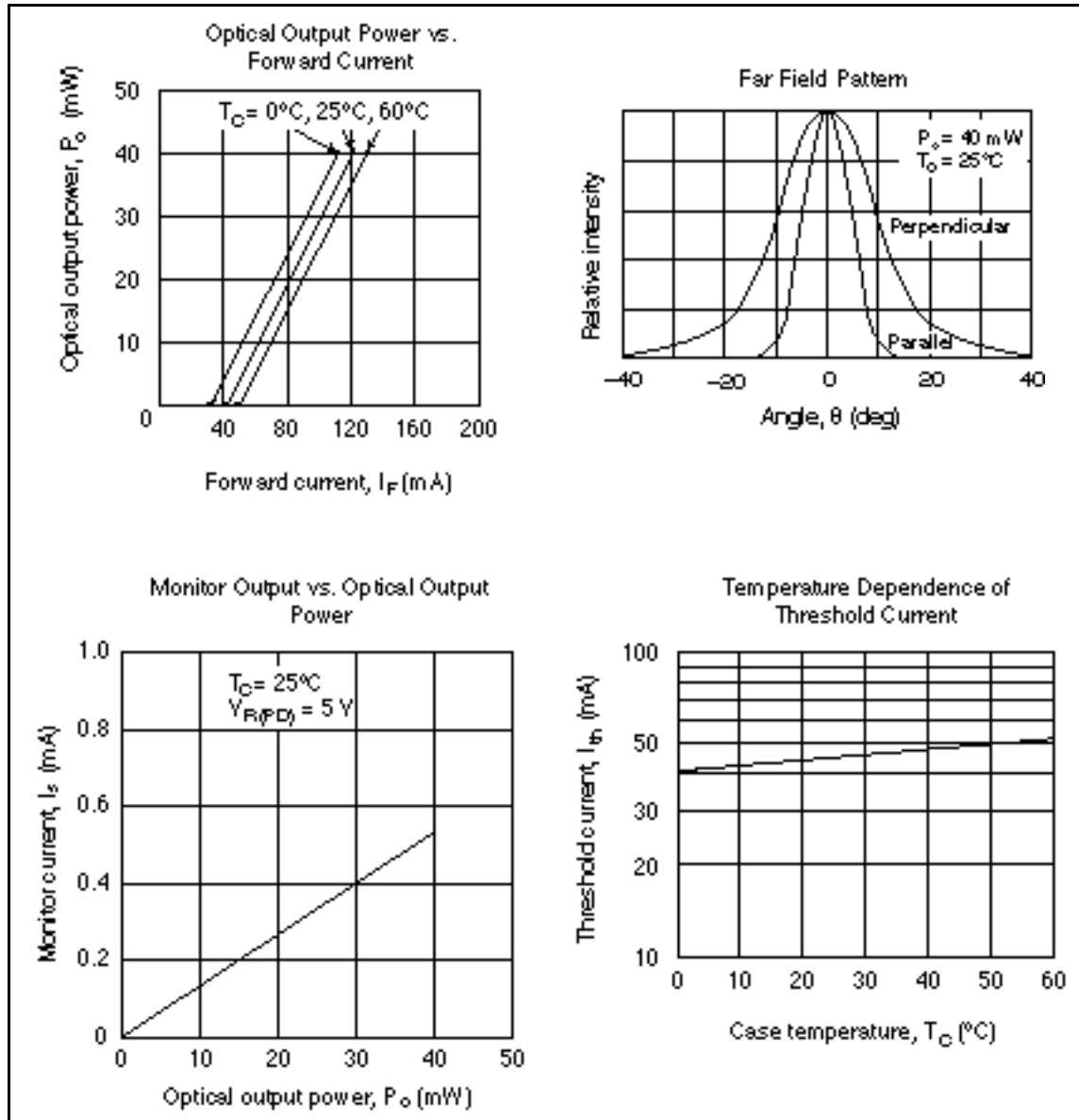
Note: 1. Maximum 50% duty cycle, maximum 1 μs pulse width

Optical and Electrical Characteristics ($T_C = 25 \pm 3^\circ\text{C}$)

Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Optical output power	P_O	40	—	—	mW	Kink free
Threshold current	I_{th}	—	40	70	mA	
Slope efficiency		0.4	0.5	0.9	mW/mA	$24 \text{ mW} / I_{(32 \text{ mW})} - I_{(8 \text{ mW})}$
Lasing wavelength	ρ	820	830	840	nm	$P_O = 40 \text{ mW}$
Beam divergence (parallel)	//	7	10	14	deg.	$P_O = 40 \text{ mW}$, FWHM
Beam divergence (perpendicular)		18	22	32	deg.	$P_O = 40 \text{ mW}$, FWHM
Monitor current	I_s	20	40	130	μA	$V_{R(\text{PD})} = 5 \text{ V}$, $P_O = 4 \text{ mW}$
Astigmatism	A_s	—	5	—	μm	$P_O = 4 \text{ mW}$, NA = 0.4

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Typical Characteristic Curves



Typical Characteristic Curves (cont)

