HL8325G

GaAlAs Laser Diode

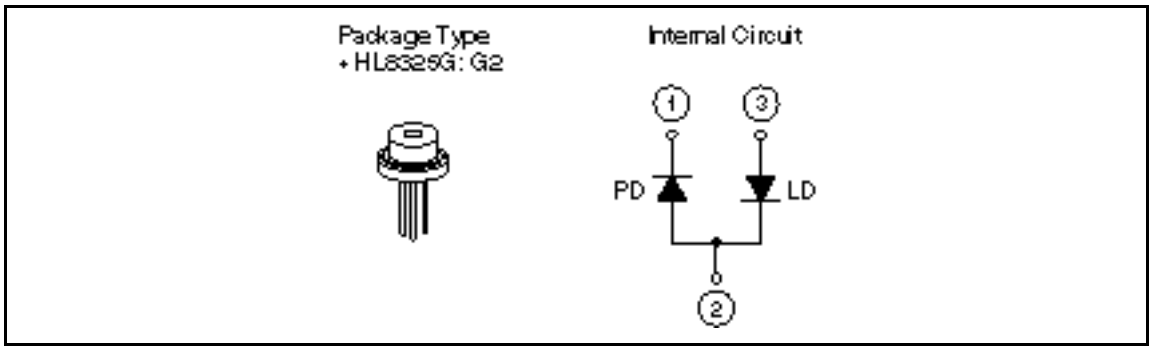
HITACHI

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: λp = 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°C)

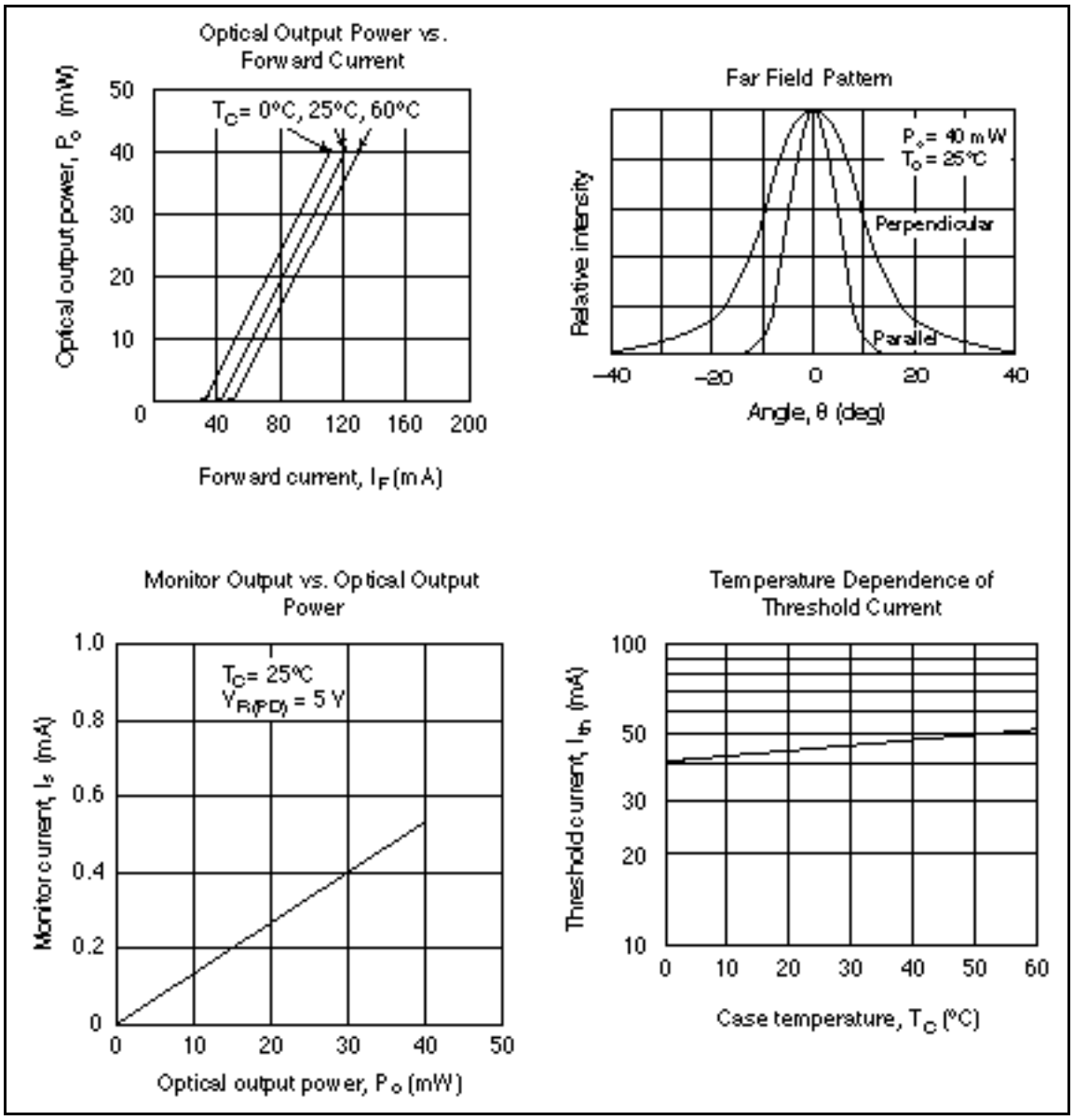
Item	Symbol	Rated Value	Units
Optical output power	P_O	40	mW
Pulse optical output power	$P_{O\ (pulse)}$	50*[1]	mW
LD reverse voltage	$V_{R\ (LD)}$	2	V
PD reverse voltage	$V_{R\ (PD)}$	30	V
Operating temperature	Topr	–10 to +60	°C
Storage temperature	Tstg	–40 to +85	°C

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

Optical and Electrical Characteristics (T_C = 25 ± 3 °C)

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

Typical Characteristic Curves



Typical Characteristic Curves (cont)