

AlGaAs Laser Diode

Description

The SLD104AU is a AlGaAs laser diode developed for positive power supplies. In comparison with the SLD104U, this device attains even lower power consumption levels.

Features

- Low power consumption
- Single power supply
- Low noise
- Microminaturized package ($\phi 5.6\text{mm}$)

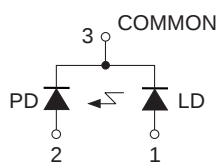
Structure

- AlGaAs double hetero-type laser diode
- PIN photo diode for laser optical power output monitor

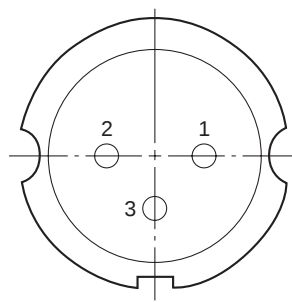
Absolute Maximum Ratings ($T_c = 25^\circ\text{C}$)

- | | | | |
|-------------------------|----------------|------------|----|
| • Optical power output | Po | 5 | mW |
| • Reverse voltage | V _R | LD 2 | V |
| | | PD 15 | V |
| • Operating temperature | Topr | -10 to +60 | °C |
| • Storage temperature | Tstg | -40 to +85 | °C |

Connection Diagram



Pin Configuration



Bottom View

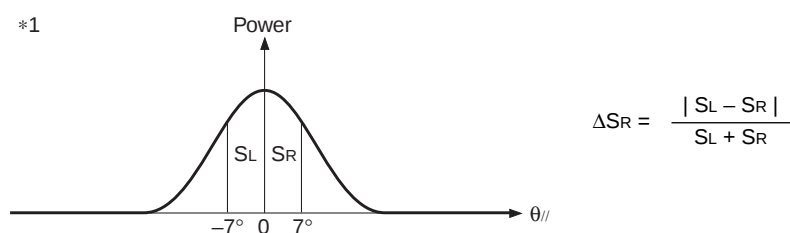
- 1. LD anode
- 2. PD anode
- 3. COMMON

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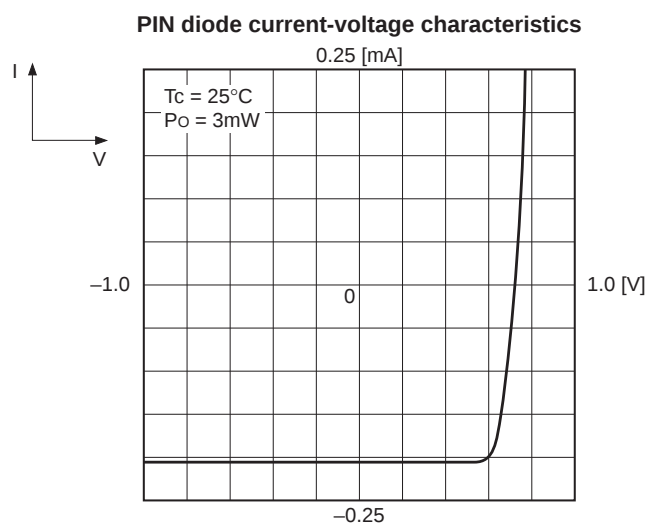
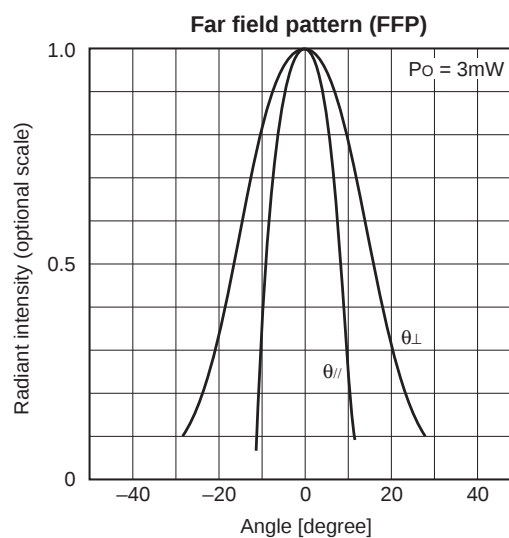
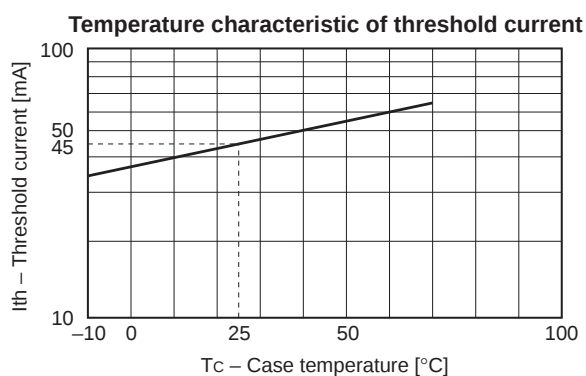
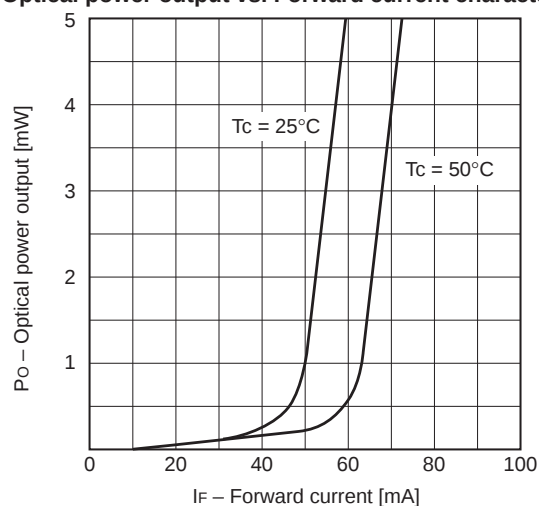
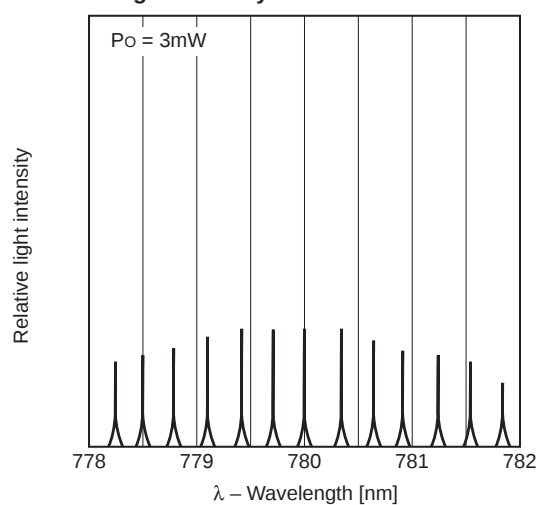
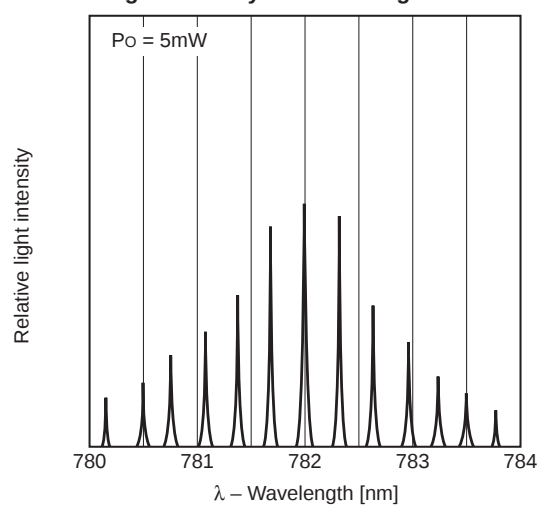
Electrical and Optical Characteristics (T_c = 25°C)T_c: Case temperature

Item		Symbol	Condition	Min.	Typ.	Max.	Unit
Threshold current		I _{th}			45	60	mA
Operating current		I _{op}	P _O = 3mW		52	70	mA
Operating voltage		V _{op}	P _O = 3mW	1.7	1.9	2.5	V
Wavelength		λ	P _O = 3mW	760	780	800	nm
Monitor current		I _m	P _O = 3mW, V _R = 5V	0.08	0.15	0.4	mA
Radiation angle (F. W. H. M. *)	Perpendicular	θ _⊥	P _O = 3mW	20	32	45	degree
	Parallel	θ _{//}		9	17	25	degree
	Asymmetry	ΔS _R *1				20	%
Positional accuracy	Position	ΔX, ΔY, ΔZ	P _O = 3mW			±150	μm
	Angle	Δφ _⊥				±3	degree
Differential efficiency		η _D	P _O = 3mW	0.2	0.45	0.7	mW/mA
Astigmatism		A _s	P _O = 3mW Z _{//} - Z _⊥			15	μm
Signal to noise ratio		S/N	f _c = 7.5MHz Δf = 30kHz P _O = 4mW		88		dB
Dark current of PD		I _D	V _R = 5V			150	nA
Capacitance of PD		C _T	V _R = 5V, f = 1MHz			30	pF

* F. W. H. M. : Full Width at Half Maximum

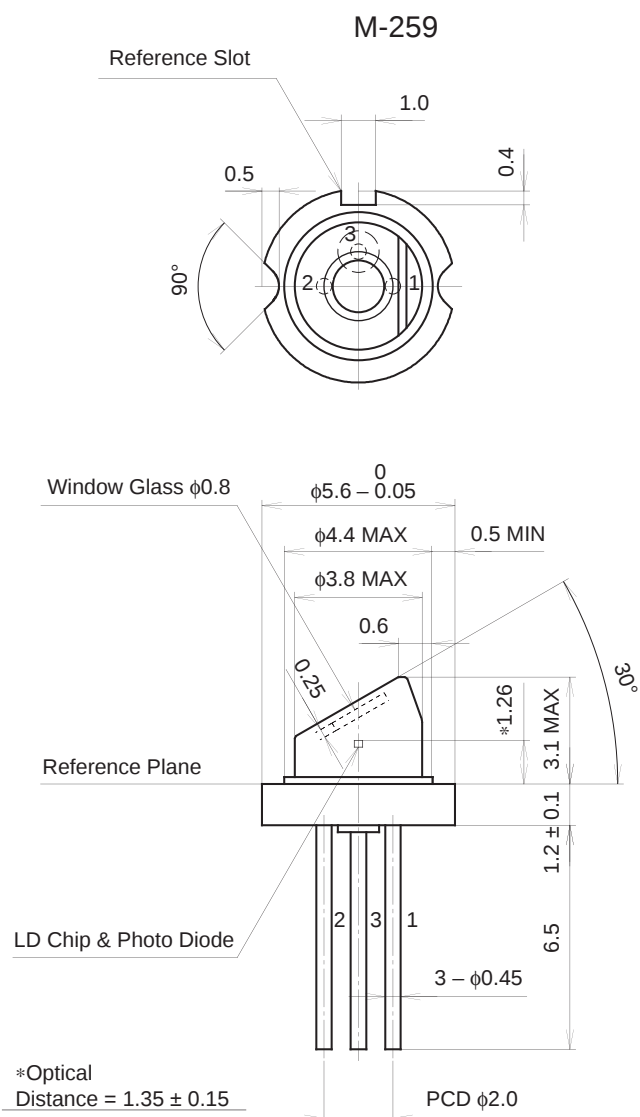


Example of Representative Characteristics

**Optical power output vs. Forward current characteristics****Relative light intensity vs. Wavelength characteristics****Relative light intensity vs. Wavelength characteristics**

Package Outline

Unit: mm



SONY CODE	M-259
EIAJ CODE	_____
JEDEC CODE	_____

PACKAGE WEIGHT	0.3g
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