

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
- Microminiaturized package ($\phi 5.6\text{mm}$)

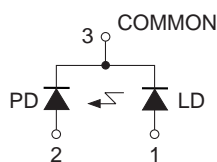
Structure

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

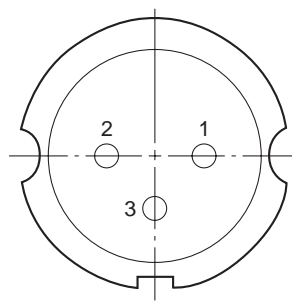
Absolute Maximum Ratings ($T_c = 25^\circ\text{C}$)

- | | | | |
|-------------------------|----------------|------------|----|
| • 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

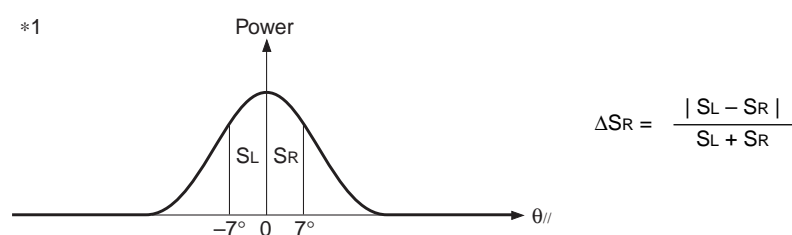
- 1. LD anode
- 2. PD anode
- 3. COMMON

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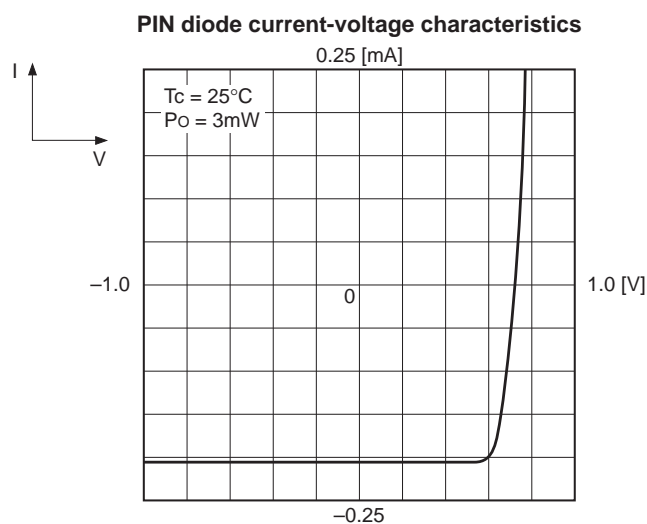
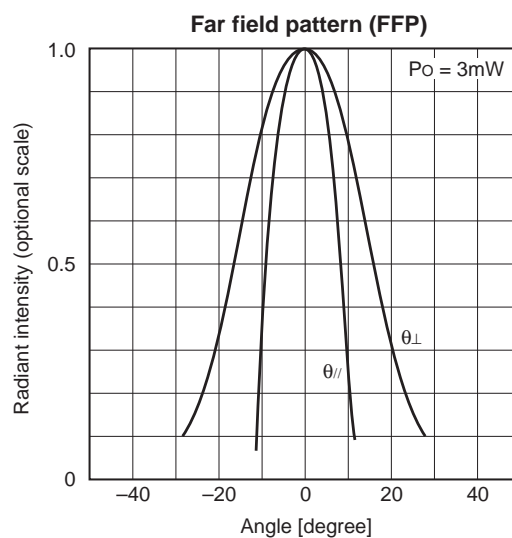
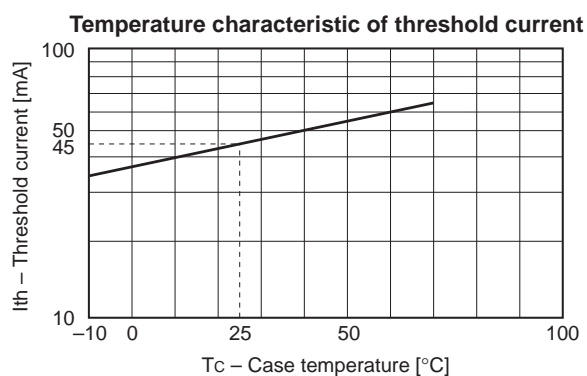
Electrical and Optical Characteristics (T_c = 25°C)T_c: Case temperature

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

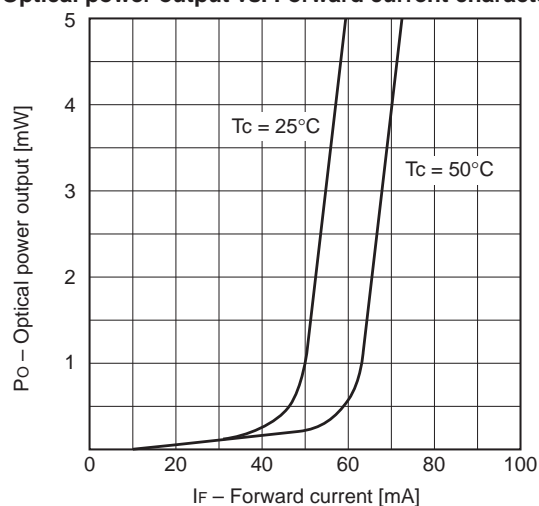
* F. W. H. M. : Full Width at Half Maximum



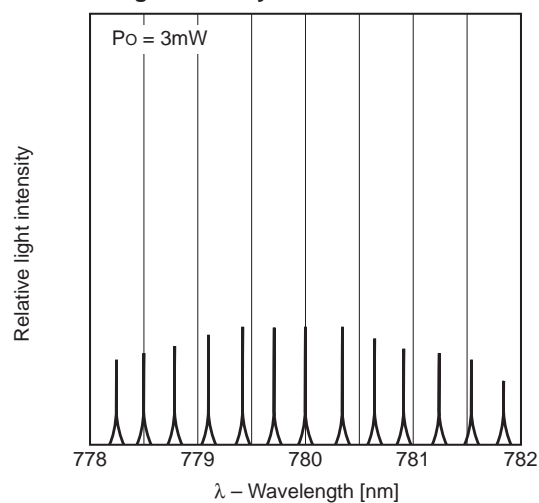
Example of Representative Characteristics



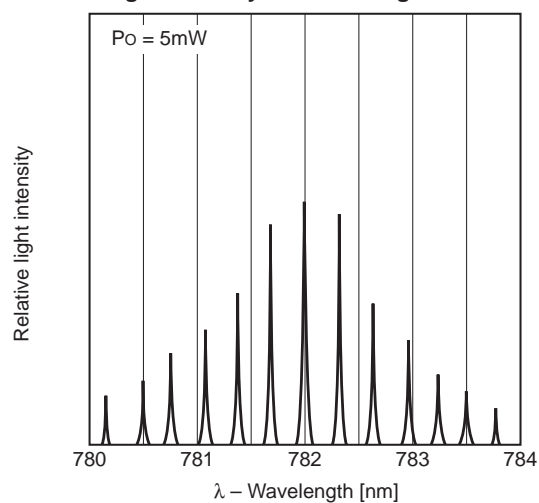
Optical power output vs. Forward current characteristics



Relative light intensity vs. Waveform characteristics

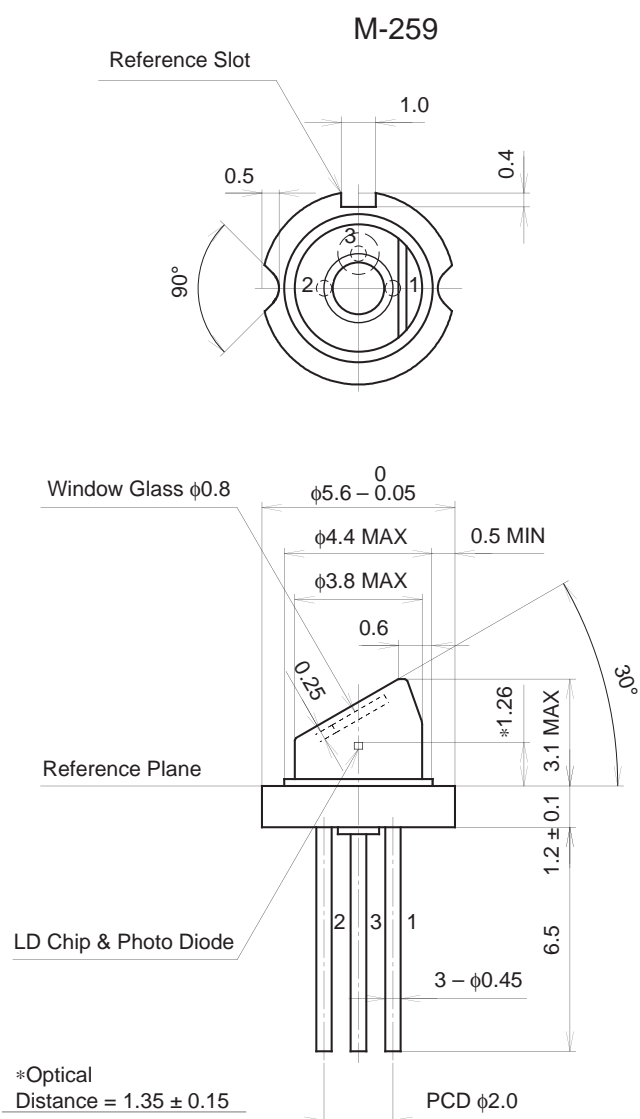


Relative light intensity vs. Wavelength characteristics



Package Outline

Unit: mm



SONY CODE	M-259
EIAJ CODE	_____
JEDEC CODE	_____

PACKAGE WEIGHT	0.3g
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