

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 ($\phi 5.6\text{mm}$)

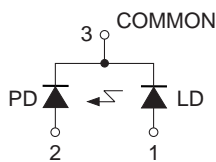
Structure

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

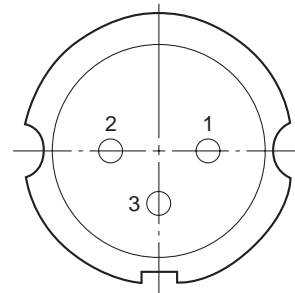
Absolute Maximum Ratings ($T_c = 25^\circ\text{C}$)

- Optical power output P_o 5 mW
- Reverse voltage V_R LD 2 V
PD 15 V
- Operating temperature T_{opr} -10 to $+60$ $^\circ\text{C}$
- Storage temperature T_{stg} -40 to $+85$ $^\circ\text{C}$

Connection Diagram



Pin Configuration



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

Bottom View

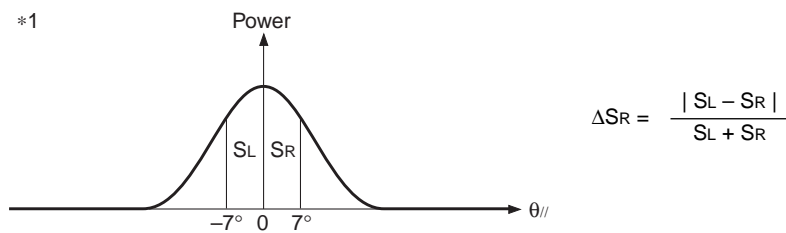
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Electrical and Optical Characteristics (Tc = 25°C)

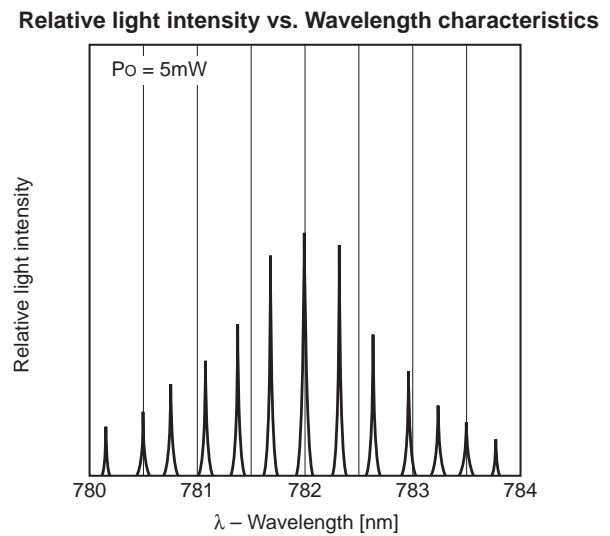
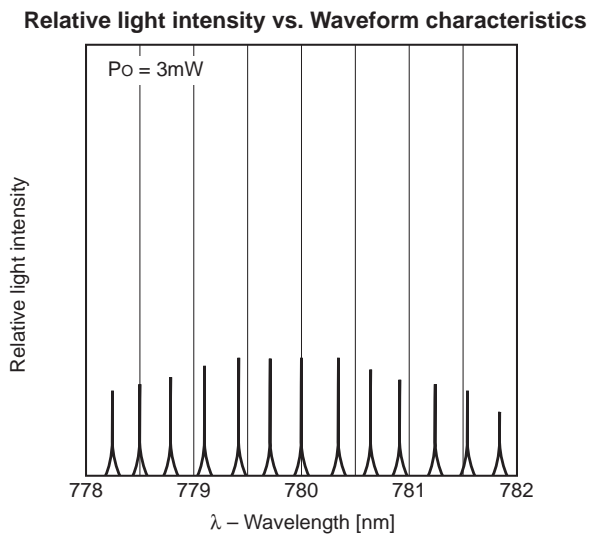
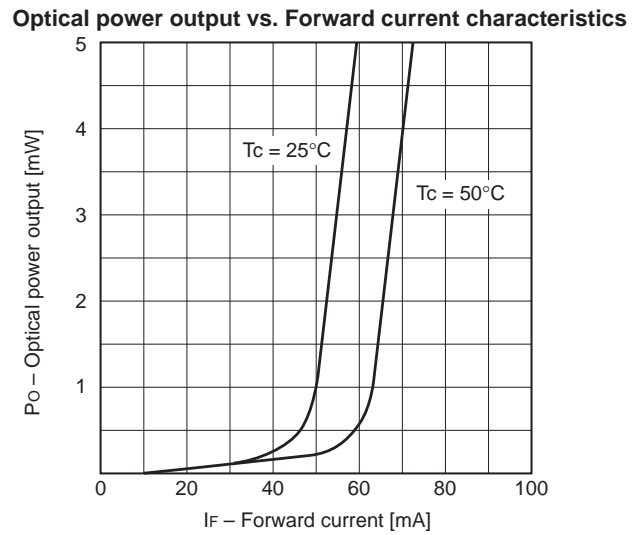
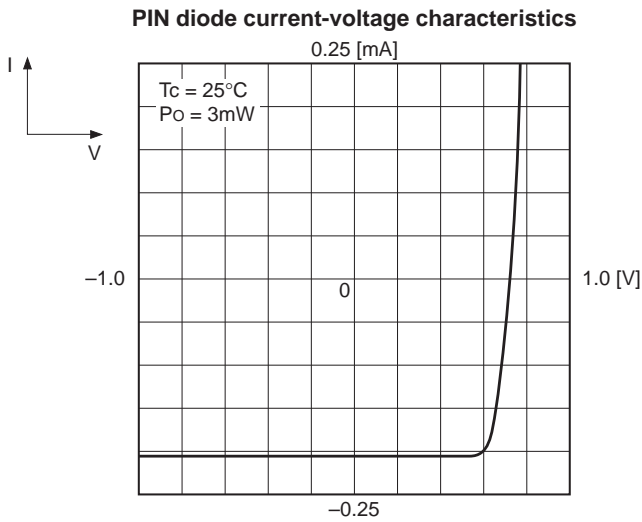
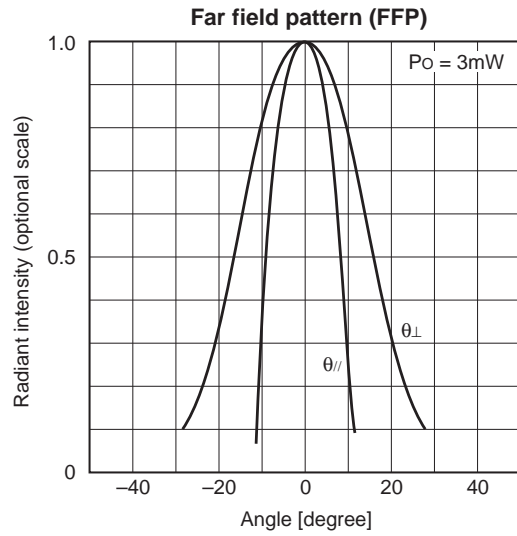
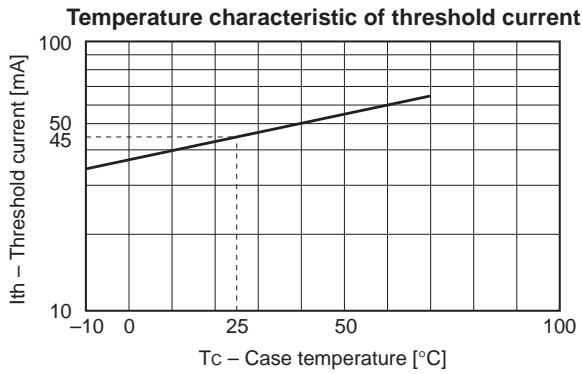
Tc: Case temperature

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

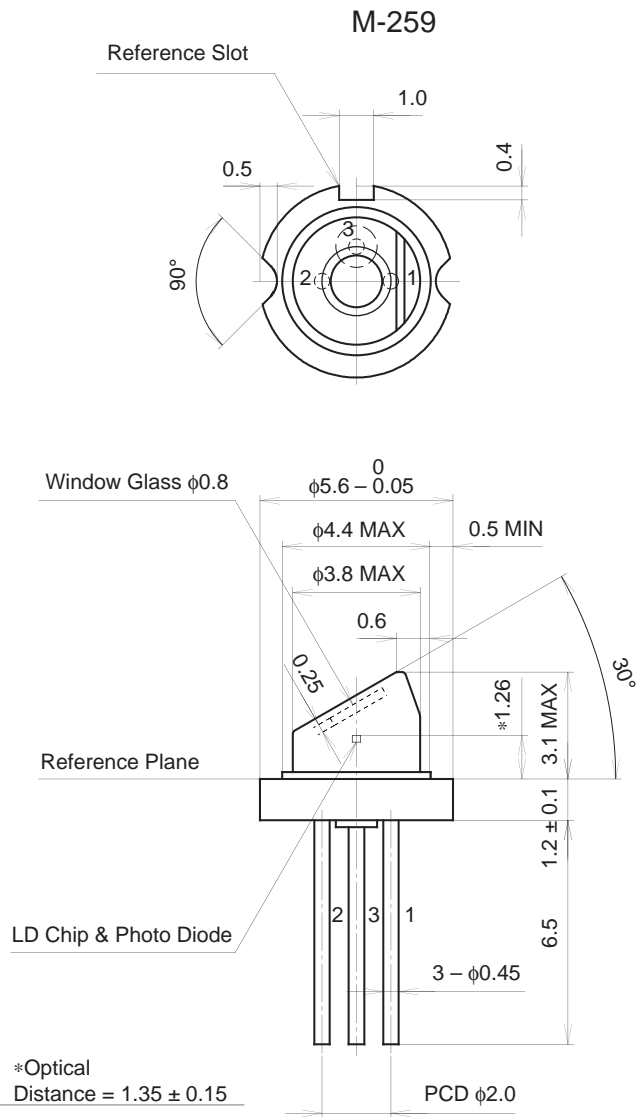


Example of Representative Characteristics



Package Outline

Unit: mm



SONY CODE	M-259
EIAJ CODE	_____
JEDEC CODE	_____

PACKAGE WEIGHT	0.3g
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