SONY

SLD1121VS

5mW Visible Laser Diode

Description

The SLD1121VS is a red laser diode designed for bar code readers and measuring instruments. This features a small package and lower power consumption.

Features

- Visible light (670nm typ.)
- Small package (ϕ5.6mm)
- Low operating current (Iop = 50mA typ.)
- Fundamental transverse mode

Applications

- Bar code readers
- Measuring instruments

Structure

- AlGaInP quantum well structure laser diode
- PIN photo diode for optical power output monitor

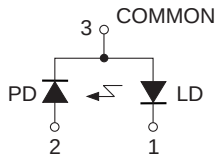
Recommended Optical Power Output

3mW

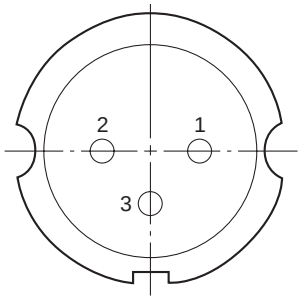
Absolute Maximum Ratings (Tc = 25°C)

• Optical power output	P_O		5	mW
• Reverse voltage	V_R	LD	2	V
		PD	15	V
• Operating temperature	Topr		–10 to +50	°C
• Storage temperature	Tstg		–40 to +85	°C

Cinnection Diagram



Pin Configuration



Bottom View

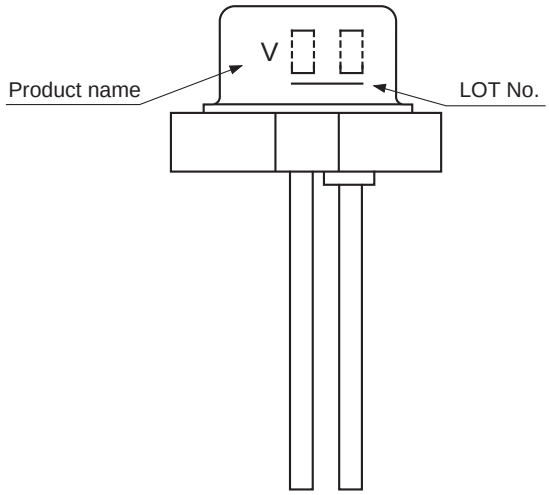
1. LD cathode
2. PD anode
3. COMMON

E93821A81-PS

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

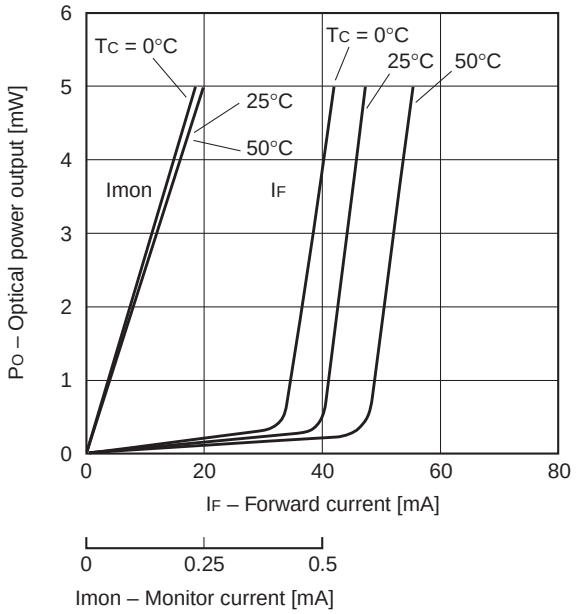
Item		Symbol	Conditions	Min.	Typ.	Max.	Unit
Threshold current		Ith			40	60	mA
Operating current		Iop	P_O = 3mW		50	70	mA
Operating voltage		Vop	P_O = 3mW		2.2	2.8	V
Wavelength		λ	P_O = 3mW	660	670	680	nm
Radiation angle	Perpendicular	θ⊥	P_O = 3mW	24	32	35	degree
	Parallel	θ//		7	11	15	degree
Positional accuracy	Position	ΔX, ΔY, ΔZ	P_O = 3mW			±80	µm
	Angle	Δϕ//				±3	degree
		Δϕ⊥				±3	degree
Differential efficiency		ηD	P_O = 3mW	0.15	0.45	0.7	mW/mA
Astigmatism		As	| Z// – Z⊥ |		32		µm
Monitor current		Imon	P_O = 3mW, V_R = 5V	0.08	0.20	0.60	mA

Marking

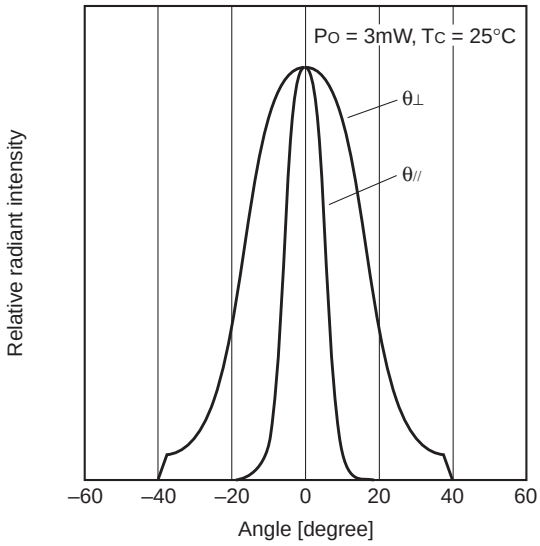


Example of Representative Characteristics

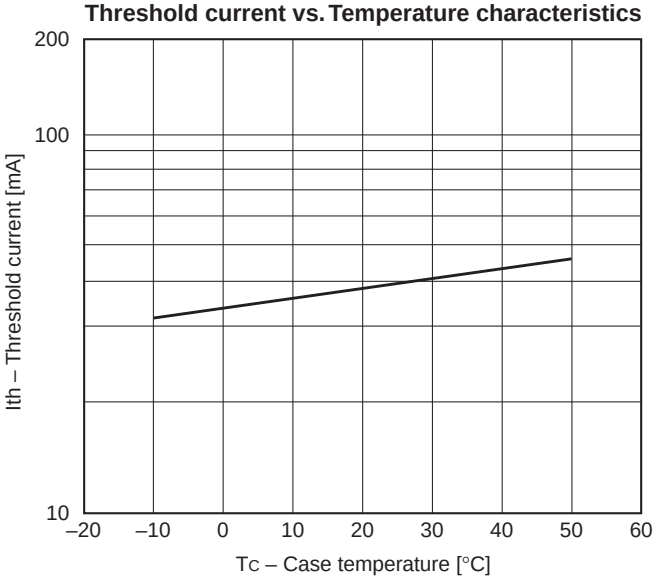
Optical power output vs. Forward current characteristics
Optical power output vs. Monitor current characteristics



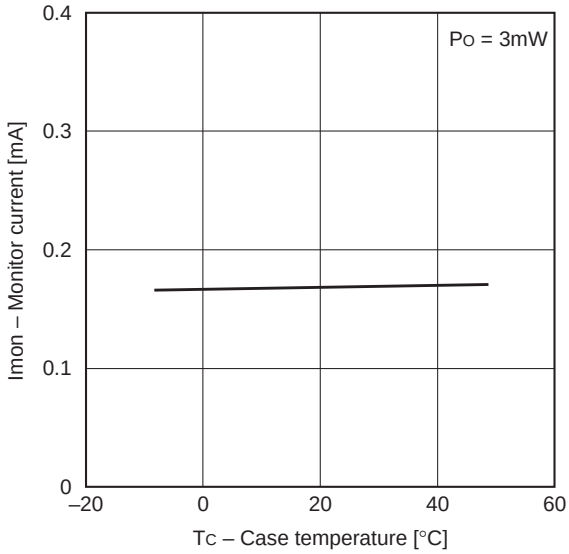
Far field pattern (FFP)



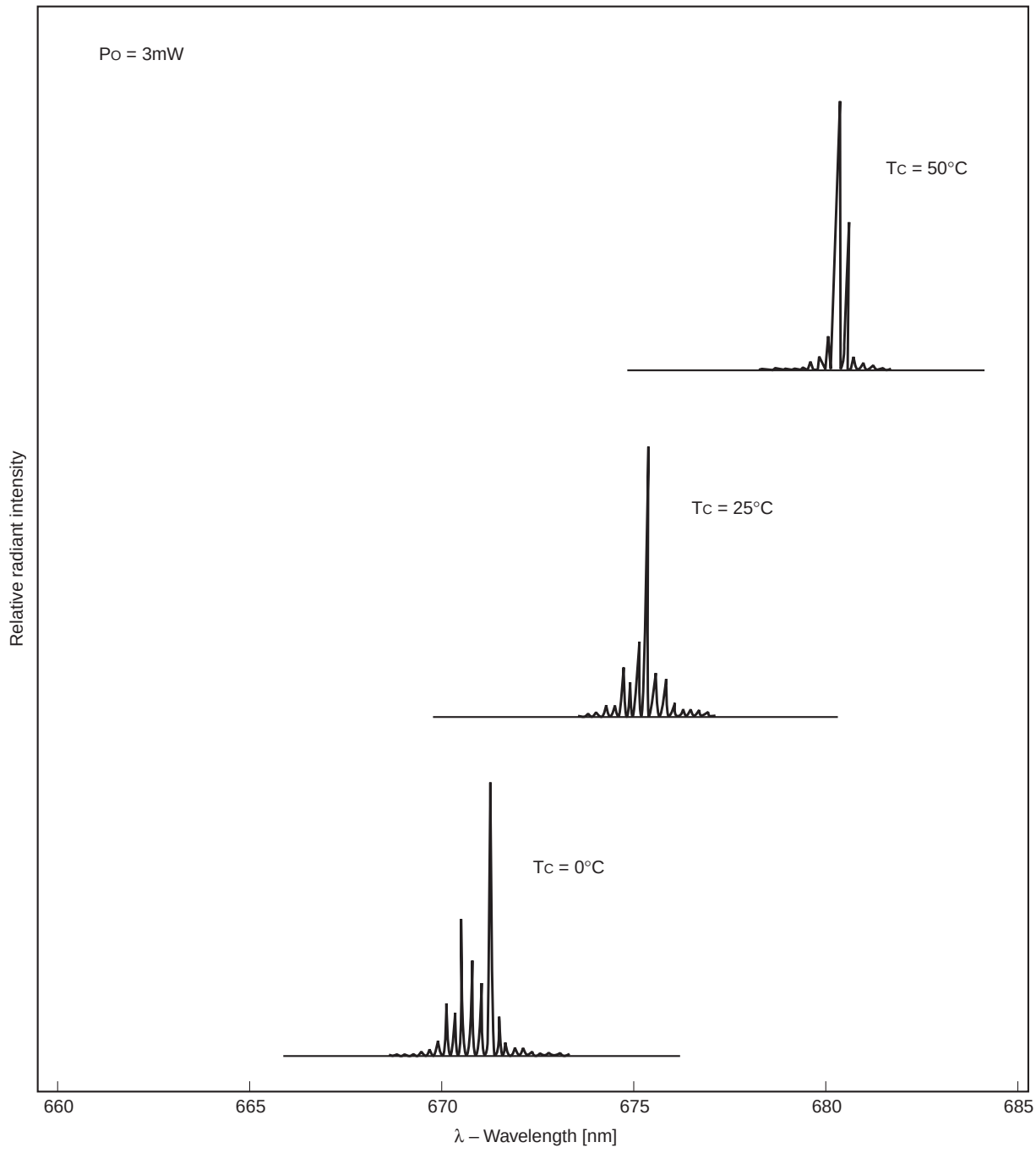
Threshold current vs. Temperature characteristics



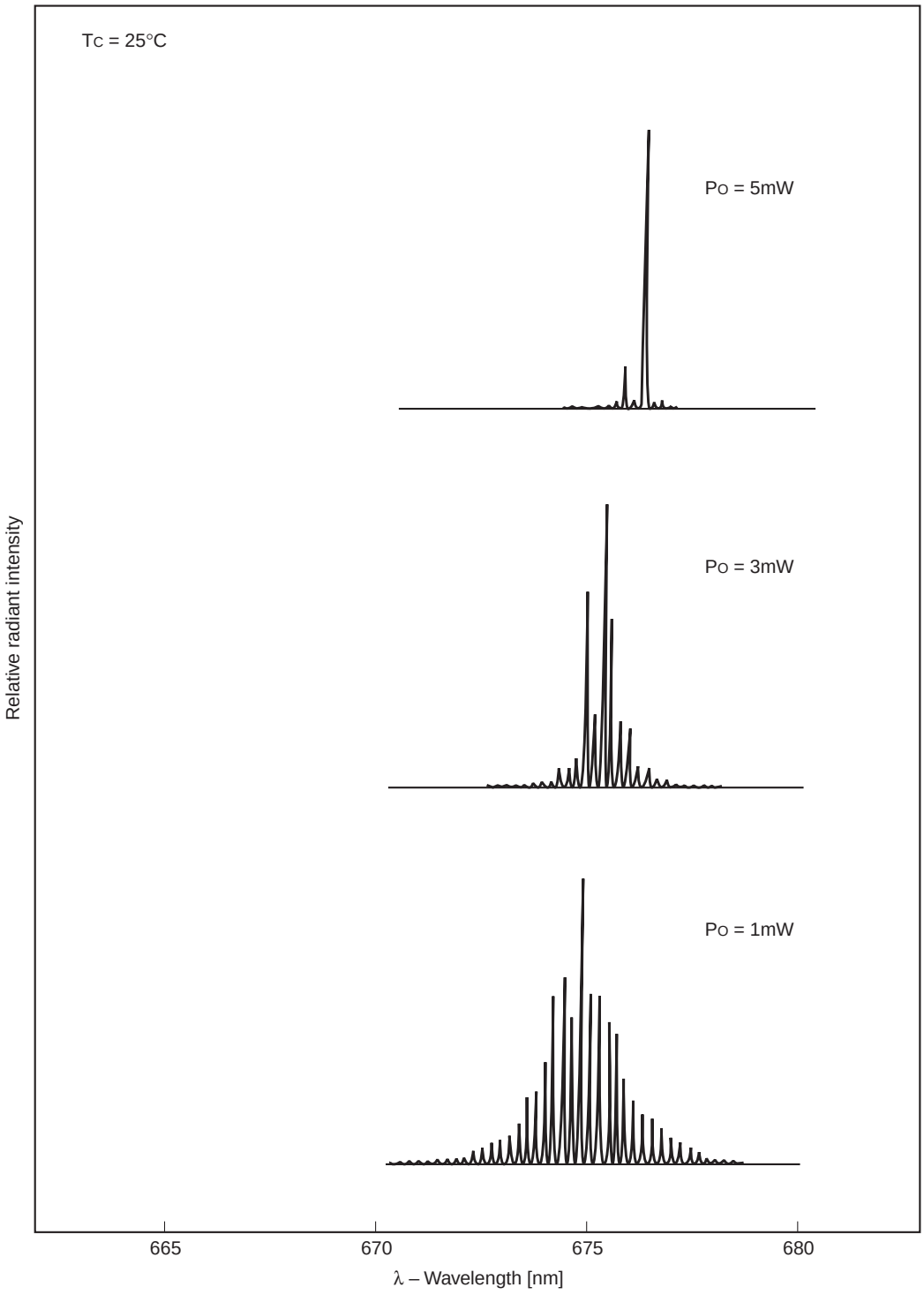
Monitor current vs. Temperature characteristics



Temperature dependence of spectrum

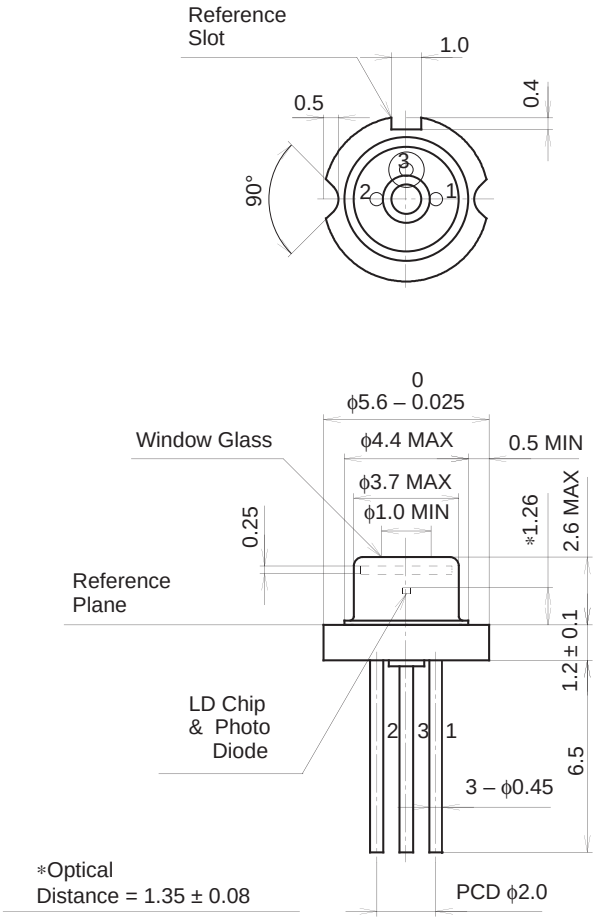


Power dependence of spectrum



Package Outline Unit: mm

M-274



SONY CODE	M-274
EIAJ CODE	————
JEDEC CODE	————

PACKAGE WEIGHT	0.3g