SONY **SLD1131VS**

Index-Guided Red Laser Diode

Description

The SLD1131VS is an index-guided red laser diode. It features small astigmatism and high-speed pulse response.

Features

- Red visible light (670nm typ.)
- Small astigmatism (7µm typ.)
- High-speed pulse response (Rise time =5ns typ.)
- Low operating current (40mA typ.)
- Small package (ø5.6mm)
- Longitudinal single mode

Applications

- Bar code readers
- Measuring instruments

Structure

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

Recommended Optical Power Output: 4mW

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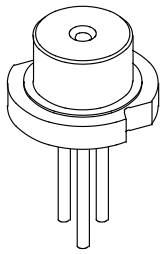
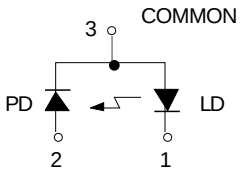
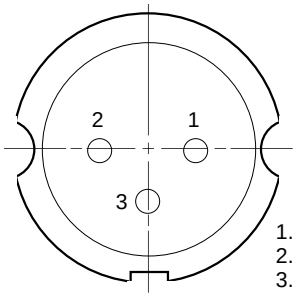


Connection Diagram



Pin Configuration



Absolute Maximum Ratings (Tc = +25°C)

• Optical power output		P_O	6	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

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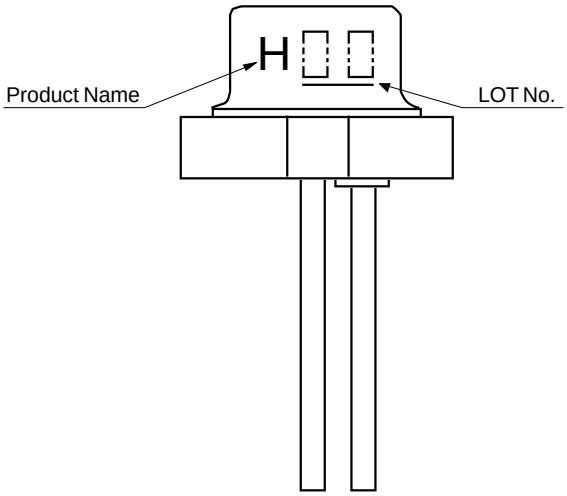
Optical and Electrical Characteristics (Tc = +25°C) Tc: Case Temperature

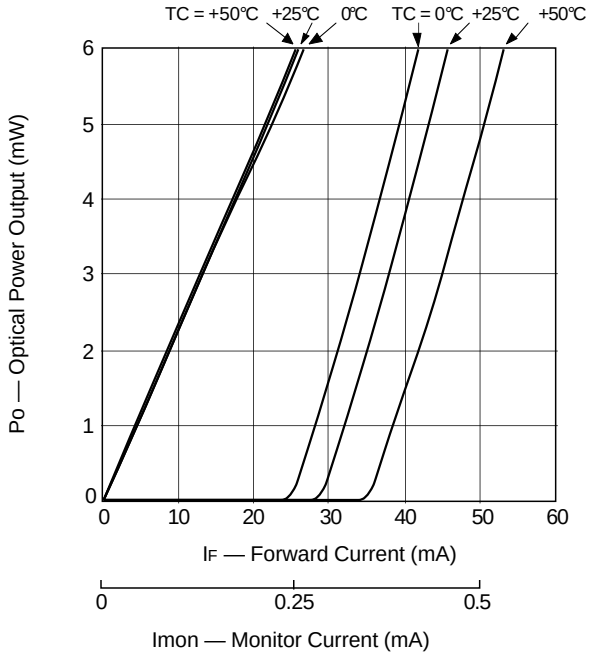
Item		Symbol	Conditions	Min.	Typ.	Max.	Unit
Threshold current		Ith			30	50	mA
Operating current		Iop	Po = 4mW		40	60	mA
Operating voltage		Vop	Po = 4mW		2.3	2.8	V
Wavelength		λ	Po = 4mW	660	670	680	nm
Radiation angle	Perpendicular	θ⊥	Po = 4mW	24	30	40	degree
	Parallel	θ //		7	10	15	degree
Positional accuracy	Position	ΔX, ΔY, ΔZ	Po = 4mW			±80	µm
	Angle	Δø //				±3	degree
		Δø⊥				±3	degree
Differential efficiency		ηD	Po = 4mW	0.15	0.3	0.7	mW/mA
Astigmatism		As	Po = 4mW		7	15	µm
Monitor current		Im	Po = 4mW, Vr = 5V	0.08	0.20	0.60	mA

Marking

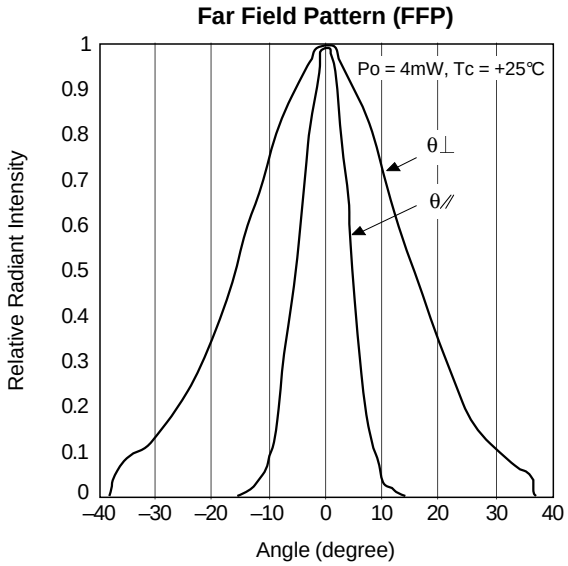


Example of Representative Characteristics

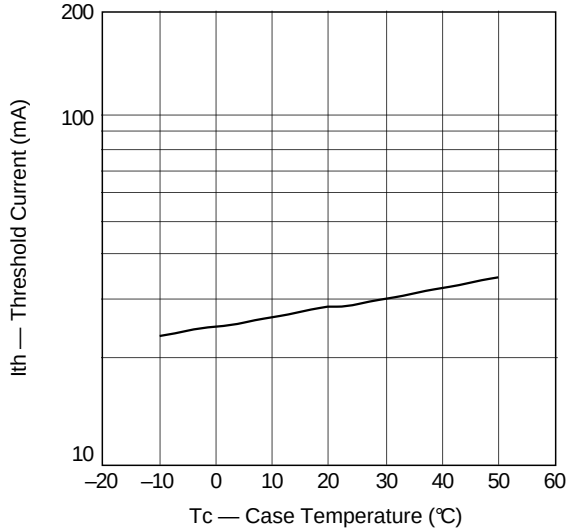
Optical Power Output vs. Forward Current Characteristics
Optical Power Output vs. Monitor Current Characteristics



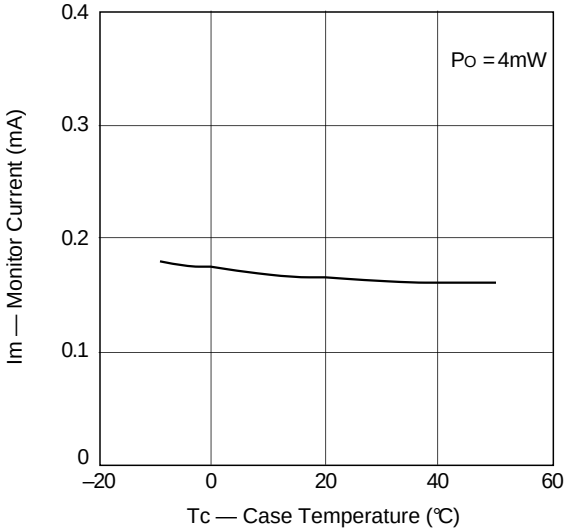
Far Field Pattern (FFP)



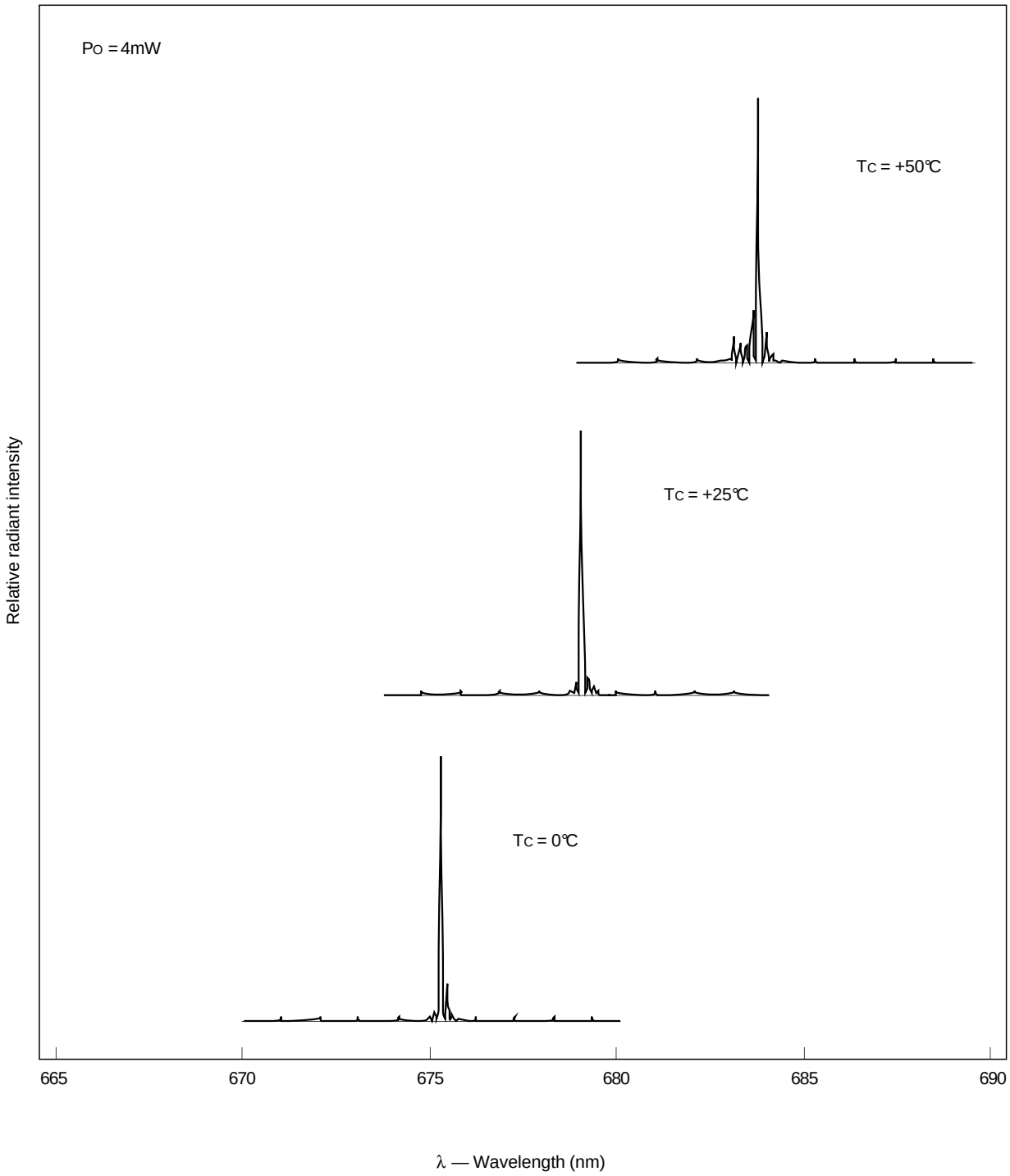
Threshold current vs. Temperature characteristics



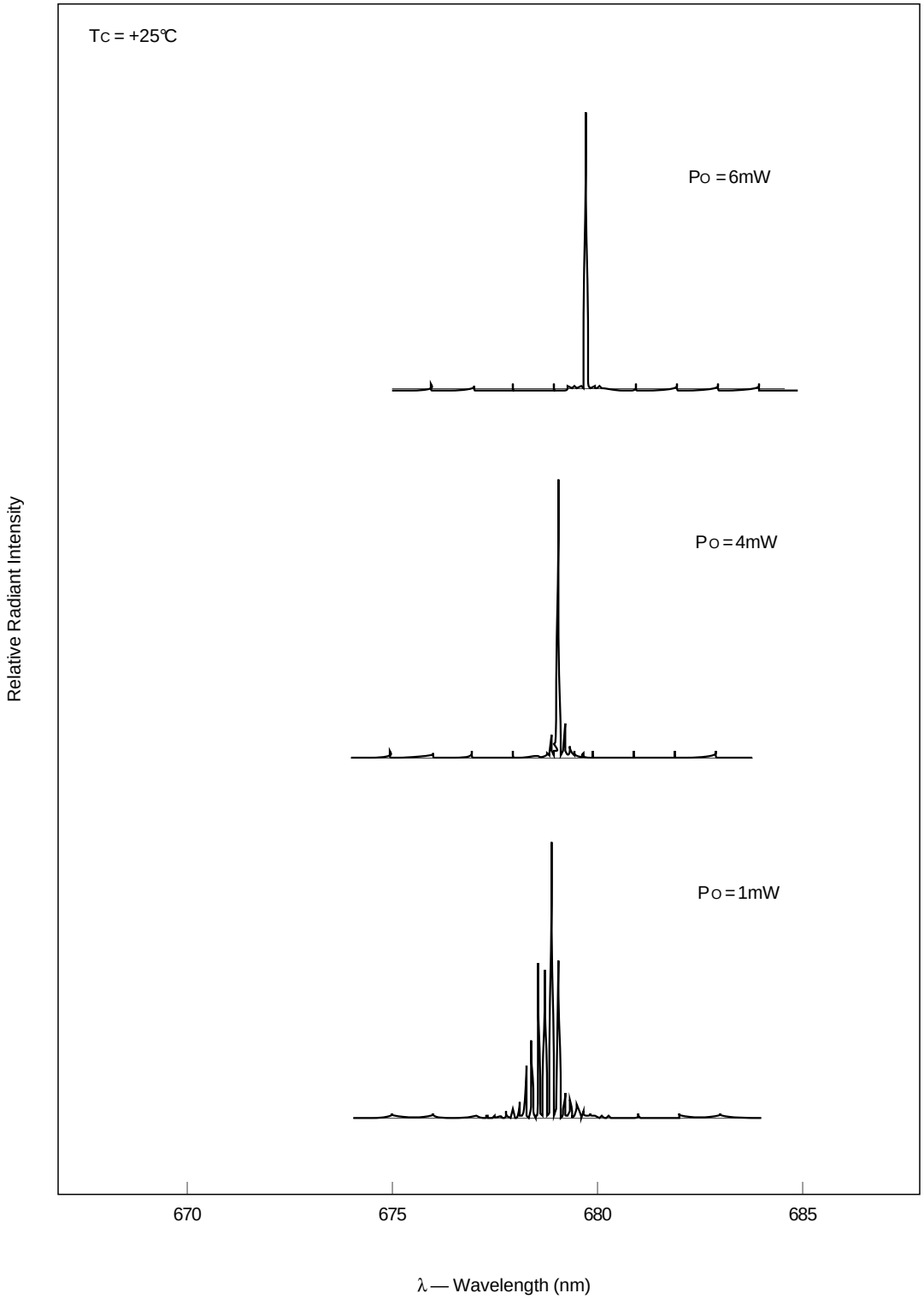
Monitor Current vs. Temperature Characteristics



Temperature Dependence of Spectrum



Power Output Dependence of Spectrum



Package Outline Unit: mm

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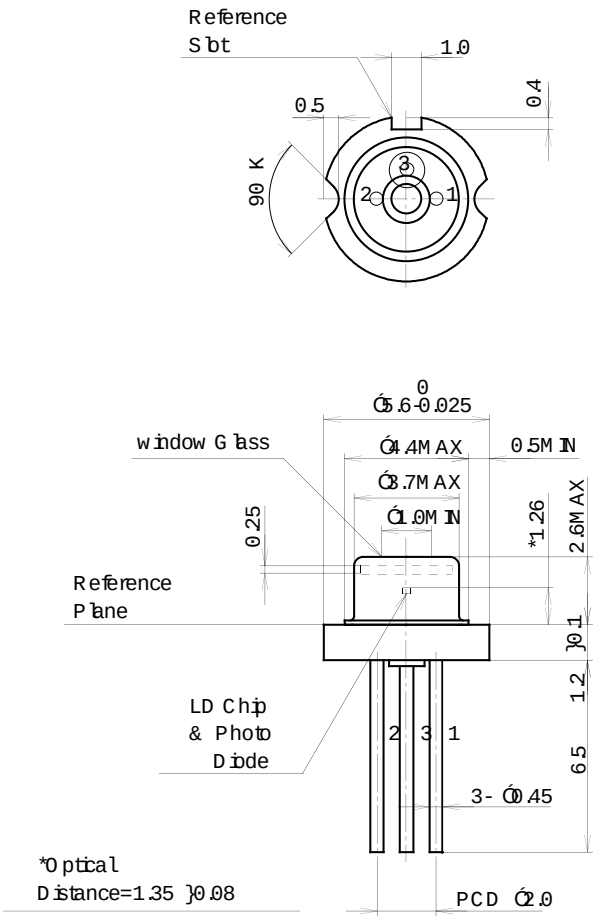

SONY CODE	M-274
EIAJ CODE	————
JEDEC CODE	————

PACKAGE WEIGHT	0.3g