

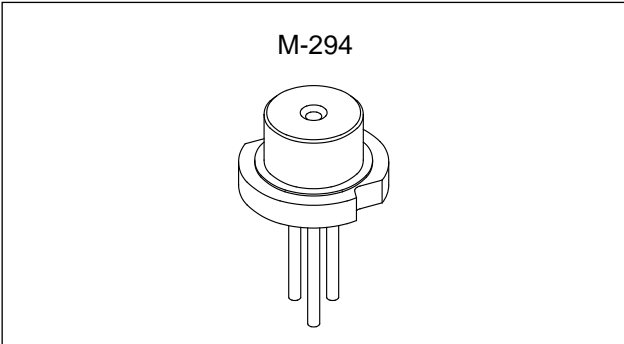
Index-Guided Red Laser Diode

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 (7 μ m typ.)
- High-speed pulse response (Rise time = 5ns typ.)
- Low operating current (40mA typ.)
- Small package (ϕ 5.6mm)
- Longitudinal single mode



Applications

- Bar code readers
- Measuring instruments

Structure

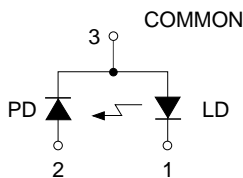
- AlGaInP quantum well-structured laser diode
- PIN photo diode for optical power output monitor

Recommend Optical Power Output 4 mW

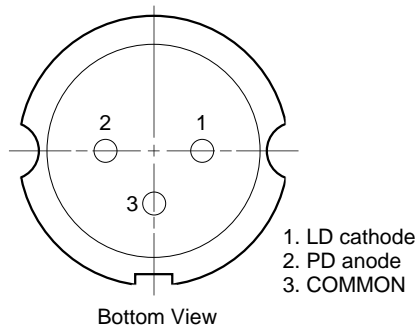
Absolute Maximum Ratings (T_c = 25°C)

• Optical power output	P _o		6	mW
• Reverse voltage	V _R	LD	2	V
		PD	15	V
• Operating temperature	T _{opr}		-10 to +50	°C
• Storage temperature	T _{stg}		-40 to +85	°C

Connection Diagram



Pin Configuration



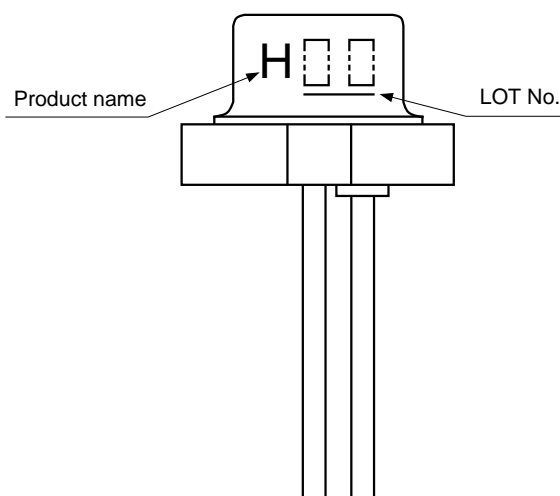
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Optical and Electrical Characteristics (T_c = 25°C)

T_c : Case temperature

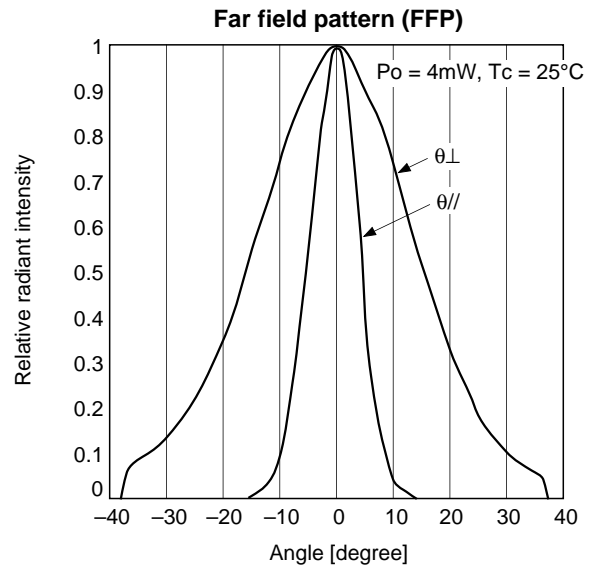
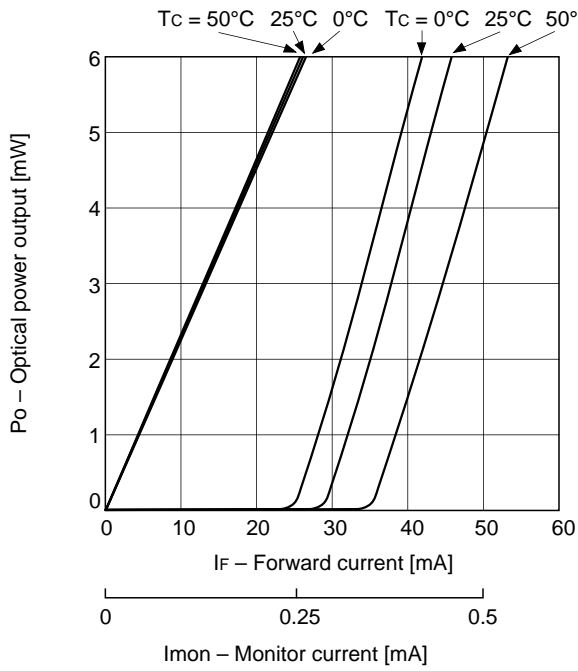
Item		Symbol	Conditions	Min.	Typ.	Max.	Unit
Threshold current		I _{th}			30	50	mA
Operating current		I _{op}	P _o = 4mW		40	60	mA
Operating voltage		V _{op}	P _o = 4mW		2.3	2.8	V
Wavelength		λ	P _o = 4mW	660	670	680	nm
Radiation angle	Perpendicurar	θ _⊥	P _o = 4mW	24	30	35	degree
	Parallel	θ _{//}		7	8.5	12	degree
Positional accuracy	Position	ΔX, ΔY, ΔZ	P _o = 4mW			±80	μm
	Angle	Δφ _{//}				±3	degree
		Δφ _⊥				±3	degree
Differential efficiency		η _D	P _o = 4mW	0.15	0.3	0.7	mW/mA
Astigmatism		A _s	P _o = 4mW		7	15	μm
Monitor current		I _m	P _o = 4mW, V _r = 5V	0.08	0.20	0.60	mA

Marking

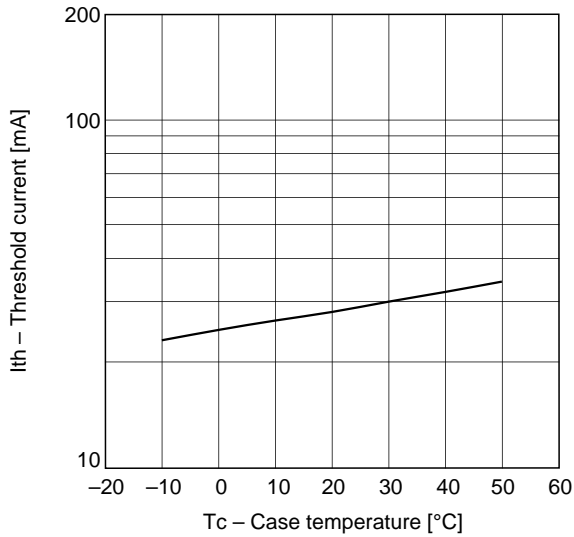


Example of Representative Characteristics

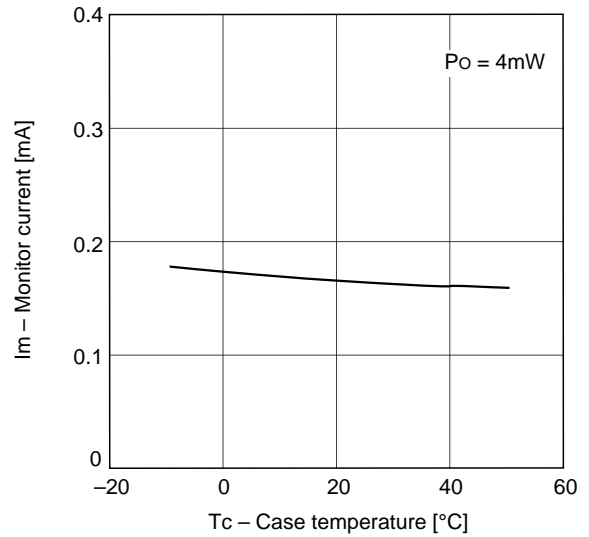
Optical power output vs. Forward current characteristics
Optical power output vs. Monitor current characteristics



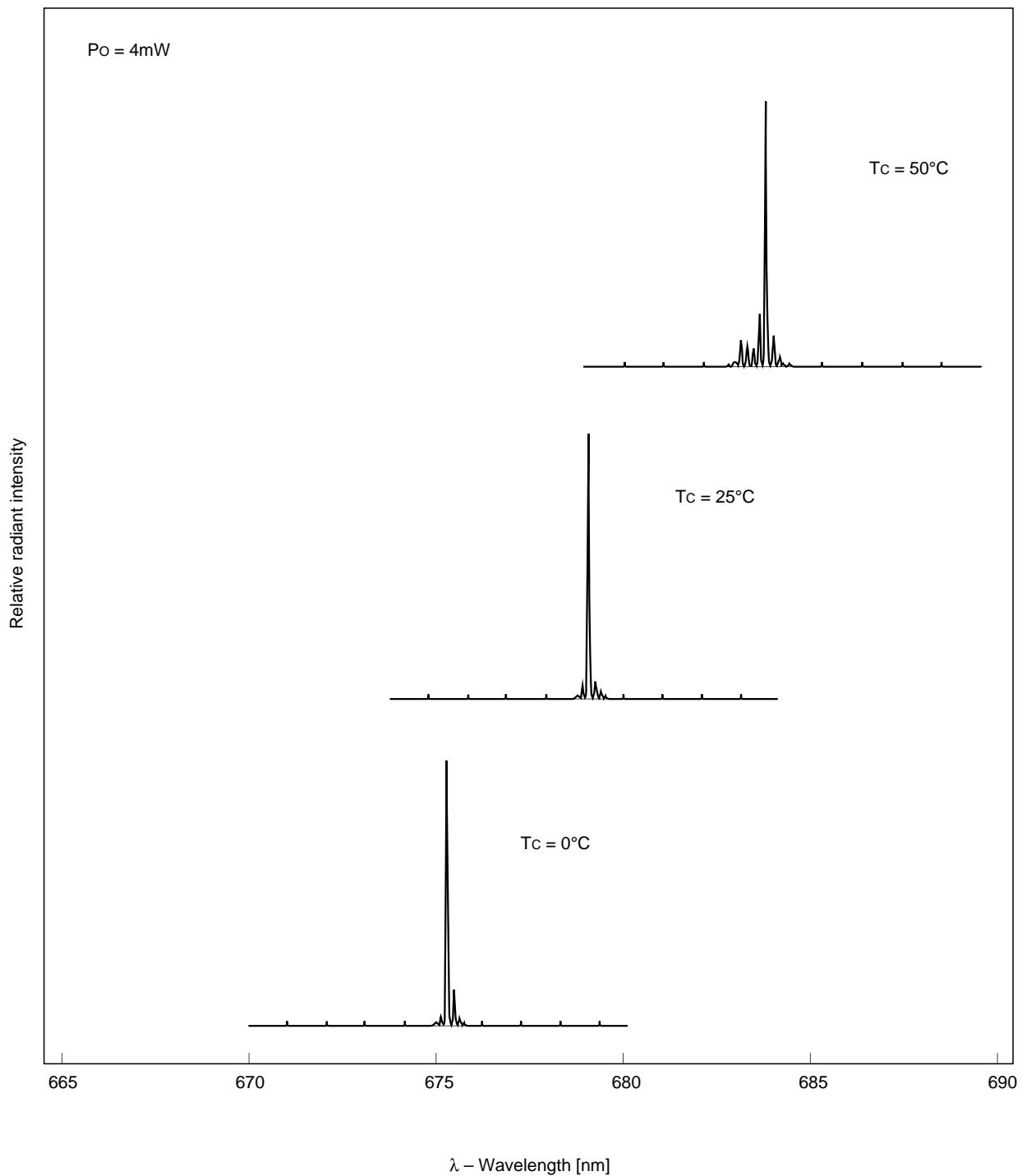
Threshold current vs. Temperature characteristics



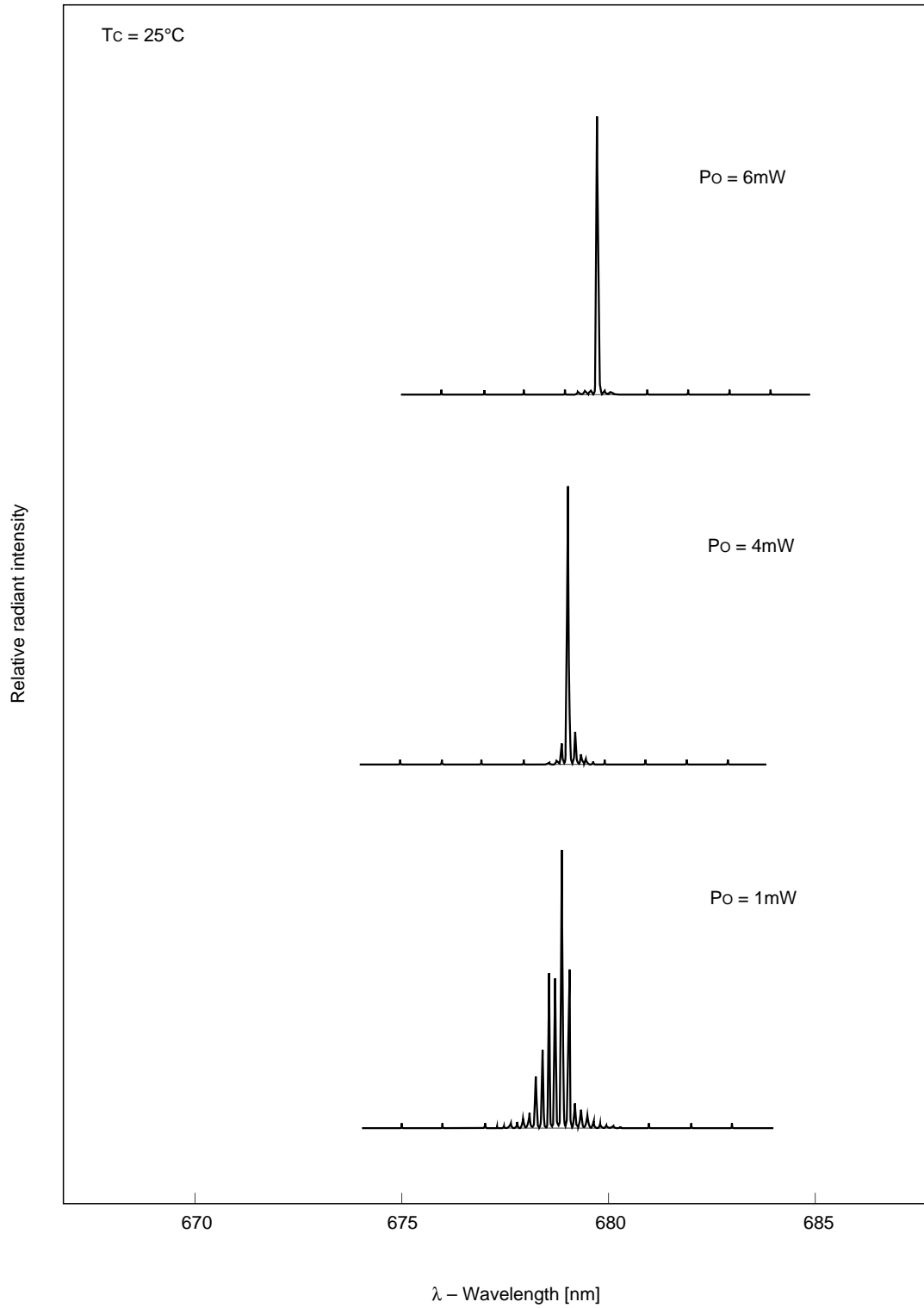
Monitor current vs. Temperature characteristics



Temperature dependence of spectrum



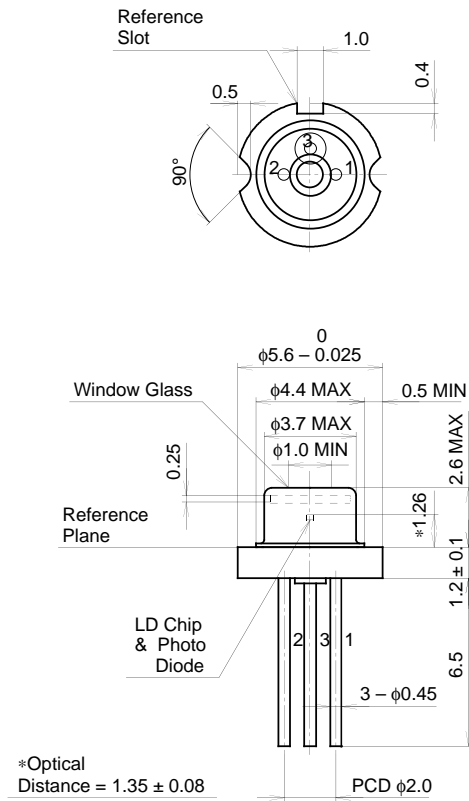
Power output dependence of spectrum



Package Outline

Unit: mm

M-294



SONY CODE	M-294
EIAJ CODE	_____
JEDEC CODE	_____

PACKAGE WEIGHT	0.3g
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