

**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

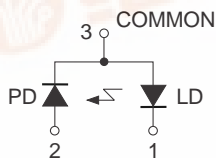
**Recommended Optical Power Output**

3mW

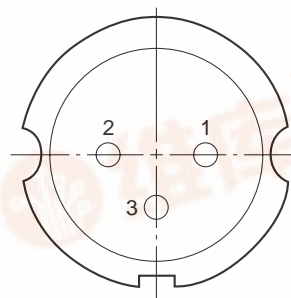
**Absolute Maximum Ratings (Tc = 25°C)**

- Optical power output P<sub>o</sub> 5 mW
- Reverse voltage V<sub>R</sub> LD 2 V
- PD 15 V
- Operating temperature Topr -10 to +50 °C
- Storage temperature Tstg -40 to +85 °C

**Cinnection Diagram**



**Pin Configuration**



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

Bottom View

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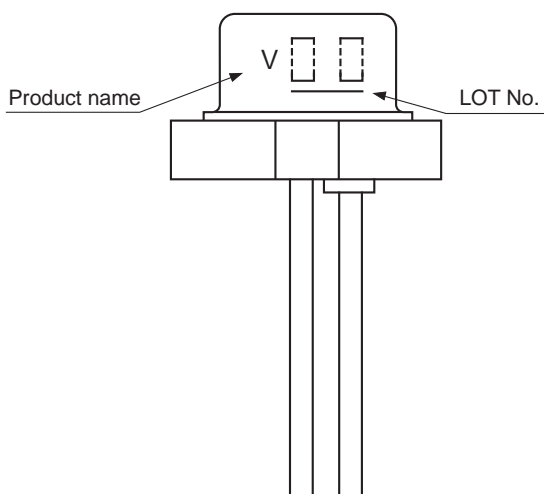


**Electrical and Optical Characteristics (Tc = 25°C)**

Tc: Case temperature

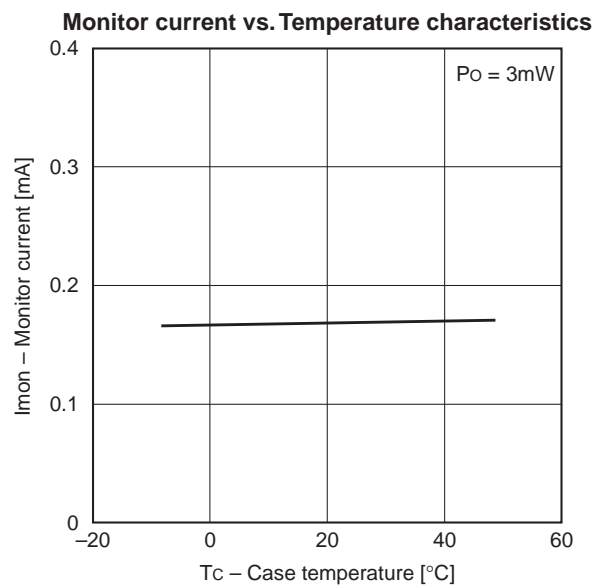
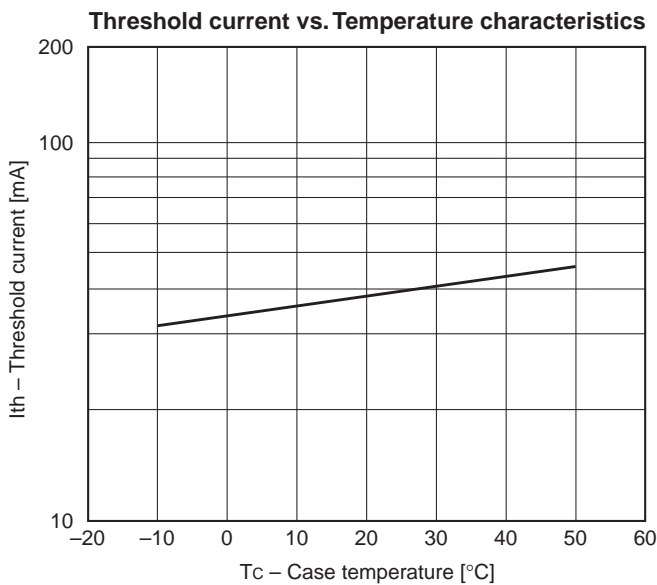
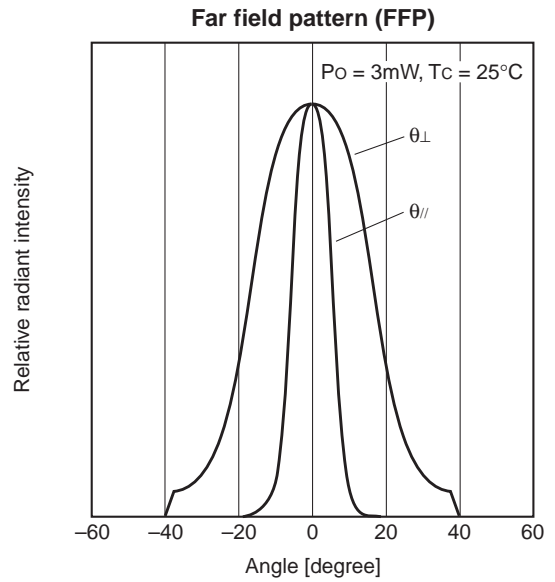
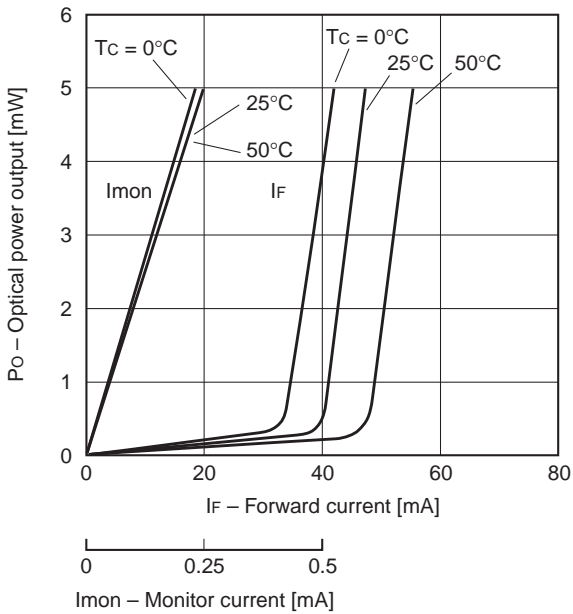
Item	Symbol	Conditions	Min.	Typ.	Max.	Unit	
Threshold current	I <sub>th</sub>			40	60	mA	
Operating current	I <sub>op</sub>	P <sub>o</sub> = 3mW		50	70	mA	
Operating voltage	V <sub>op</sub>	P <sub>o</sub> = 3mW		2.2	2.8	V	
Wavelength	λ	P <sub>o</sub> = 3mW	660	670	680	nm	
Radiation angle	Perpendicular	θ <sub>⊥</sub>	P <sub>o</sub> = 3mW	24	32	35	degree
	Parallel	θ <sub>//</sub>		7	11	15	degree
Positional accuracy	Position	ΔX, ΔY, ΔZ	P <sub>o</sub> = 3mW			±80	μm
	Angle	Δφ <sub>//</sub>				±3	degree
		Δφ <sub>⊥</sub>				±3	degree
Differential efficiency	η <sub>D</sub>	P <sub>o</sub> = 3mW	0.15	0.45	0.7	mW/mA	
Astigmatism	As	Z <sub>//</sub> - Z <sub>⊥</sub>		32		μm	
Monitor current	I <sub>mon</sub>	P <sub>o</sub> = 3mW, V <sub>R</sub> = 5V	0.08	0.20	0.60	mA	

**Marking**

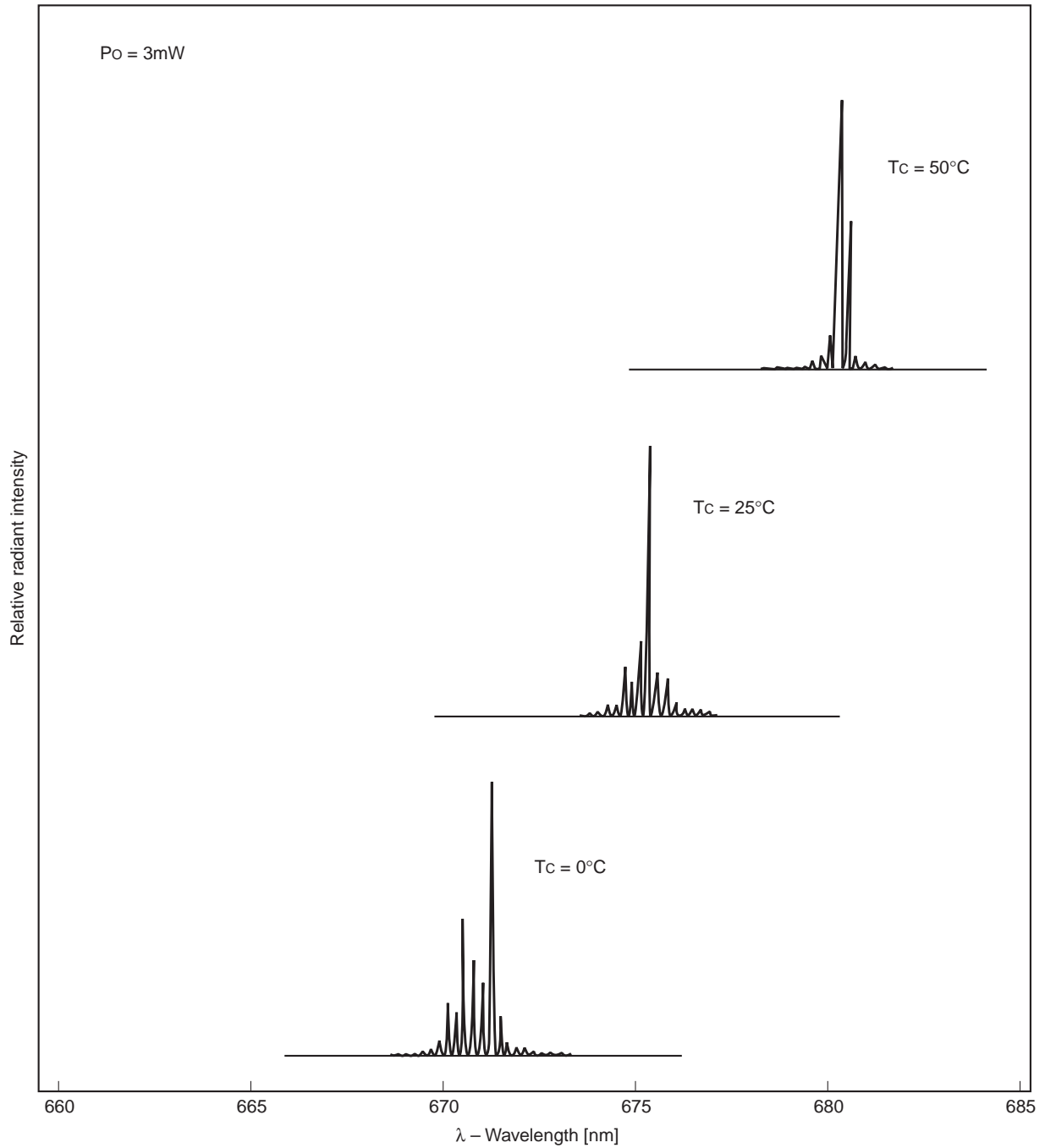


Example of Representative Characteristics

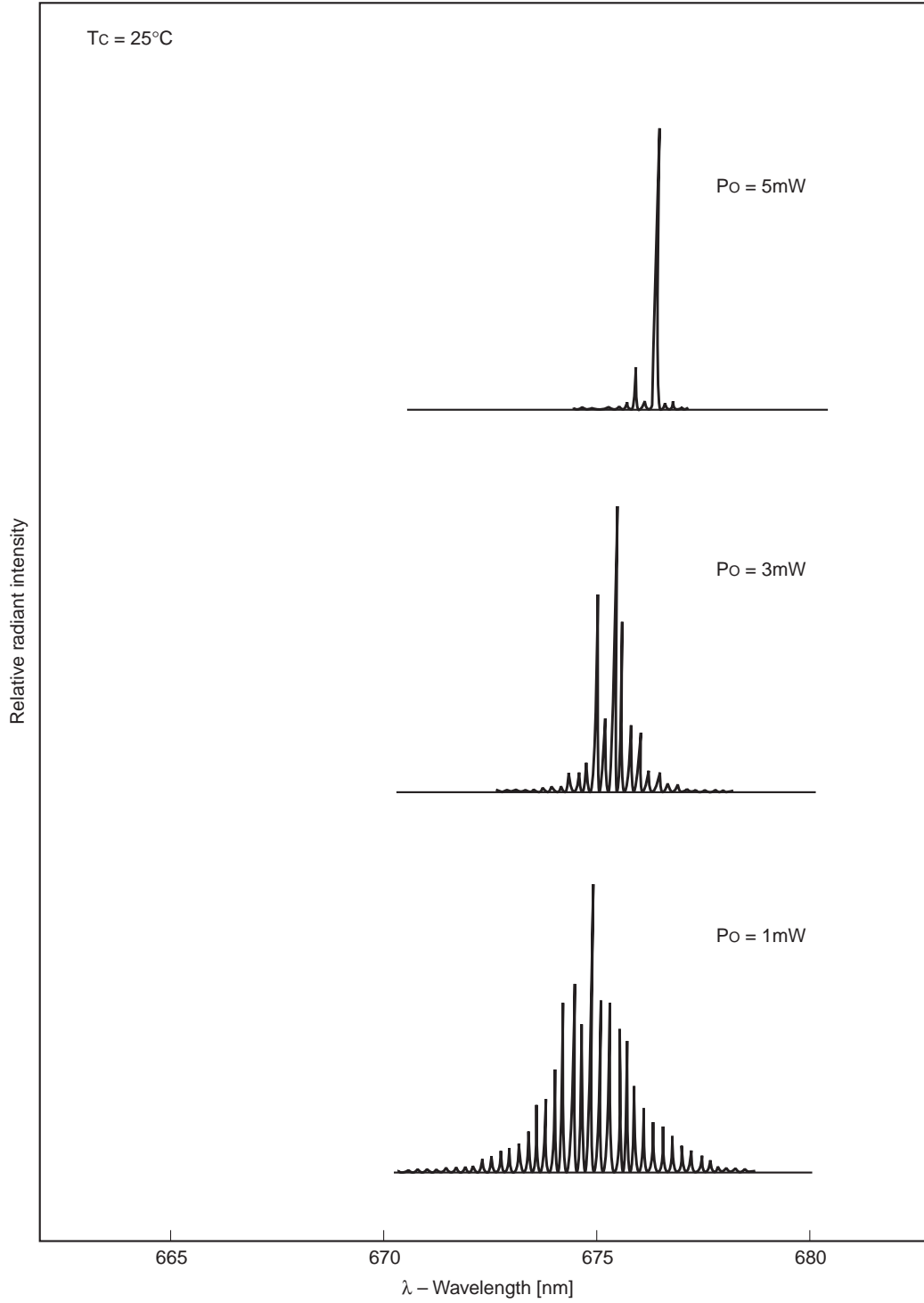
Optical power output vs. Forward current characteristics  
Optical power output vs. Monitor current characteristics



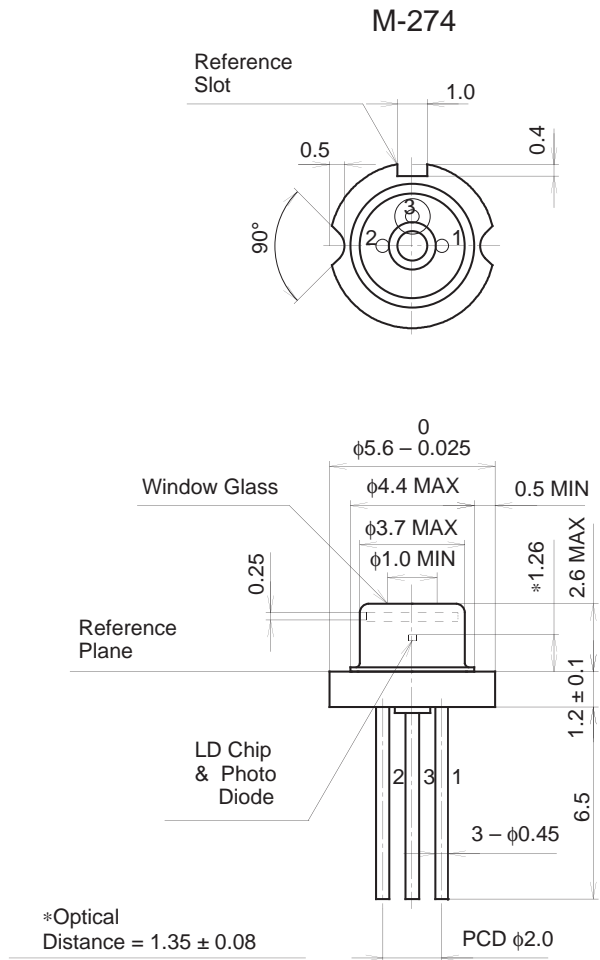
Temperature dependence of spectrum



Power dependence of spectrum



Package Outline Unit: mm



SONY CODE	M-274
EIAJ CODE	_____
JEDEC CODE	_____

PACKAGE WEIGHT	0.3g
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