

**650nm Index-Guided Red Laser Diode**

**Description**

The SLD1137VS is an index-guided red laser diode for BCS.

Operating current is 25mA lower than SLD1133VS.

**Features**

- Small astigmatism (7μm typ.)
- Low operating current (35mA typ.)
- Small package (φ5.6mm)
- Single longitudinal mode

**Applications**

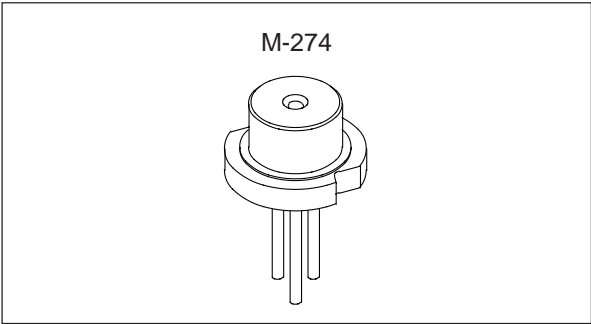
Bar code scanner

**Structure**

- AlGaInP MQW laser diode
- PIN photodiode to monitor laser beam output

**Recommend Optical Power Output**

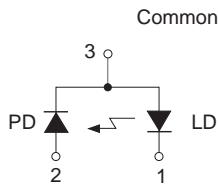
5mW



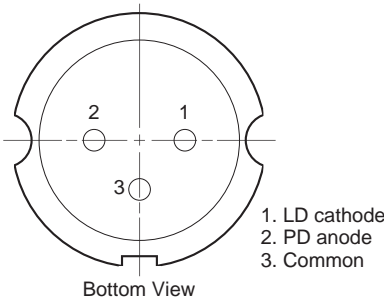
**Absolute Maximum Ratings** (Tc = 25°C)

• Optical power output	Po	7	mW
• Reverse voltage	VR	LD	2 V
		PD	15 V
• Operating temperature	Topr	-10 to +60	°C
• Storage temperature	Tstg	-40 to +85	°C

**Connection Diagram**



**Pin Configuration**



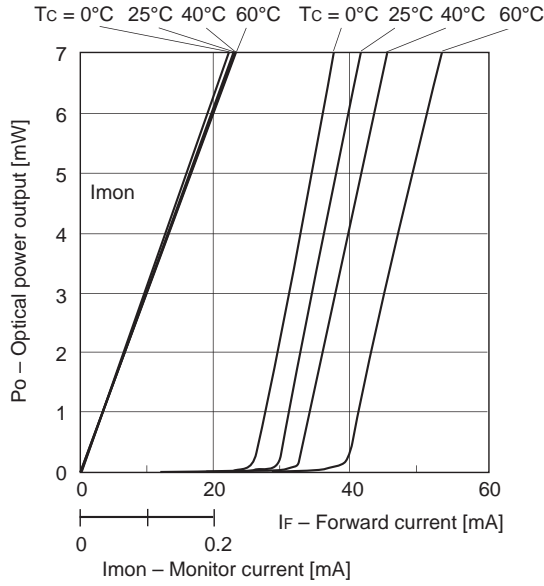
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Electrical and Optical Characteristics ( $T_c = 25^\circ\text{C}$ )T<sub>c</sub>: Case temperature

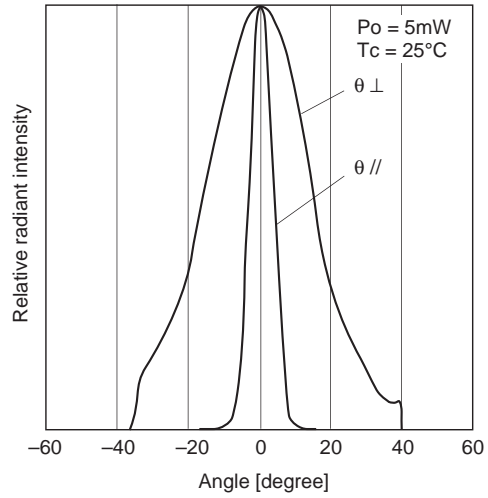
Item	Symbol	Conditions	Min.	Typ.	Max.	Unit	
Threshold current	I <sub>th</sub>			30	40	mA	
Operating current	I <sub>op</sub>	P <sub>o</sub> = 5mW		35	45	mA	
Operating voltage	V <sub>op</sub>	P <sub>o</sub> = 5mW		2.2	2.7	V	
Wavelength	λ <sub>p</sub>	P <sub>o</sub> = 5mW		650	655	nm	
Radiation angle	Perpendicular	θ <sub>⊥</sub>	P <sub>o</sub> = 5mW	24	30	40	degree
	Parallel	θ <sub>//</sub>		6	8	12	degree
Positional accuracy	Position	ΔX, ΔY, ΔZ	P <sub>o</sub> = 5mW			±80	μm
	Angle	Δφ <sub>//</sub>				±3	degree
		Δφ <sub>⊥</sub>				±3	degree
Differential efficiency	η <sub>D</sub>	P <sub>o</sub> = 5mW	0.3	0.5	0.8	mW/mA	
Astigmatism	A <sub>s</sub>	P <sub>o</sub> = 5mW		7	15	μm	
Monitor current	I <sub>mon</sub>	P <sub>o</sub> = 5mW, V <sub>R</sub> = 5V	0.05	0.1	0.5	mA	

Example of Representative Characteristics

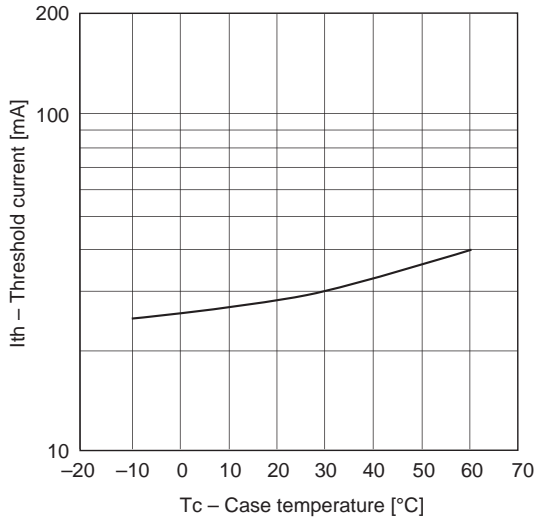
Optical power output vs. Forward current characteristics  
 Optical power output vs. Monitor current characteristics



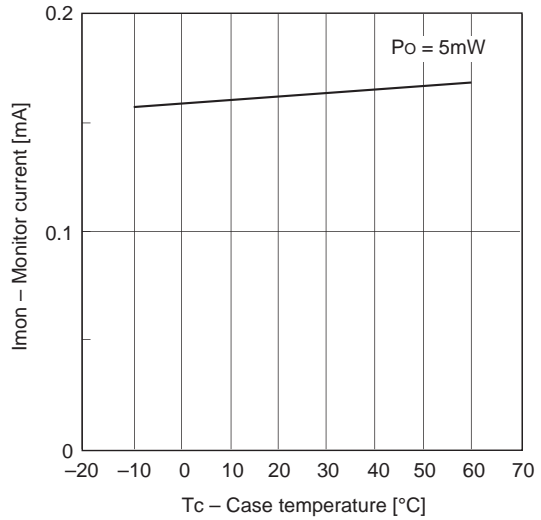
Far field pattern (FFP)



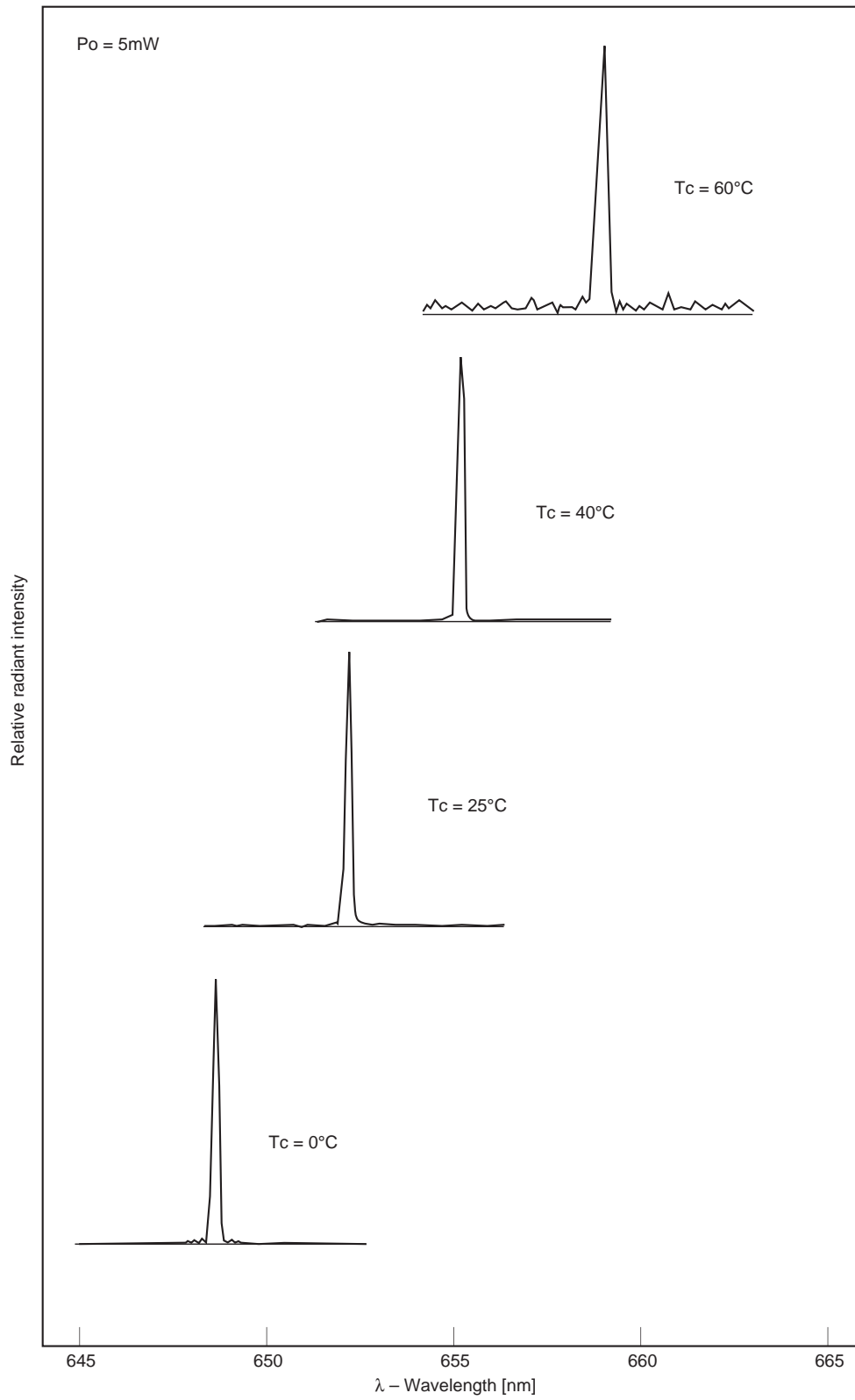
Threshold current vs. Temperature characteristics



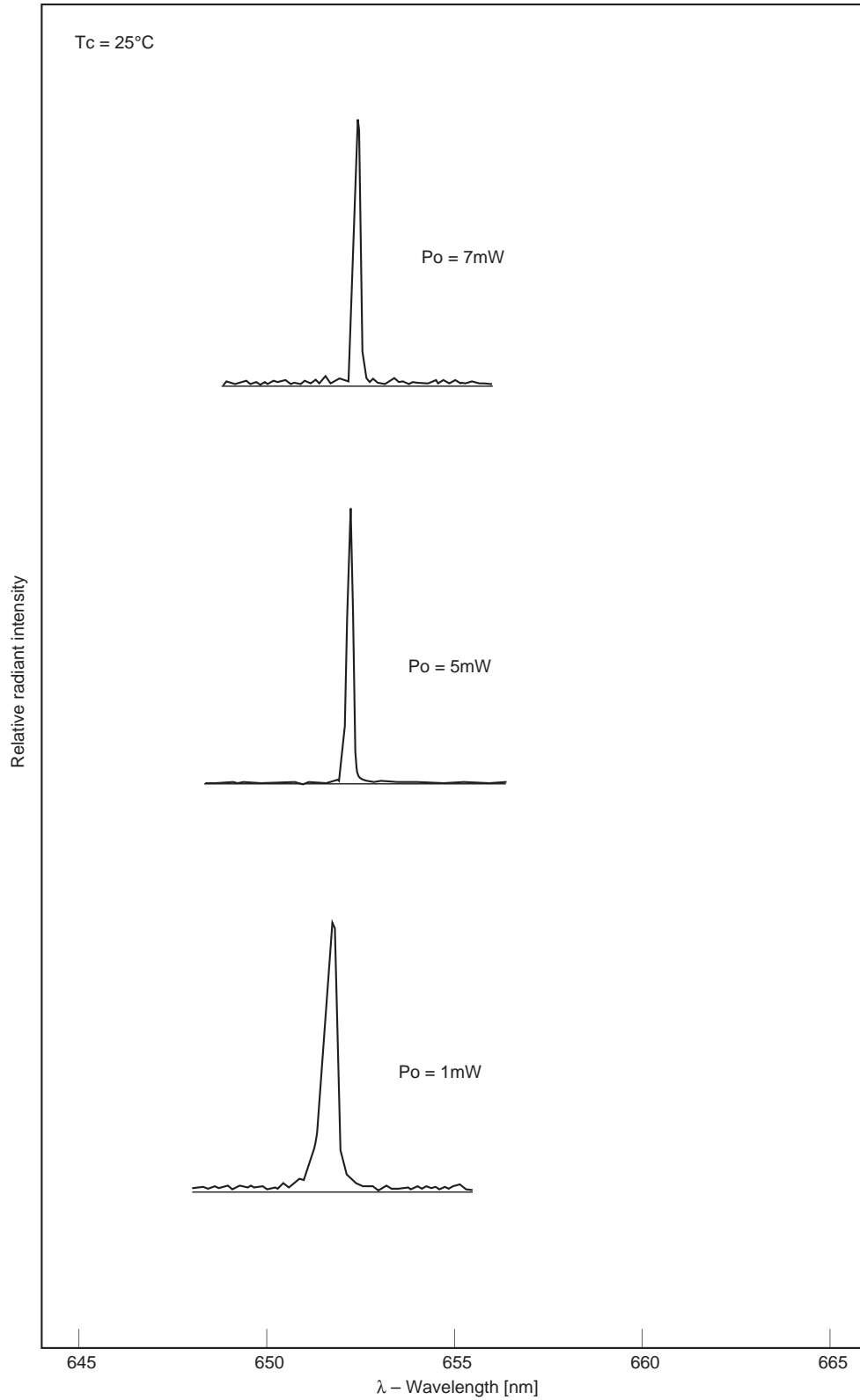
Monitor current vs. Temperature characteristics



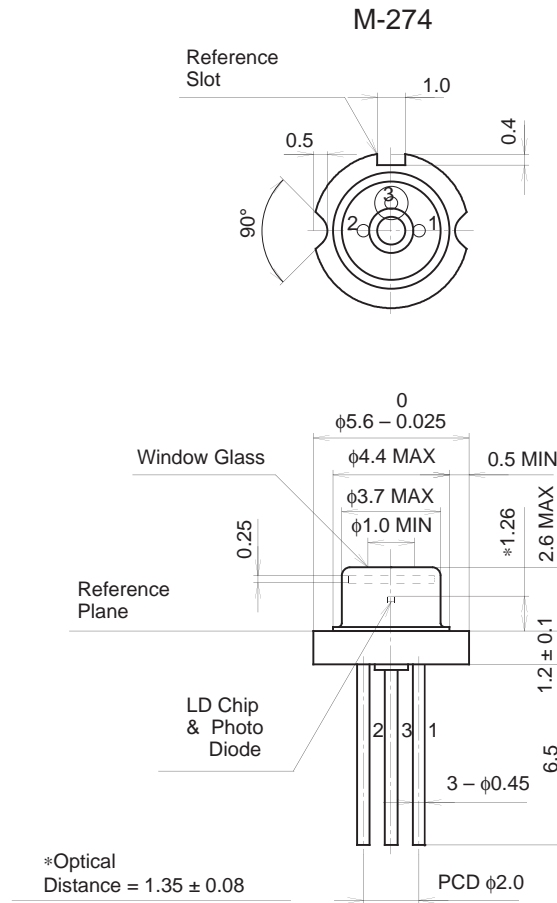
Temperature dependence of spectrum



Power output dependence of spectrum



Package Outline Unit: mm



SONY CODE	M-274
EIAJ CODE	_____
JEDEC CODE	_____

PACKAGE WEIGHT	0.3g
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