SONY

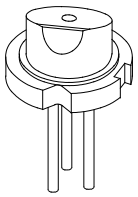
SLD131UL

GaAlAs Laser Diode

Description

The SLD131UL is a low-power consumption and low-noise laser diode developed for portable CDs.

M-259



Features

- Low current consumption I_{OP}: 20mA (P_O = 2.5mW)
- Supports single power supply.
- Low noise

Applications

- Portable CDs

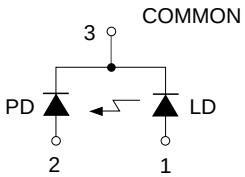
Structure

- GaAlAs double hetero laser diode
- PIN photodiode to monitor laser beam output

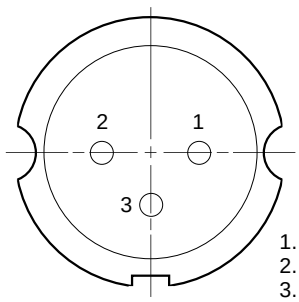
Absolute Maximum Ratings (Tc = 25°C)

• Optical power output	P_O		4	mW
• Reverse voltage	V_R	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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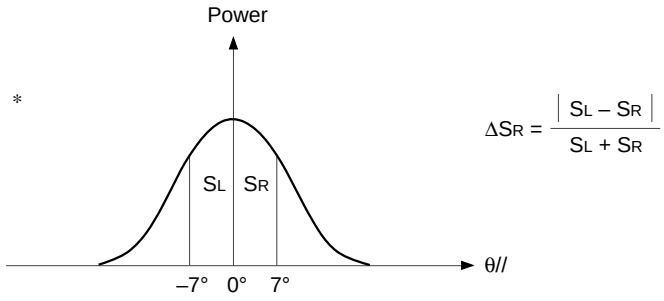
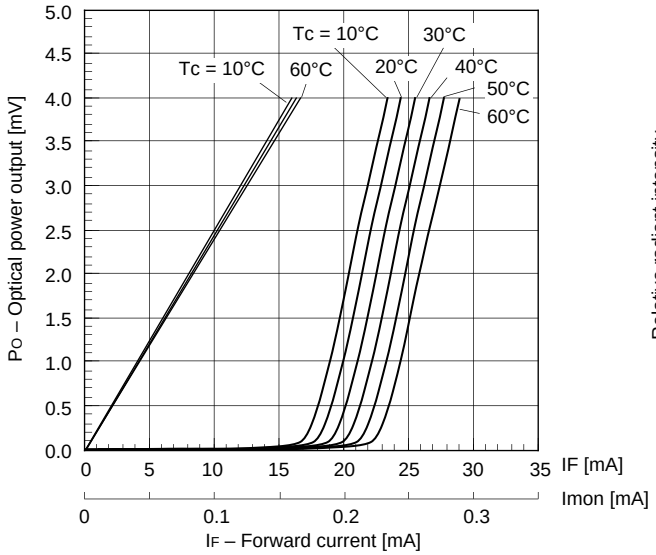
Electrical and Optical Characteristics (T_C = 25°C) T_C : Case temperature

Item		Symbol	Conditions	Min.	Typ.	Max.	Unit
Threshold current		Ith			16	28	mA
Operating current		Iop	Po = 2.5mW		20	30	mA
Operating voltage		Vop	Po = 2.5mW	1.7	1.9	2.5	V
Wavelength		λp	Po = 2.5mW	760	790	810	nm
Monitor current		Im	Po = 2.5mW V_R = 5V	0.08	0.11	0.6	mA
Rediation angle	Perpendicular	θ⊥	Po = 2.5mW	20	39	45	degree
	Parallel	θ//		8	13	25	degree
	Asymmetry	ΔS_R*				25	%
Positional accuracy	Position	ΔX, ΔY, ΔZ	Po = 2.5mW			±150	µm
	Angle	Δϕ⊥				±4	degree
Differential efficiency		ηD	Po = 2.5mW	0.2	0.6	0.9	mW/mA
Astigmatism		AS	| Z // –Z⊥ |			15	µm
Dark current of PD		ID	V_R = 5V			150	nA
capacitance of PD		CT	V_R = 5V, f = 1kHz			30	pF

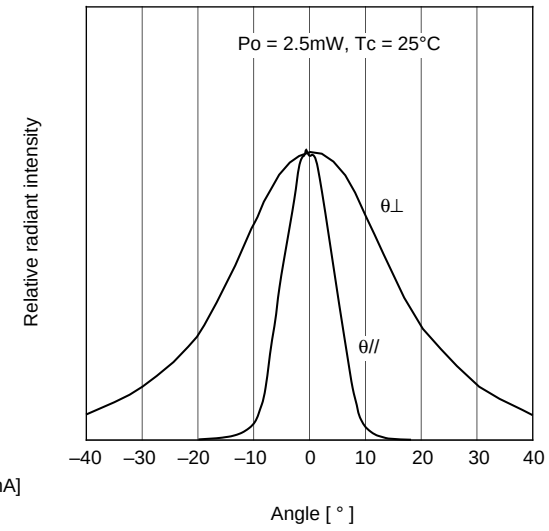


Example of Representative Characteristics

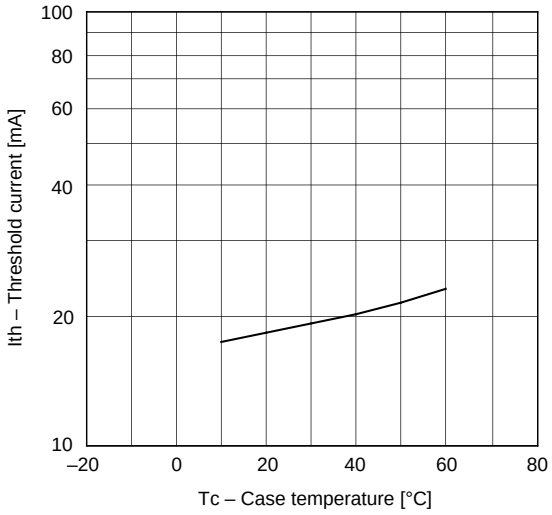
Optical power output vs. Forward current characteristics



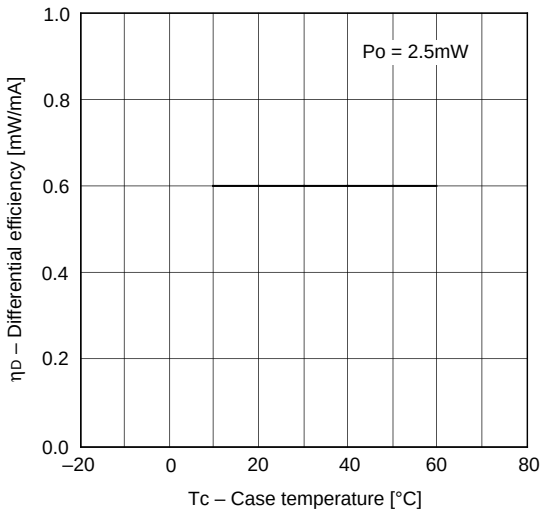
Far field pattern (FFP)



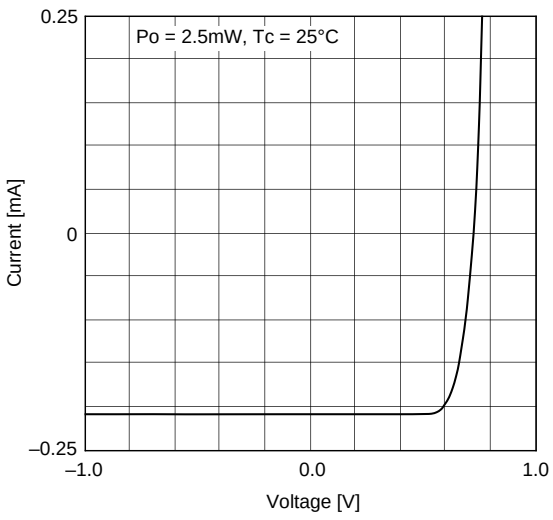
Threshold current vs. Temperature characteristics



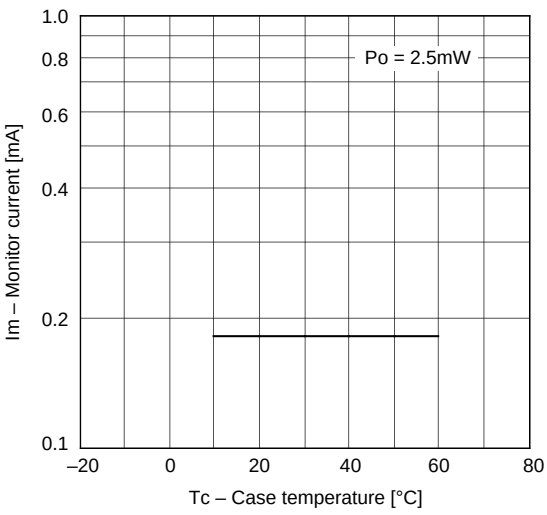
Differential efficiency vs. Temperature characteristics



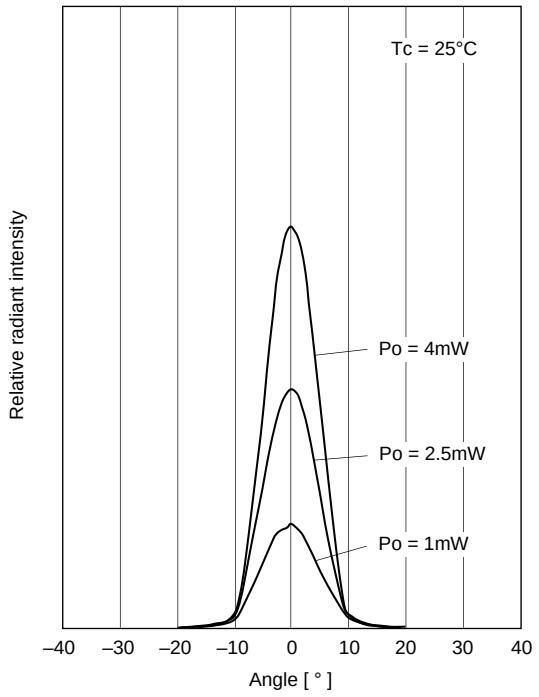
PIN diode voltage and current characteristics



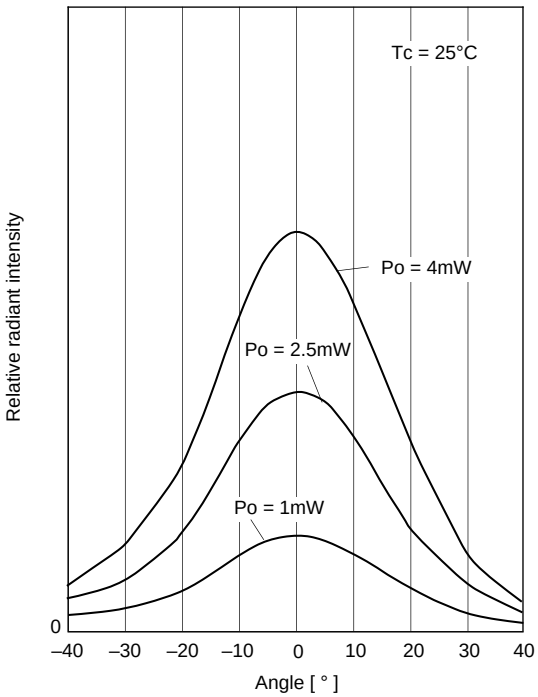
Monitor current vs. Temperature characteristics



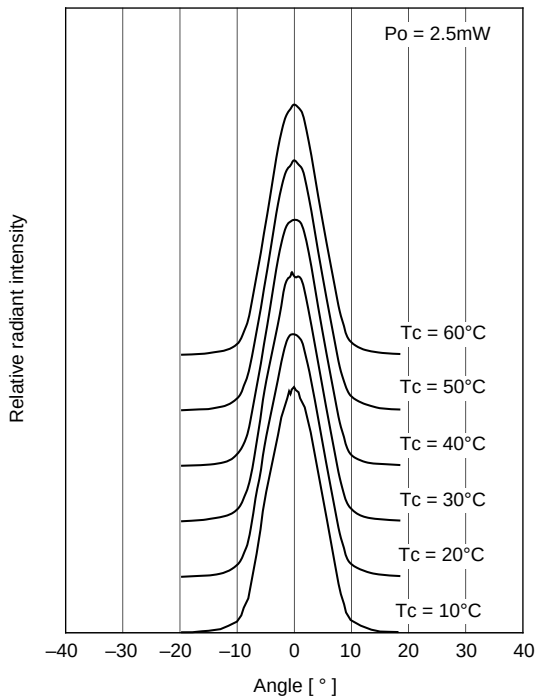
Power dependence of far field pattern (Parallel to junction)



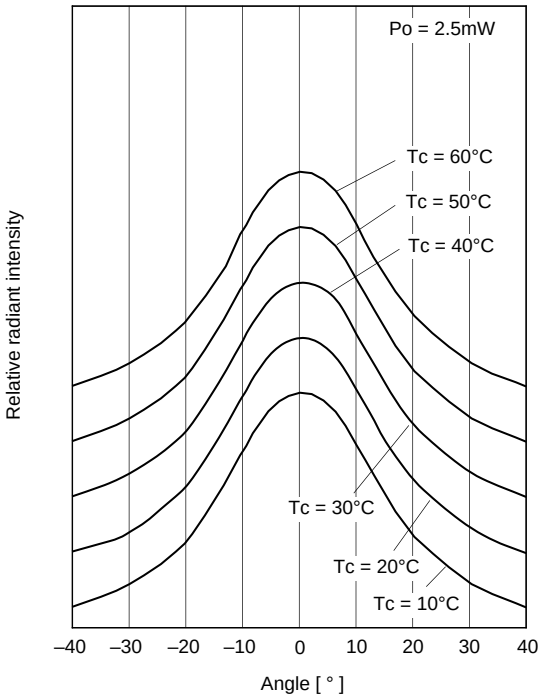
Power dependence of far field pattern (Perpendicular to junction)



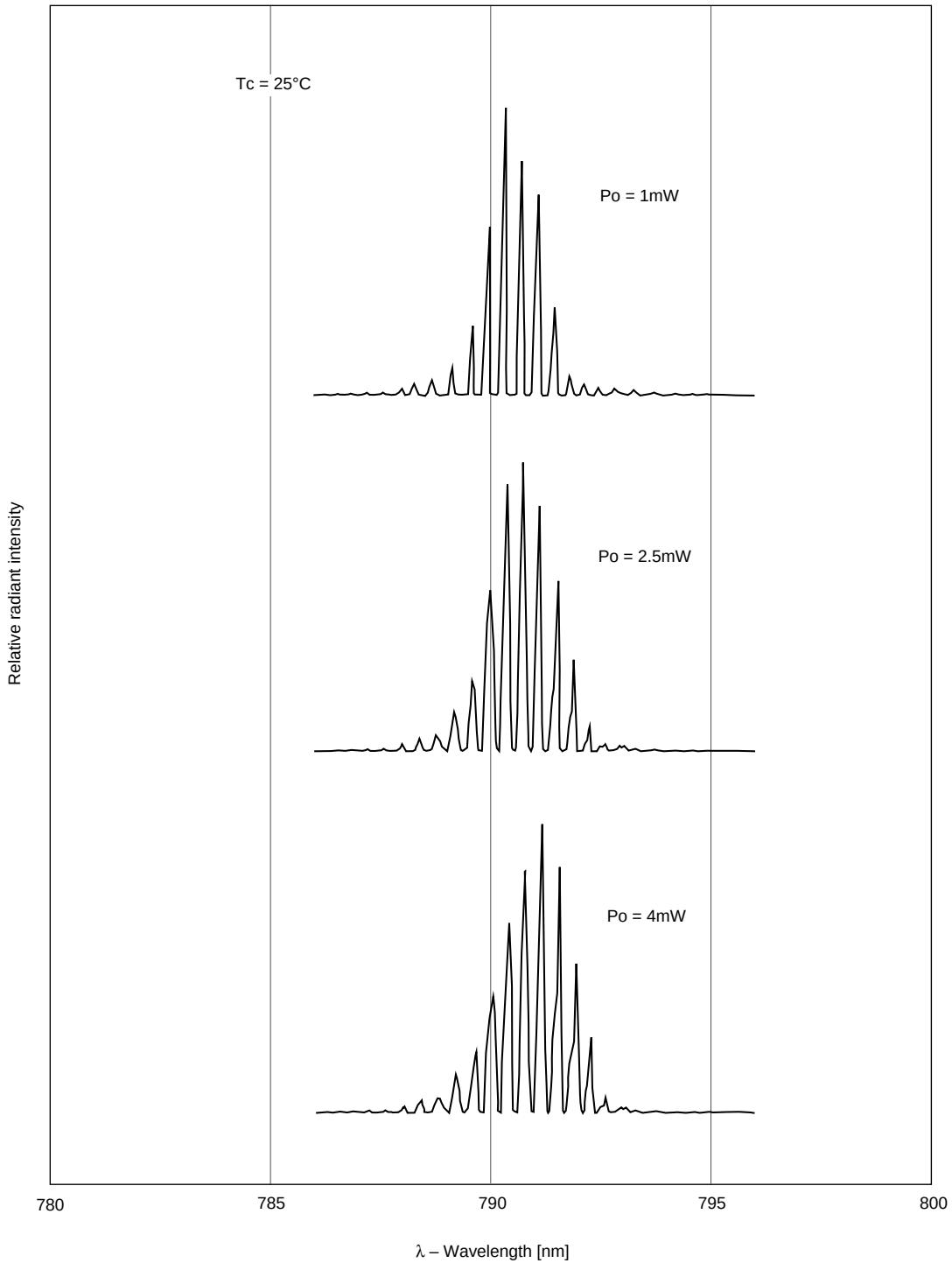
Temperature dependence of far field pattern (Parallel to junction)



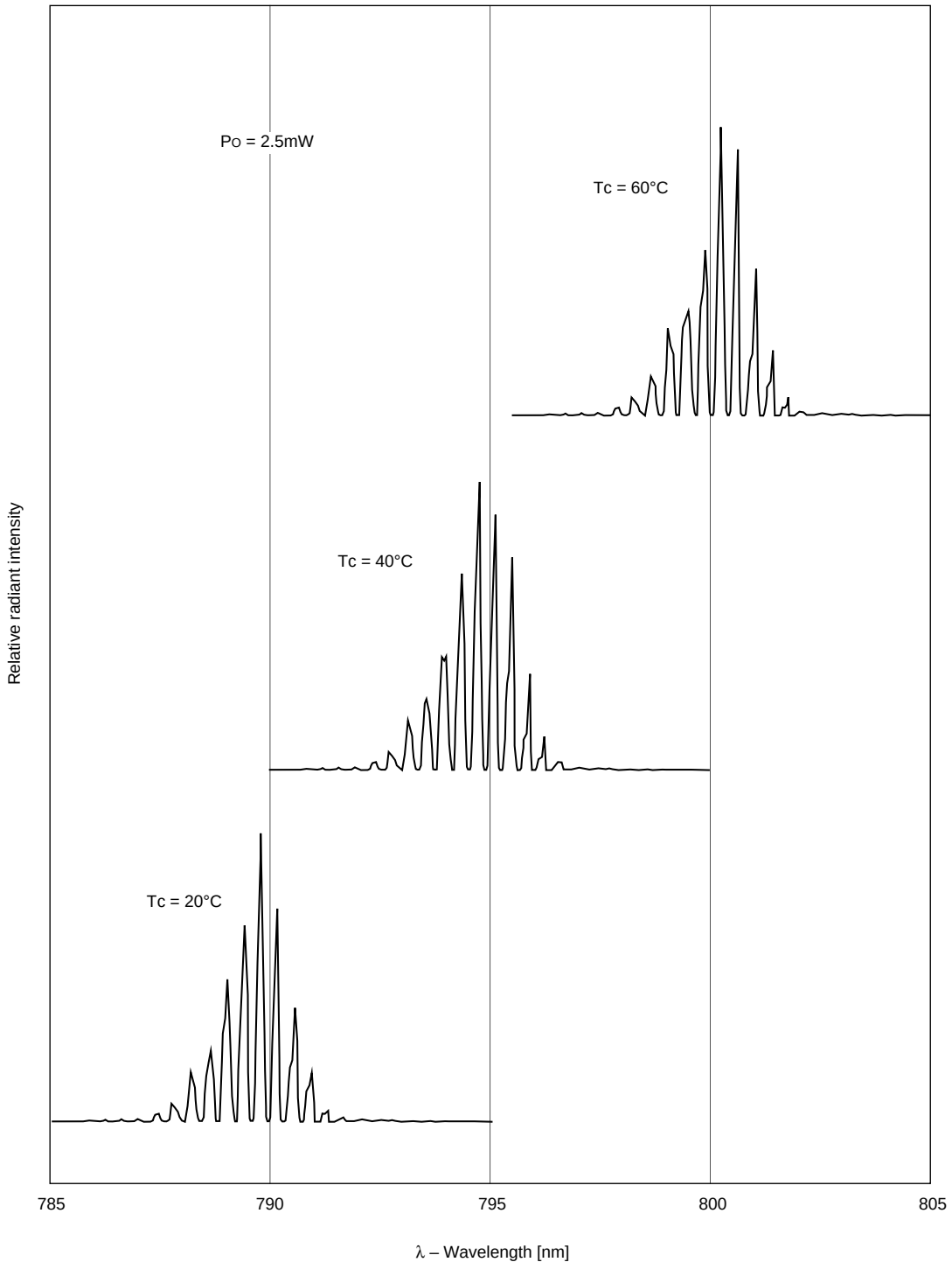
Temperature dependence of far field pattern (Perpendicular to junction)



Power dependence of oscillating spectrum



Temperature dependence of oscillating spectrum



Package Outline Unit: mm

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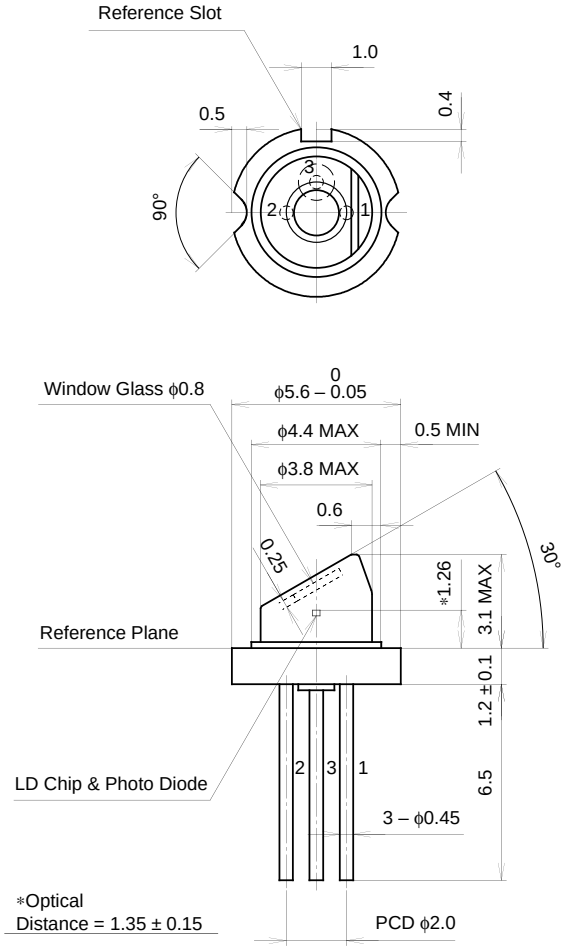

SONY CODE	M-259
EIAJ CODE	————
JEDEC CODE	————

PACKAGE WEIGHT	0.3g