Visible Laser Diode

Description

SLD151U/V are AlGaInP visible laser diodes designed for optical disc, bar code reader and laser printer applications.

Features

- Visible radiation (λ = 670nm).
- Fundamental transverse mode.
- Correction of astigmatism using slanted glass cap (SLD151U).

Applications

- Bar code reader
- Laser printer
- Laser pointer

Structure

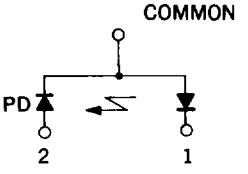
AlGaInP double-hetero laser diode

Absolute Maximum Ratings (Tc=25°C)

• Radiant power output	Po		5	mW
• Recommended radiant power output	Po		3	mW
• Reverse voltage	V_R	LD	2	V
		PD	30	V
• Operating temperature	T_{opr}		−10 to +50	°C
• Storage temperature	T_{stg}		−40 to +60	°C

Pin Configuration

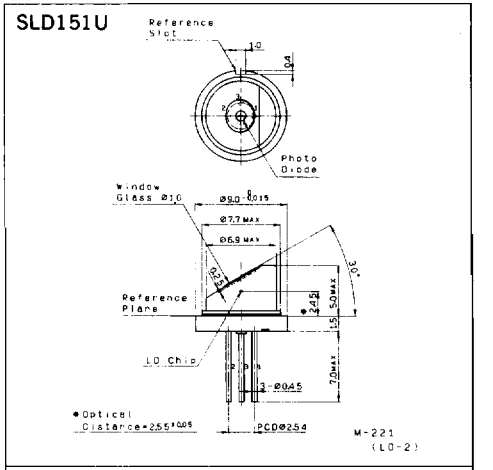
No	Function
1	LD Cathode
2	PD Anode
3	Common



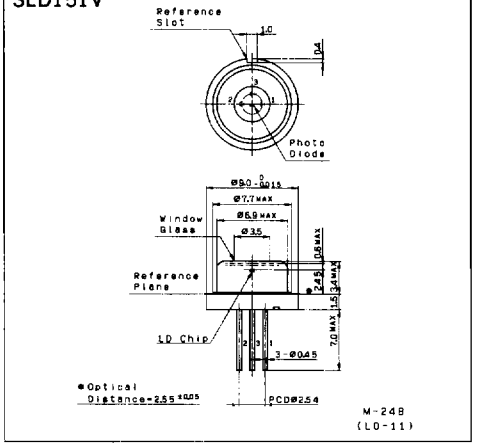
Package Outline

Unit : mm

SLD151U



SLD151V



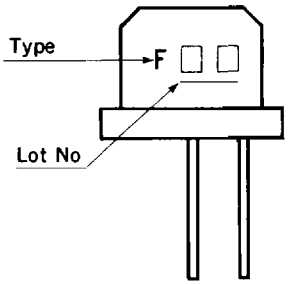
Optical and Electrical Characteristics

Tc: Case temperature, Tc=25°C

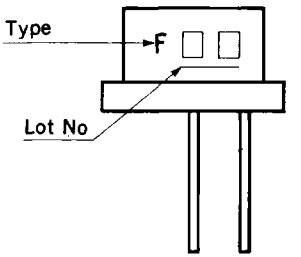
Item		Symbol	Condition	Min.	Typ.	Max.	Unit
Threshold current		I_{th}			75	90	mA
Operating current		I_{op}	Po=3mW		85	100	mA
Operating voltage		V_{op}	Po=3mW		2.6	3.0	V
Wavelength		λp	Po=3mW		670	680	nm
Radiation angle (F. W. H. M)	Perpendicular	$\theta \perp$	Po=3mW		30	35	degree
	parallel	$\theta_{//}$		7	11	15	
Positional accuracy	position	$\Delta x, \Delta y, \Delta z$	Po=3mW			±50	μm
	Angle	$\Delta\phi \perp$				±3	degree
Astigmatism	SLD151U	As	Po=3mW			15	μm
	SLD151V				35		μm
Monitor current		I_{mon}	Po=3mW V_R=15V	0.15	0.4	0.7	mA

Marking

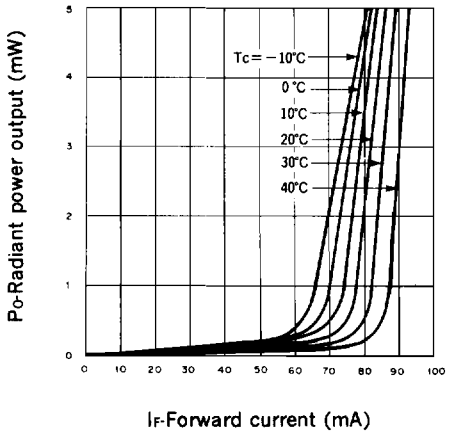
SLD151U



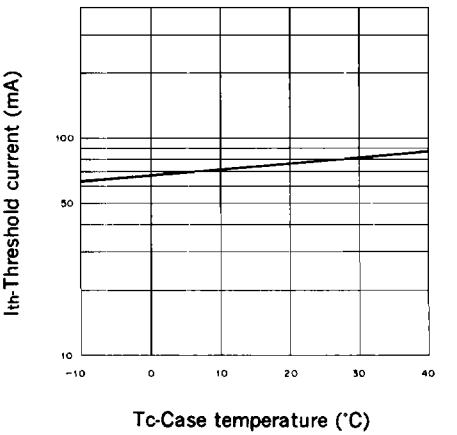
SLD151V



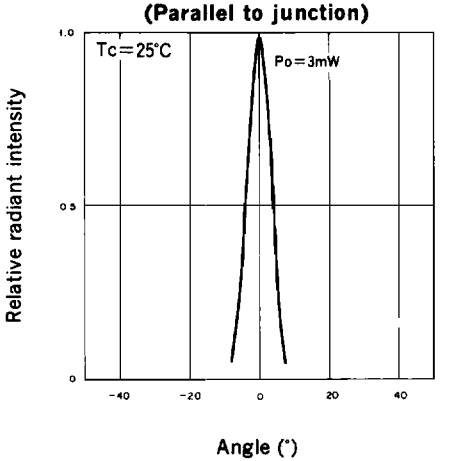
Radiant power output vs.
Forward current characteristics



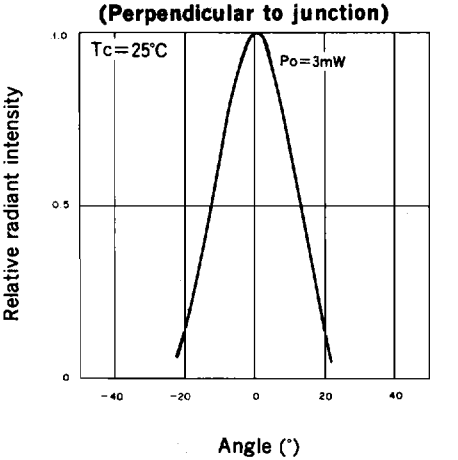
Threshold current vs.
Temperature characteristics



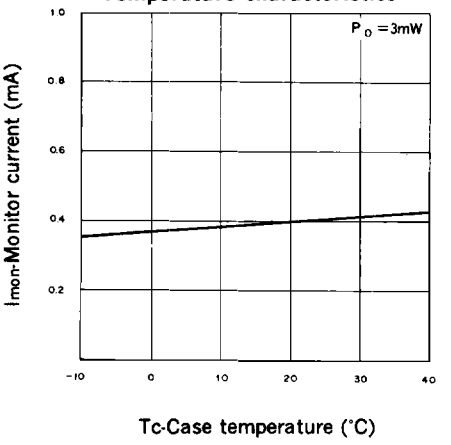
Farfield pattern
(Parallel to junction)



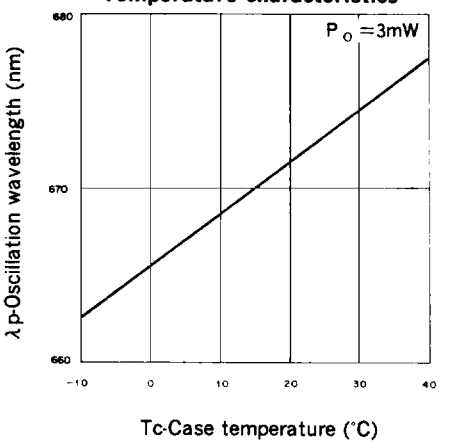
Farfield pattern
(Perpendicular to junction)



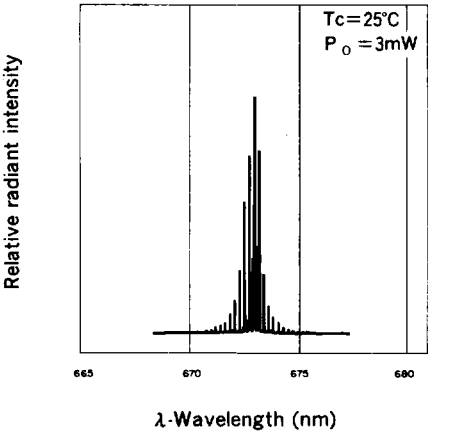
Monitor current vs. Temperature characteristics



Emission wavelength vs. Temperature characteristics



Relative radiant intensity vs. Wavelength characteristics



Power dependence of polarization ratio