

## GaAlAs Laser Diode

**Description**

The SLD104AV is a low noise GaAlAs laser diode developed for CD.

**Features**

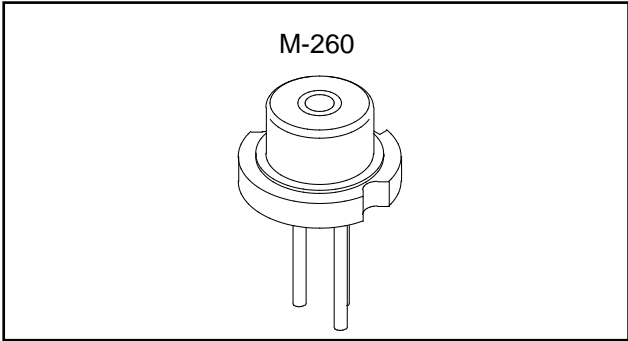
- High temperature operation
- Low noise
- Small package ( $\phi$  5.6 mm)

**Applications**

- Pickup for CD players

**Structure**

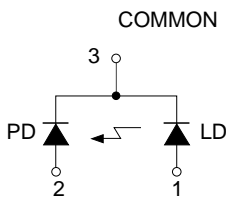
- GaAlAs double hetero structured laser diode
- Pin photodiode for optical power output monitor



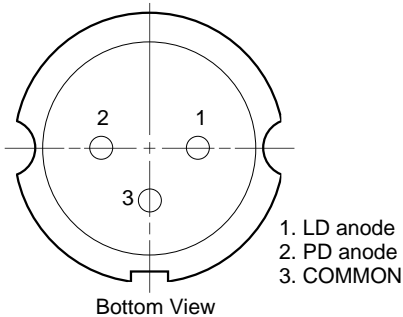
**Absolute Maximum Ratings (Ta=25 °C)**

• Optical power output	Po	5	mV
• 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**



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

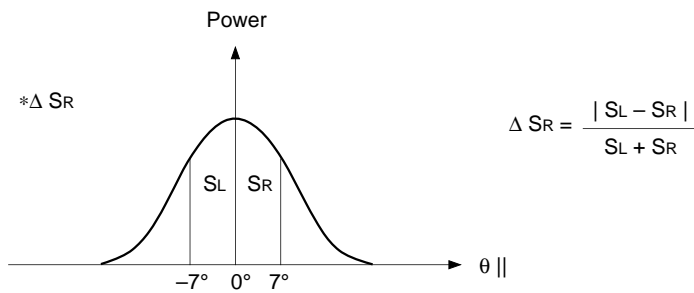
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**Optical and Electrical Characteristics**

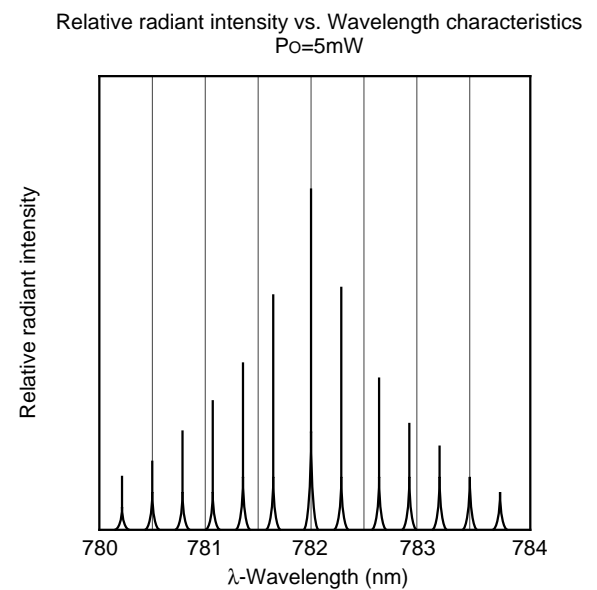
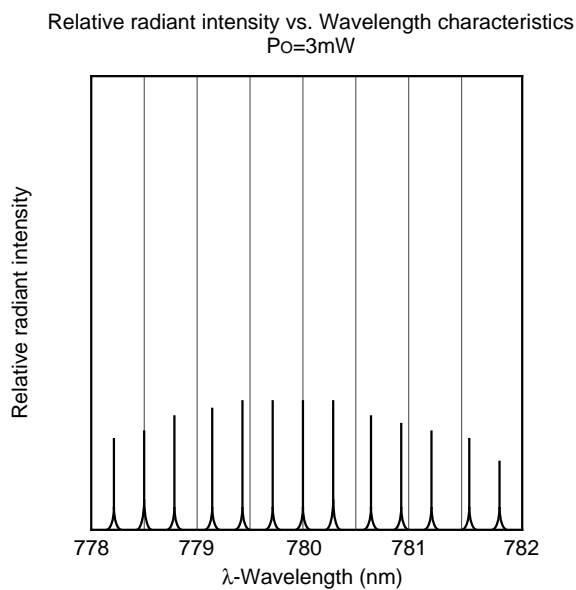
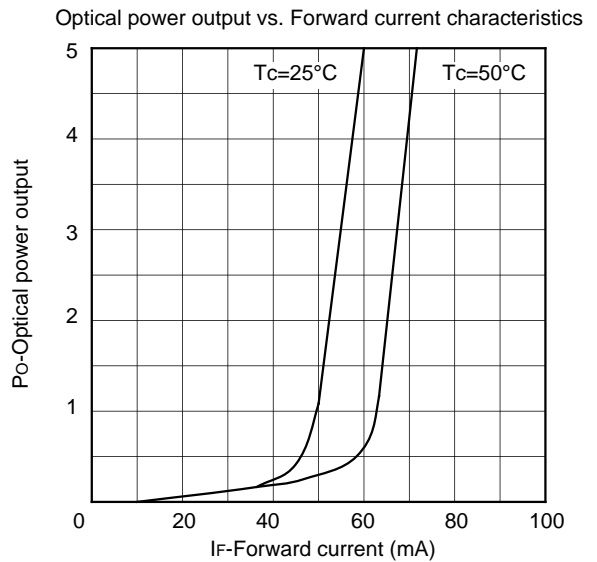
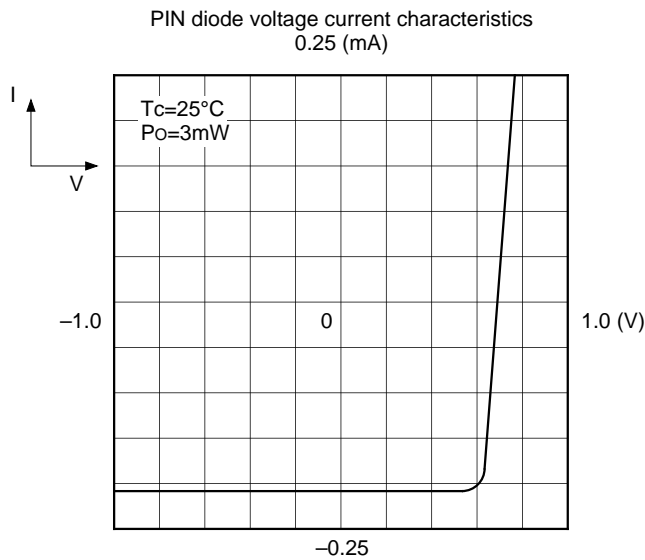
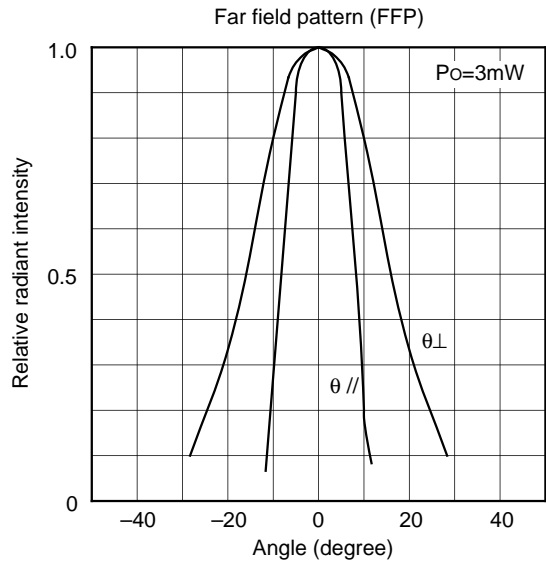
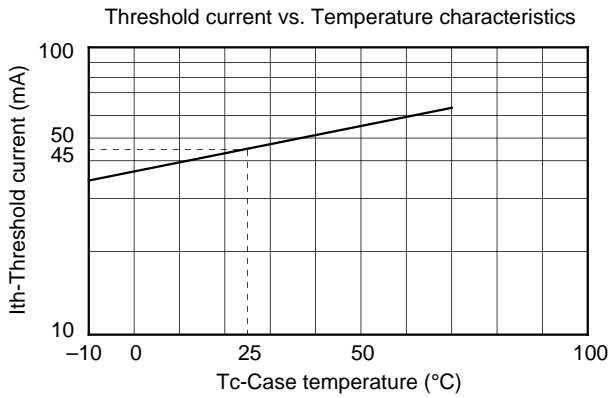
(T<sub>c</sub>=25 °C)

T<sub>c</sub> : Case temperature

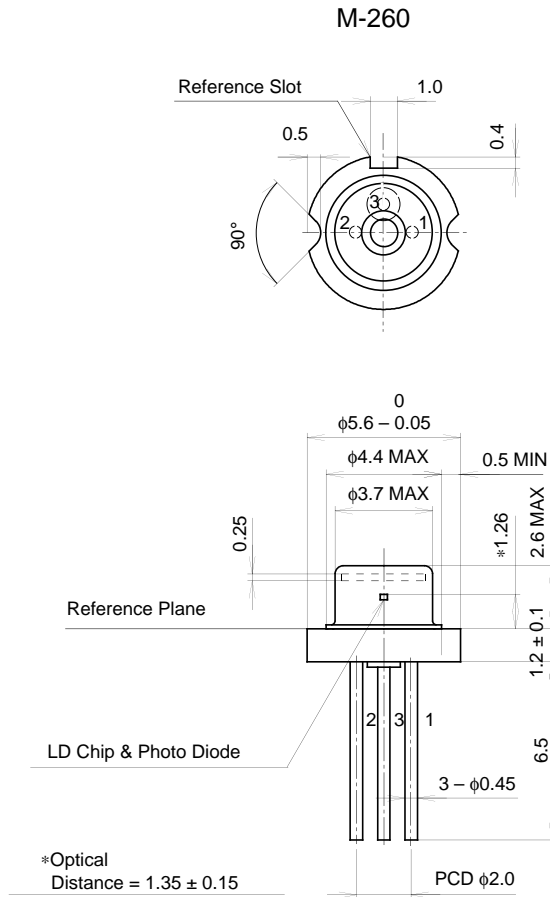
Item	Symbol	Conditions (T <sub>c</sub> =25 °C)	Min.	Typ.	Max.	Unit
Threshold current	I <sub>th</sub>			45	60	mA
Operating current	I <sub>op</sub>	P <sub>o</sub> =3 mW		52	65	mA
Operating voltage	V <sub>op</sub>	P <sub>o</sub> =3 mW	1.7	1.9	2.5	V
Oscillation wavelength	λ	P <sub>o</sub> =3 mW	760	780	800	nm
Monitor current	I <sub>m</sub>	P <sub>o</sub> =3 mW V <sub>r</sub> (P <sub>in</sub> )=5 V	0.08	0.15	0.4	mA
Parallel radiation angle	θ //	P <sub>o</sub> =3 mW	9	18	25	deg
Perpendicular radiation angle	θ ⊥		20	35	45	deg
Parallel radiation angle symmetry	ΔS <sub>R</sub> *1	P <sub>o</sub> =3 mW			20	%
Perpendicular radiation angle accuracy	Δ α	CW, P <sub>o</sub> =3 mW			±3	deg
Positional accuracy	ΔX, ΔY, ΔZ				±150	μm
Differential efficiency	η <sub>D</sub>	P <sub>o</sub> =3 mW	0.2	0.45	0.7	mW/mA
Astigmatism	A <sub>s</sub>	P <sub>o</sub> =3 mW	-34	-27	-20	μm
S/N ratio	S/N	f <sub>c</sub> =720 kHz Δf=30 kHz P <sub>o</sub> =4 mW		88		dB
PD dark current	I <sub>D</sub>	V <sub>r</sub> (P <sub>in</sub> )=5 V			150	nA
PD capacitance between pins	C <sub>r</sub>	V <sub>r</sub> (P <sub>in</sub> )=5 V, f=1 MHz			30	pF



Example of Representative Characteristics



Package Outline Unit : mm



SONY CODE	M-260
EIAJ CODE	_____
JEDEC CODE	_____

PACKAGE WEIGHT	0.3g
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