

780nm Ultra High Power Superluminescence LEDs (GaAs-based SLED) Diode



Description

The PL-SLD-C-A81-W780-PA 780nm Superluminescent Diodes bridge the gap between Laser Diodes and Light Emitting Diodes. Like an LD, the SLD provides a high optical output power. PD-LD's SLD feature broadband spectrum characteristics, typically found only in LEDs, and a low coherence. Our SLD features a low coherence length having a high intensity at a narrow radiation angle. This makes the SLD much easier to couple to a fiber for a broad range of applications. SLDs are ideal for Optical Coherence Tomography, fiber sensors such as temperature and strain gauges as well as applications in test and measurement instrumentation. The diode is packaged in 14-pin standard butterfly package with monitor photodiode and thermo-electric cooler (TEC). Module is pigtailed with 0.7-1.0 m of single mode polarization maintaining fiber and connectorized by FC/APC connector

Features

- Optical output: 10mW
- Narrow linewidth ($\Delta\nu < 1\text{MHz}$)
- Wavelength: 633nm @ 25°C
- SM or PM Fiber ($\varnothing 0.9\text{mm}$)
- FC-APC connector
- 14-pin butterfly package
- Internal monitor PD and TEC
- Low power consumption

Application

- Fiber transmission systems
- Fiber optic gyros
- Fiber optic sensors
- Optical coherence tomography
- Testing Light source

Electrical/Optical Characteristics(Tsub=25°C, CW bias unless stated otherwise)

Parameter	Symbol	Min	Typ	Max	Unit
Centre Wavelength	λ	770	780	790	nm
Spectral Width	$\Delta\lambda$	20	30	40	dB
Threshold Current	I _{th}		100	150	mA
Operating Current	I _{op}		300	400	mA
Fiber output Power	P _f	15	20	30	mW
PD Dark Current (VRD=5V)	I _d				mW/mA
Extinction Ratio	PER	17			nm/mA
Coupled Fiber Type	HI780/PM850				
Forward Voltage	V _f		1.8	10.5	V
Thermistor Resistance	R _T	9.5	10		K Ω
Thermistor Temp. Coefficient			-4.4		%/°C
Connector	FC/APC				

LD-PD_INC
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AMkr LMkr	A C	B D	B-A C-D
LED Test			
Peak	778.400 nm	- 36.73 dBm	FWHM(2.35σ) 14.318 nm
Mean Wl (3.0 dB)	779.714 nm		PkDens/(1nm) - 25.78 dBm
Mean Wl (FWHM)	779.735 nm		Total Power - 14.13 dBm
3.0 dB Width	13.324 nm		2.35σ 14.318 nm
			σ 6.080 nm

Res : 0.07nm (Actual : 0.079 nm) Smp/pt : 501pt SwpAvg : 1 [***]
 VBW : 100Hz Sm : Off Intvl : Off

Measurement condition was changed from active trace.

-1.1dBm

REF

51.1dBm

10.0dB / div

-101.1dBm

Normal

Res_Uncal

738.40 nm
8.00 nm/div
778.40 nm
in Vacuum
818.40 nm

A Wvl Off

Wave-length

Level Scale

Res/VBW/Ave

Peak/Dip Search

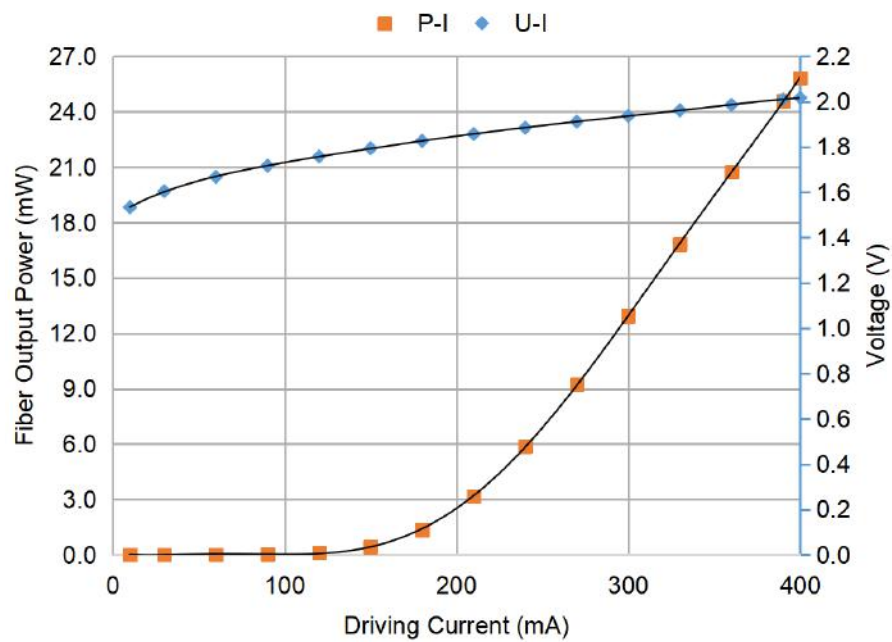
Analysis

Trace

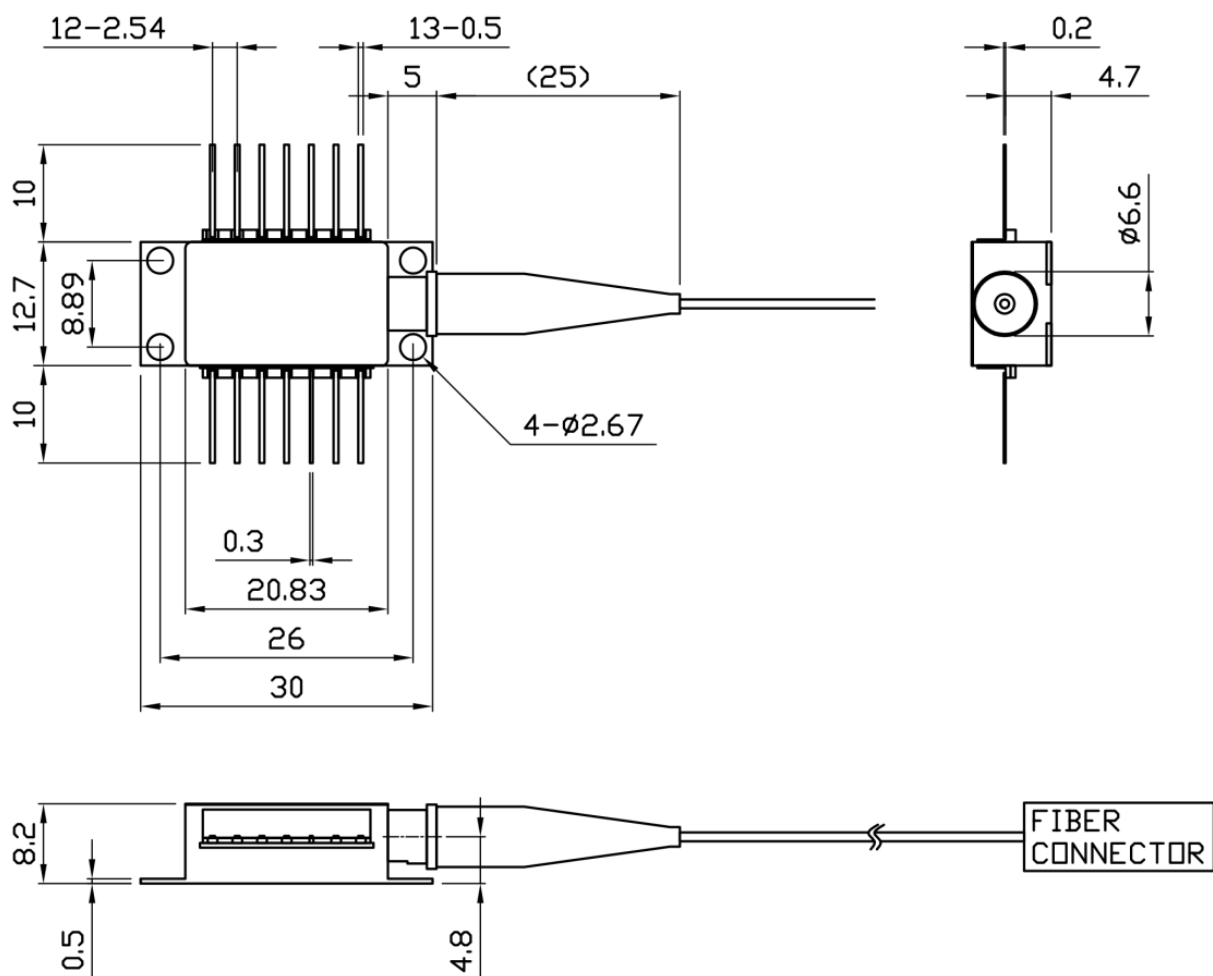
Application

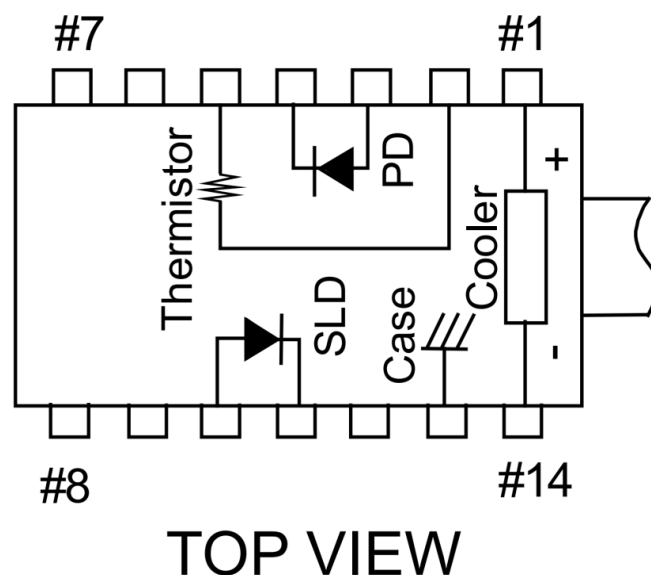
Center 778.40nm
Span 80.00nm
Peak->Center
Start 738.40nm
Stop 818.40nm
MkrValue Wl Freq
Value in Air Vacuum
Close

L-I-V Curve



Package Size and Pin definition





1	Thermoelectric Cooler (+)	8	N/C
2	Thermistor	9	N/C
3	PD Monitor Anode (-)	10	SLD Anode (+)
4	PD Monitor Cathode (+)	11	SLD Cathode (-)
5	Thermistor	12	N/C
6	N/C	13	Case Ground
7	N/C	14	Thermoelectric Cooler (-)

Absolute Maximum Ratings

Item	Unit	Min	Typ	Max
Case Temperature	°C	-5	25	70
Chip Temperature	°C	+10	25	40
Operating Current	mA	0	300	400
Forward Voltage	V	0.8	1.2	2.3
TEC Current	A	-	2.0	4V
Reverse Voltage (LD)	V	-	-	1.8
Reverse Voltage(PD)	V	-	-	10

Ordering Info**PL-SLD-☆-A8▽-W□□□□-XX**

☆ : Output Power

A: 10mW

B: 30mW

▽: Bandwidth

1: 30-40nm

2: 20-30nm

□ □ □ □ : Wavelength

680: 680nm

780: 780nm

850: 850nm

1550: 1550nm

XX: Fiber and Connector Type

SA=HI780+ FC/APC

SP=HI780+ FC/PC

PP=PM 780 Fiber+ FC/PC

PA=PM 780 Fiber+ FC/APC