



## SDL-7300/7500 S E R I E S



### Low cost, visible wavelength laser diodes.

#### Key Features

15 mW cw @ 635 nm

30 mW cw @ 680 nm

Single Spatial Mode Beam

#### Applications

Pointers

Alignment

Bar Code Scanning

Laser Printing

Optical Data Storage

The high power, visible wavelength and low cost of these laser diodes make them ideal for pointing, alignment, bar code scanning, laser printing and optical data storage applications. Single spatial mode beam, easily visible wavelength, low cost and industry standard packaging enhance integration of the SDL-7300/7500 Series into user systems.

These visible laser diodes provide high contrast in ambient light, low astigmatism and low relative intensity noise (RIN). Exceptional reliability is obtained from SDL's unique manufacturing process. The near Gaussian beam pattern in both axes allows collimation with readily available optics and produces clean, circular spots.



## SDL-7300/7500 S E R I E S

SDL-7311-G1  
 SDL-7501-G1

		SDL-7311-G1			SDL-7501-G1			
Laser Characteristics	SYMBOL	MIN	TYP	MAX	MIN	TYP	MAX	UNITS
Optical Power	$P_o$	30 <sup>1</sup>		33	15		17	mW
Slope Efficiency	$\eta_D = P_o / (I_{op} - I_{th})$	0.4	0.5	0.8	0.4	0.7	0.8	W/A
Threshold Current	$I_{th}$	20	30	50	35	55	75	mA
Operating Current	$I_{op}$	60	90	125	55	75	110	mA
Operating Voltage	$V_{op}$	2.0	2.2	2.5	2.0	2.2	2.6	V
Peak Wavelength	$\lambda_{peak}$	670	680	690	630	635	645	nm
FWHM Beam Divergence								
Parallel to Junction	$\theta_{//}$	6	8	9	5	7	9	degrees
Perp. to Junction	$\theta_{\perp}$	30	35	40	30	38	42	degrees
<b>Monitor Photodiode <sup>(1)</sup></b>								
Sensitivity		8	20	80	8	30	80	$\mu A/mW$
Capacitance		6			6			pF
Operating Voltage	$V_{op}$	10		25	10		25	V
<b>Miscellaneous Ratings</b>								
	PACKAGE	MIN		MAX				UNITS
Case Operating Temp.	G1, J1	-20		50				°C
Lead Soldering Temp.	G1, J1			250				°C (5 sec.)
Storage Temp. Range	G1, J1	-55		80				°C

### Notes

- All values at 25°C and 0.6 NA collection optics.
- Other specifications include:
  - Duty factor of 100% except as noted.
  - Temperature coefficient of threshold current can be modeled as:
 
$$I_{TH2} = I_{TH1} \exp [(T_2 - T_1)/T_0]$$
 where  $T_0$  is a device constant of about:
 

100°K	(SDL-7311)
80°K	(SDL-7501)
- Polarization is TE.



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### Package Specifications

Dimensions in inches (mm) except where indicated

#### Standard Tolerances

inches: x.xx = ±0.02      mm: x.x = ±0.5  
          x.xxx = ±0.010      x.xx = ±0.25

#### G1 Package

SOT-148 Window Package

