2.7um Extended InGaAs Photodiodes



Description

The PL3000 Series is a panchromatic PIN Photodiode with a Nominal wavelength cut-off at 2700nm.This series has been designed for demanding spectroscopic and radiometric applications. It offers excellent shunt Resistance in Combination with excellent responsivity over a wide range. What' s amazing is that we can support flexible package TO-46, TO-18 or TO-5 and with optional Active diameter.

Features

- Active Diameter (0.3mm to 3mm)
- Longer Cutoff Wavelength 2.7um
- High Shunt Resistance
- Multiple Lens (Biconvex, Planoconvex, or Ball)
- Packages (TO-46, TO-8 or TO-5)

Application

- Gas Sensing Monitor
- Hydrocarbon Sensor
- Flame/Spark Detection
- FTIR
- Spectroscopy
- SWIR Photodetection

E/O Characteristics

2.7 um Extended Response Electrical Characteristics @ 25 °C ± 2 °C

Performance Specification	PLC300/2.6	PLC500/2.6	PLC1000/2.6	PLC2000/2.6	PLC3000/2.6	Units
Active Diameter	0.3	0.5	1	2	3	mm
Peak Wavelength (typ)	2.2±0.1	2.2±0.1	2.2±0.1	2.2±0.1	2.2±0.1	um
Cutoff Wavelength (50%)	2.6±0.1	2.6±0.1	2.6±0.1	2.6±0.1	2.6±0.1	um
Responsivity @ λP(min/typ)	0.9/1.0	0.9/1.0	0.9/1.0	0.9/1.0	0.9/1.0	A/W
Shunt Resistance (min/typ)	16K/25K	5K/8K	2K/4K	0.5K/1.5K	0.2K/0.5K	Ω
Dark Current (max)	13@1v	20@0.5v	80@0.5v	320@0.5v	500@0.5v	uA
Capacitance (typ) @ 0 V	100	270	1000	4400	10000	pF
Bandwidth w/50Ω@0v(typ)	32	16	3.2	0.8	0.35	MHz
Rise time w/50Ω@0v(typ)	11	22	110	440	1000	ns
NEP@λPEAK(typ)	$81x10^{-14}$	$143x10^{-14}$	$203x10^{-14}$	$331x10^{-14}$	$574x10^{-14}$	$W/Hz^{1/2}$
Linearity(±0.2dB@0v)	6	6	6	6	6	dBm
Case Style	TO-46	TO-46	TO-46	TO-5	TO-5	

Maximum Ratings

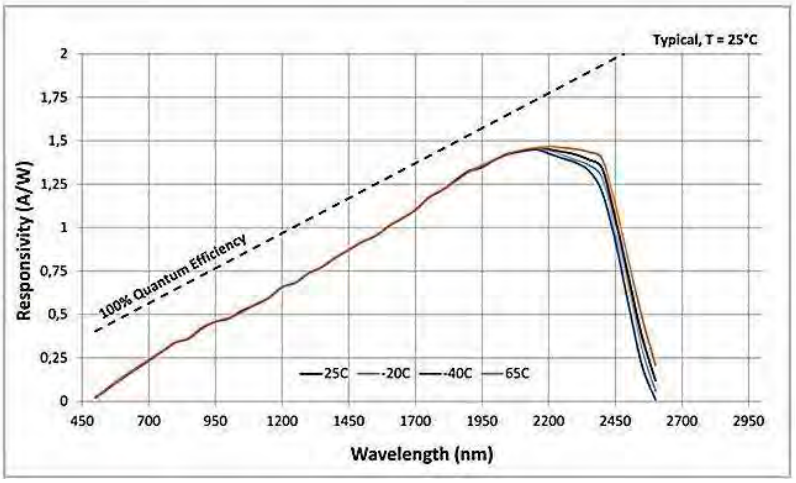
Performance Specification	PLC300/2.6	PLC500/2.6	PLC1000/2.6	PLC2000/2.6	PLC3000/2.6	Units
Storage Temperature	-40 to 125	-40 to 125	-40 to 125	-40 to 125	-40 to 125	°C
Operating Temperature	-40 to 85	-40 to 85	-40 to 85	-40 to 85	-40 to 85	°C
Reverse Voltage	2	0.5	0.5	0.5	0.5	V
Reverse Current	10	10	10	10	10	mA
Forward Current	10	10	10	10	10	mA
Power Dissipation	50	50	50	50	50	mW

Notice

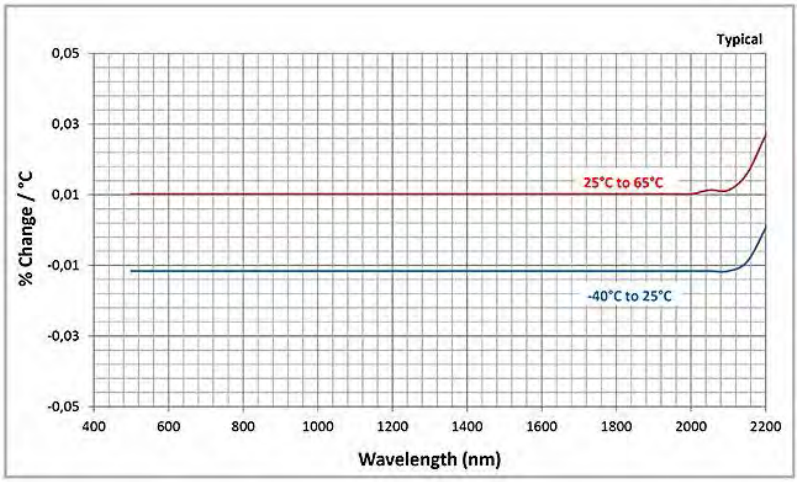
1. Protecting Diode Lasers from Electro-Static Discharge (ESD)

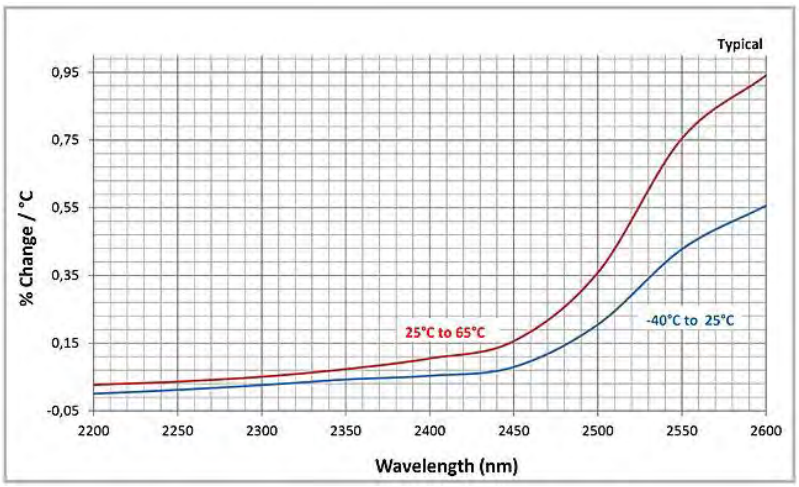
2. Stress Greater than those listed under” ABSOLUTE MAXIMUM RATINGS” may cause permanent damage to this LD;these are stress ratings only and functional operational of the device at these or any other condition beyond those indicated for extend periods of time may effect device.

Spectral Response

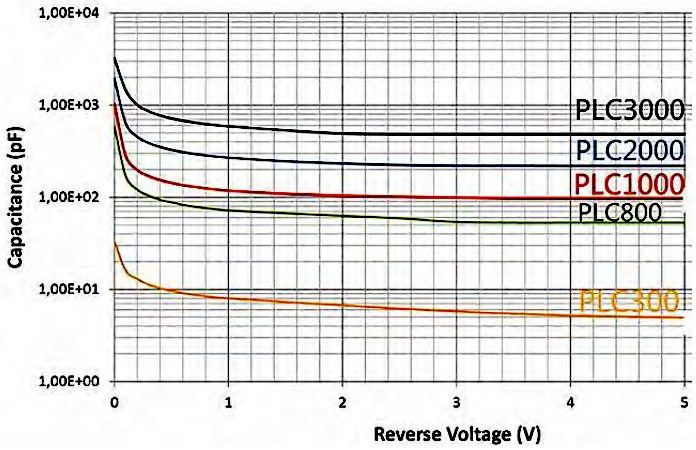


Responsivity Temperature Coefficient

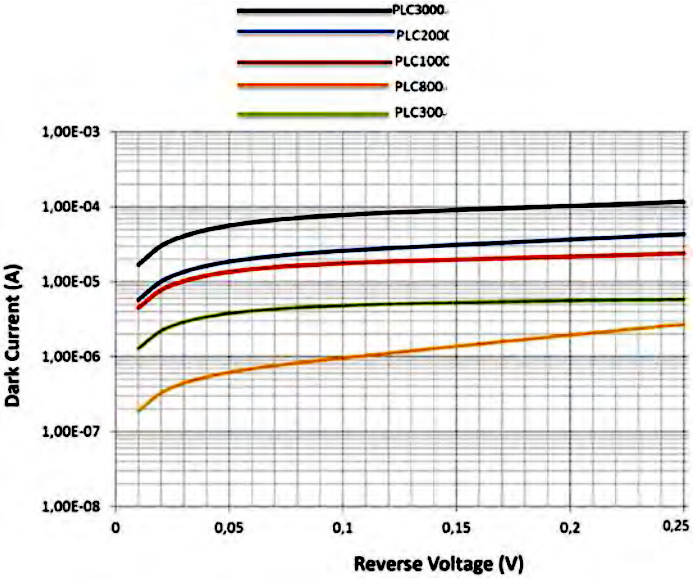




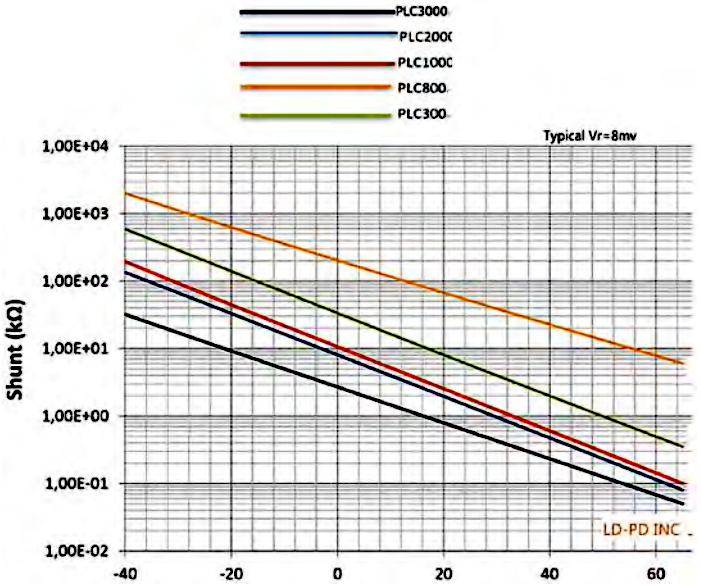
Capacitance VS Reserve Voltage



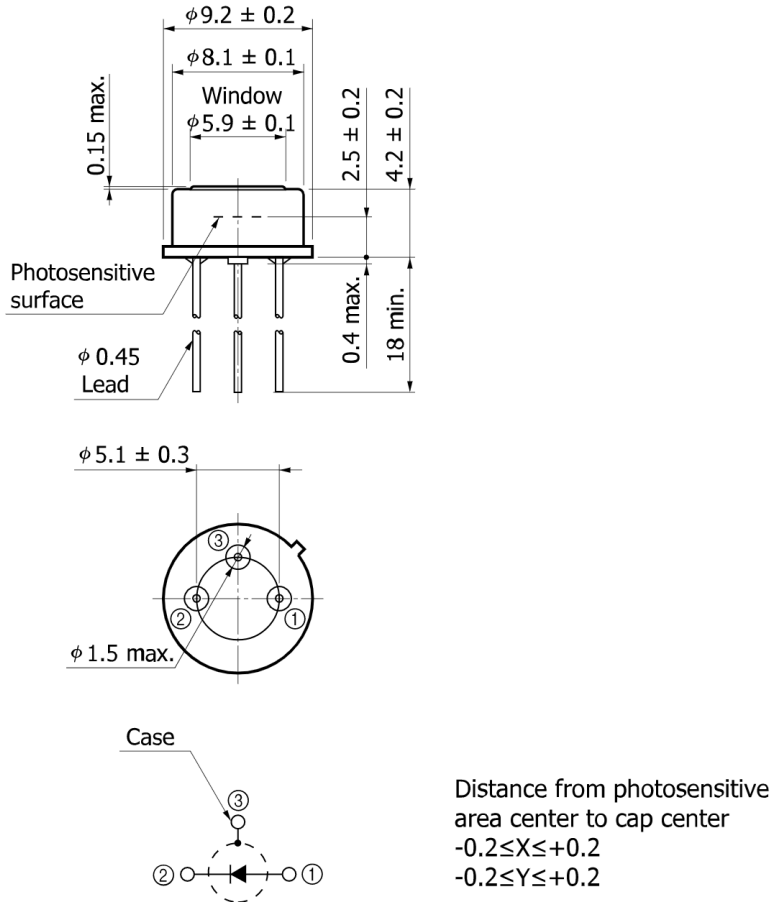
Dark Current VS. Reserve Voltage



Shunt Resistance VS. Temperature



Dimensions and Pin definitions



Ordering Info

PL-C-☆-AD▽-W□□□□-XX

☆ :Material
A:Si PD
B:InGaAs PD
C:Si APD
D:InGaAs APD
E:Si Quadrant APD
F:InGaAs Quadrant APD
▽:Active Diameter
0.75:75um
3:300um
5:500um
8:800um
10:1000um
20:2000um
30:3000um
50:5000um

□□□□:Response Wavelength
4010:400-1100nm(Si)
9017:900-1700nm(InGaAs)
9021:900-2100nm(InGaAs)
9027:900-2700nm(InGaAs)
XX: Package Type
T46W=TO46 Window
T18W=TO18 Window
T5W=TO5 Window
T46L=TO46 Lens
T18L=TO18 Lens
T5L=TO5 Lens
T46W=TO46 Window
T46W=TO46 Window
PSA=Pigtail SMF-28E+ FC/APC
PSP= Pigtail SMF-28E+ FC/PC
PPA= Pigtail PM Fiber+ FC/APC
PPP= Pigtail PM Fiber+ FC/PC