

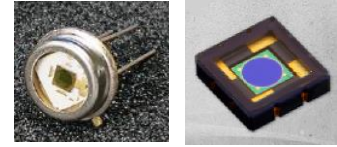


PDx-xxA1850-617

0.6~1.7um Dia. 1850nm InGaAs PIN Photodiodes

Overview

The Lasermate PDx-xx1850-617 series comprises of a high responsivity in 0.6um~1.7um wavelength spectral range, low leakage current, high shunt resistance InGaAs PIN photodiode in CLCC or TO-can package with 1850um diameter active area.



Features

- Highly reliable planar device
- VIS-SWIR operation
- Low leakage current
- Low stray absorption
- High shunt resistance
- High responsivity in 0.6~1.7um spectral range
- Aperture size \varnothing 1850um
- Package type: 8CLCC, TO-39

Applications

- Power monitoring
- Spectral analysis
- Light Detection and Ranging (LIDAR)
- Remote temperature sensors
- Humidity detection
- Ice/slush detection
- Gas leak detection
- Single-photodiode SWIR camera
- Covert IR sensing
- Optical powering

Product Overview

The following table lists the available part numbers, as well as the spectral range, aperture size, and package type of each of the part numbers.

Part Number	Spectral Range	Aperture Size	Package Type
PDLCC-8C1850-617	0.6-1.7um	\varnothing 1850um	8CLCC
PDT-F39A1850-617	0.6-1.7um	\varnothing 1850um	TO-39, 3-pin



Specifications

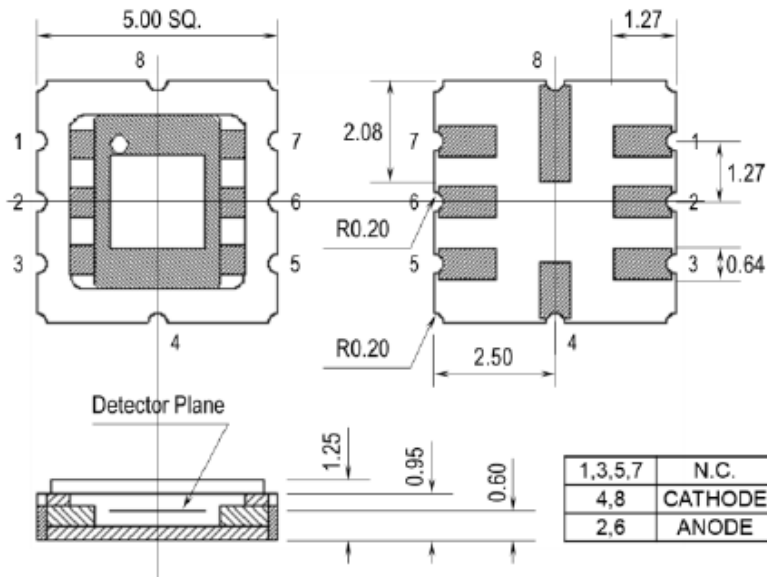
Electro-Optical Characteristics (T _{AMB} =23°C)						
Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions
Aperture size	∅		1850		um	
Spectral Range	λ	0.6		1.7	um	
Responsivity	R _e	0.2	0.25		A/W	V _R =0V, λ=0.65um
		0.35	0.4			V _R =0V, λ=0.85um
		0.8	0.85			V _R =0V, λ=1.30um
		0.85	0.9			V _R =0V, λ=1.55um
Dark Current	I _d		10	20	nA	V _R =-5V
Capacitance	C		400	800	pF	f=1MHz, V _R =0V
			200	400		f=1MHz, V _R =-5V
Saturation Power ⁽¹⁾	P _{sat}	0.2	0.5		mW	V _R =0V, λ=1.55um, -0.2dB
Shunt Resistance	R _{sh}	5	20		MΩ	V _R =-10mV
NEP			6	12	10 ⁻¹⁴ W/√Hz	V _R =0V, λ=1.55um, f=1kHz
3dB Bandwidth		8	15		MHz	V _R =-5V, 50Ω

(1) Measured at the aperture center with a 1/e² beam diameter of 250um.

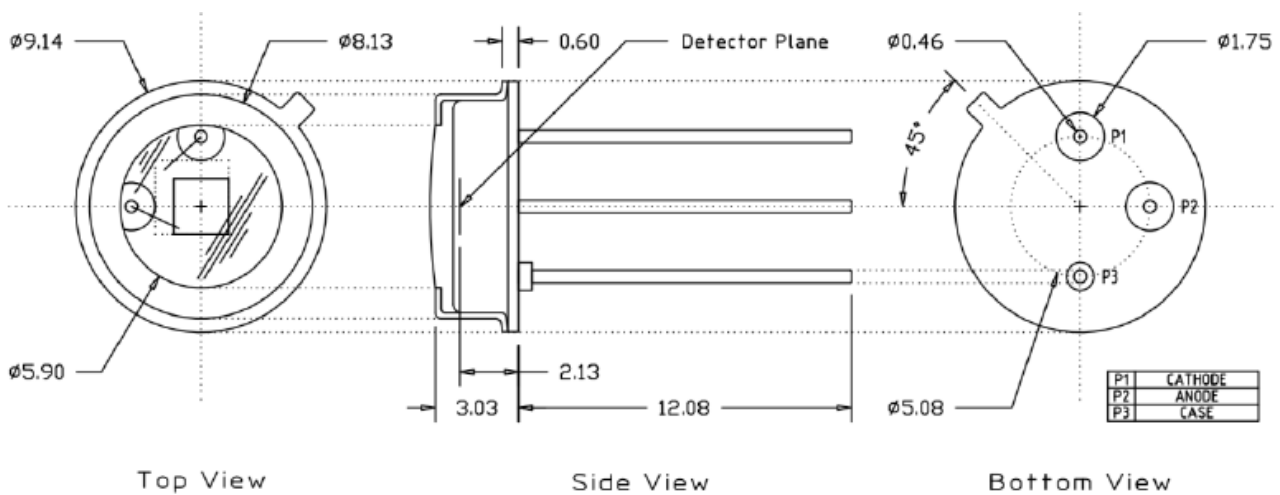
Absolute Maximum Ratings				
Parameters	Min.	Max.	Unit	Conditions
Storage Temperature	-40	85	°C	Non-condensing environment.
Operating Temperature	-40	85	°C	Non-condensing environment.
Forward Current		5	mA	
Reverse Current		2	mA	
Reverse Voltage		10	V	

Outline Dimensions (unit: mm)

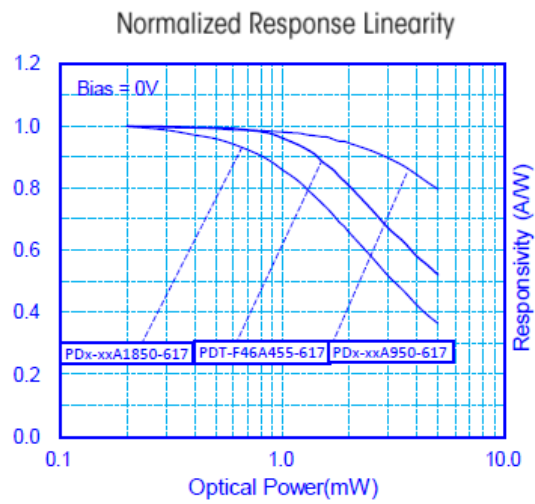
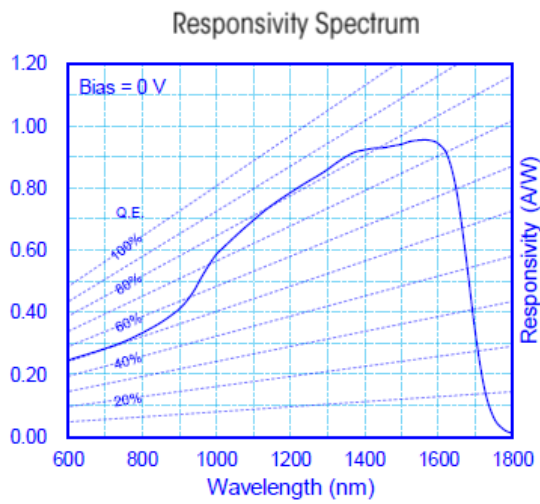
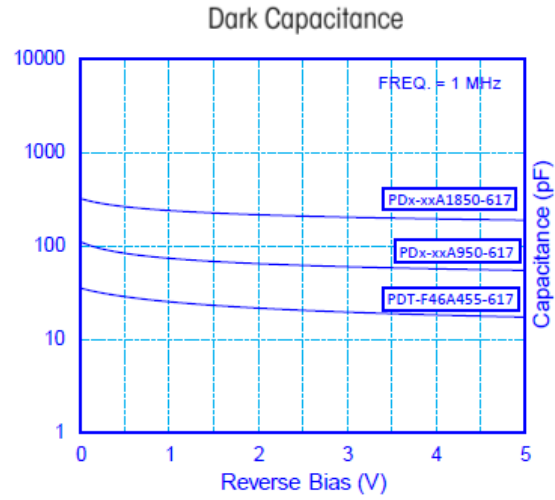
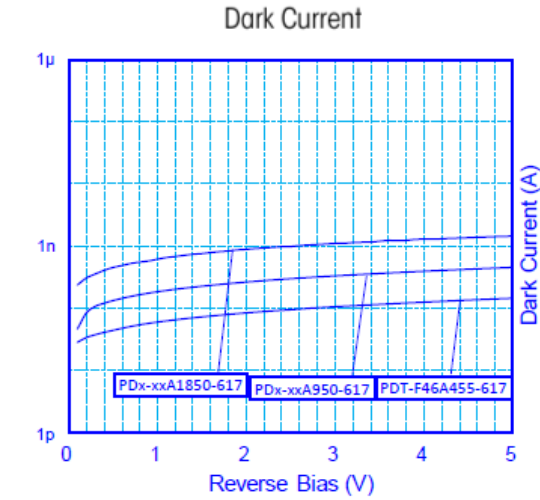
8CLCC Package



TO-39, 3-pin Package



Typical Characteristics



Additional Notes

1. Specifications are subject to change without notice.
2. The suitable ESD protective measures are needed in storage, transportation, and handling.