

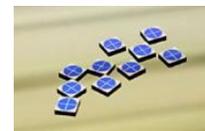


## PDQC-13A1860

### InGaAs Quadrant PIN Photodiode Chip (0.9um-1.7um)

#### Overview

The Lasermate PDQC-13A1860 is a highly reliable, high responsivity, 0.9um-1.7um, InGaAs quadrant PIN photodiode chip. Ideal for LIDAR, beam alignment, light spot position detection, and remote optical control applications.



#### Features

- InGaAs quadrant PIN photodiode chip
- Highly reliable planar device
- Low leakage current
- High shunt resistance
- High responsivity
- Low stray absorption

#### Applications

- Light Detection and Ranging (LIDAR)
- Beam alignment
- Light spot position detection
- Remote optical control

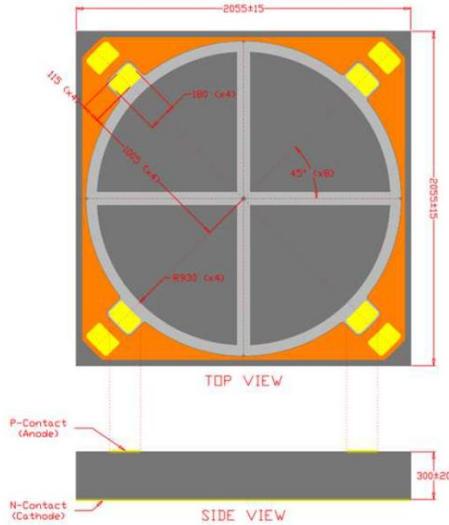
#### Specifications

Absolute Maximum Ratings (T <sub>AMB</sub> =23°C)				
Parameters	Symbol	Min.	Max.	Unit
Reverse voltage	V <sub>R</sub>	-	5	V
Reverse current	I <sub>R</sub>	-	2	mA
Forward current	I <sub>F</sub>	-	2	mA
Operating temperature	T <sub>op</sub>	-40	85	oC
Storage temperature	T <sub>stg</sub>	-40	125	oC

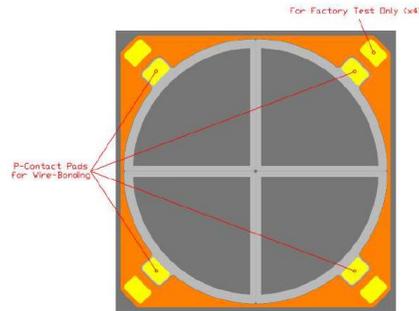
Electro-Optical Characteristics (T <sub>AMB</sub> =23°C)					
Parameters	Min.	Typ.	Max.	Unit	Conditions
Spectral range	0.9		1.7	um	
Dark current	-	1	2	nA	V <sub>R</sub> = 5V
Shunt resistance	40	150	-	MΩ	@ -10mV
Capacitance	-	160	200	pF	V <sub>R</sub> = 0V, f=1MHz
	-	80	100		V <sub>R</sub> = 5V, f=1MHz
3dB Bandwidth	25	35	-	MHz	V <sub>R</sub> = 1.5V, 50Ω
Responsivity	0.1	0.2	-	A/W	V <sub>R</sub> = 0V, λ=0.85um
	0.85	0.90	-		V <sub>R</sub> = 0V, λ=1.30um
	0.95	1.00	-		V <sub>R</sub> = 0V, λ=1.55um
Saturation power <sup>(1)</sup>	3	4.5	-	mW	V <sub>R</sub> = 0V, λ=1.55um, -0.2dB
NEP	-	2	4	10 <sup>-14</sup> W/√HZ	V <sub>R</sub> = 0V, λ=1.55um, 1KHz

Notes: (1) Measured at the aperture center with a 1/e<sup>2</sup> beam diameter of 250um.

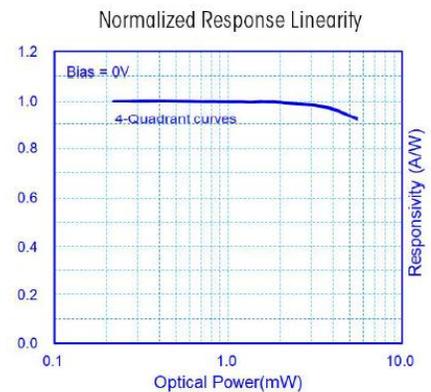
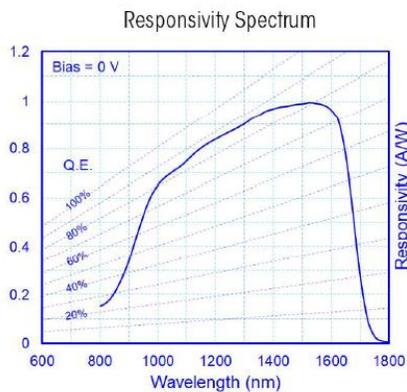
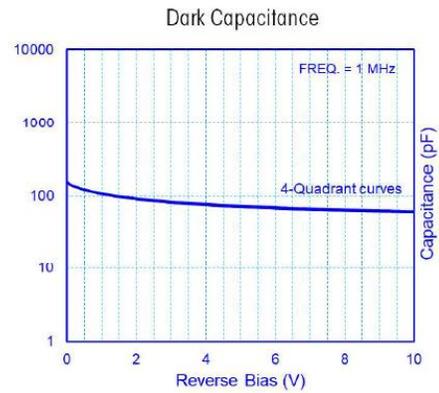
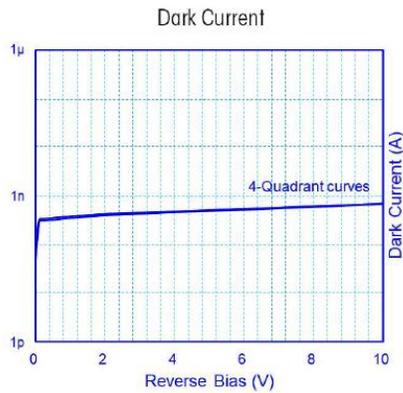
### Outline Diagram



- Chip length: 2055+/-15µm
- Chip width: 2055+/-15µm
- Chip thickness: 300+/-20µm
- Aperture size/Active area: Dia. 1860µm / 0.625x4 mm<sup>2</sup>
- Gap: 75µm



### Typical Characteristics



Note: Specifications are subject to change without notice.