

1. Scope :

This specification applies to PIN silicon UV-enhanced photodiode chips,
Device No. PD-33059U.

2. Structure :

2-1. Planar type : PIN Diode.

2-2. Electrodes :

Top side (Anode) : Aluminum alloy.

Top side (Cathode) : Aluminum alloy.

Backside without metallization, but the polarity is same as to cathode.

3. Size :

3-1. Chip size(including scribe lane): 59 mils × 59 mils (1.500 mm × 1.500 mm).

3-2. Chip thickness : 5.9 ± 1.0 mils (0.150 ± 0.025 mm).

3-3. Active area : 52.36 mils × 52.36 mils (1.330 mm × 1.330 mm).

3-4. Bonding pad (Anode) : 5.7 mils × 5.7 mils (0.145 mm × 0.145 mm).

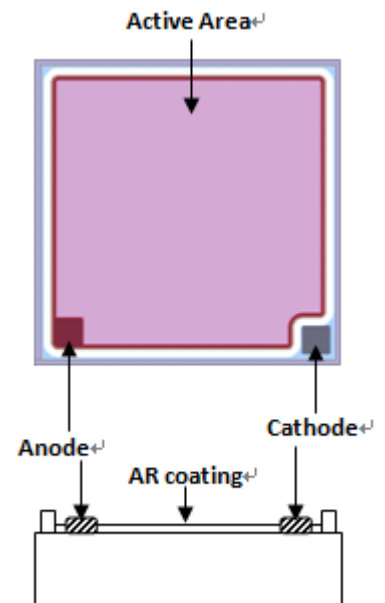
3-5. Bonding pad (Cathode) : 5.1 mils × 5.1 mils (0.130 mm × 0.130 mm).

3-6. Pattern drawing : Refer to the attached drawing.

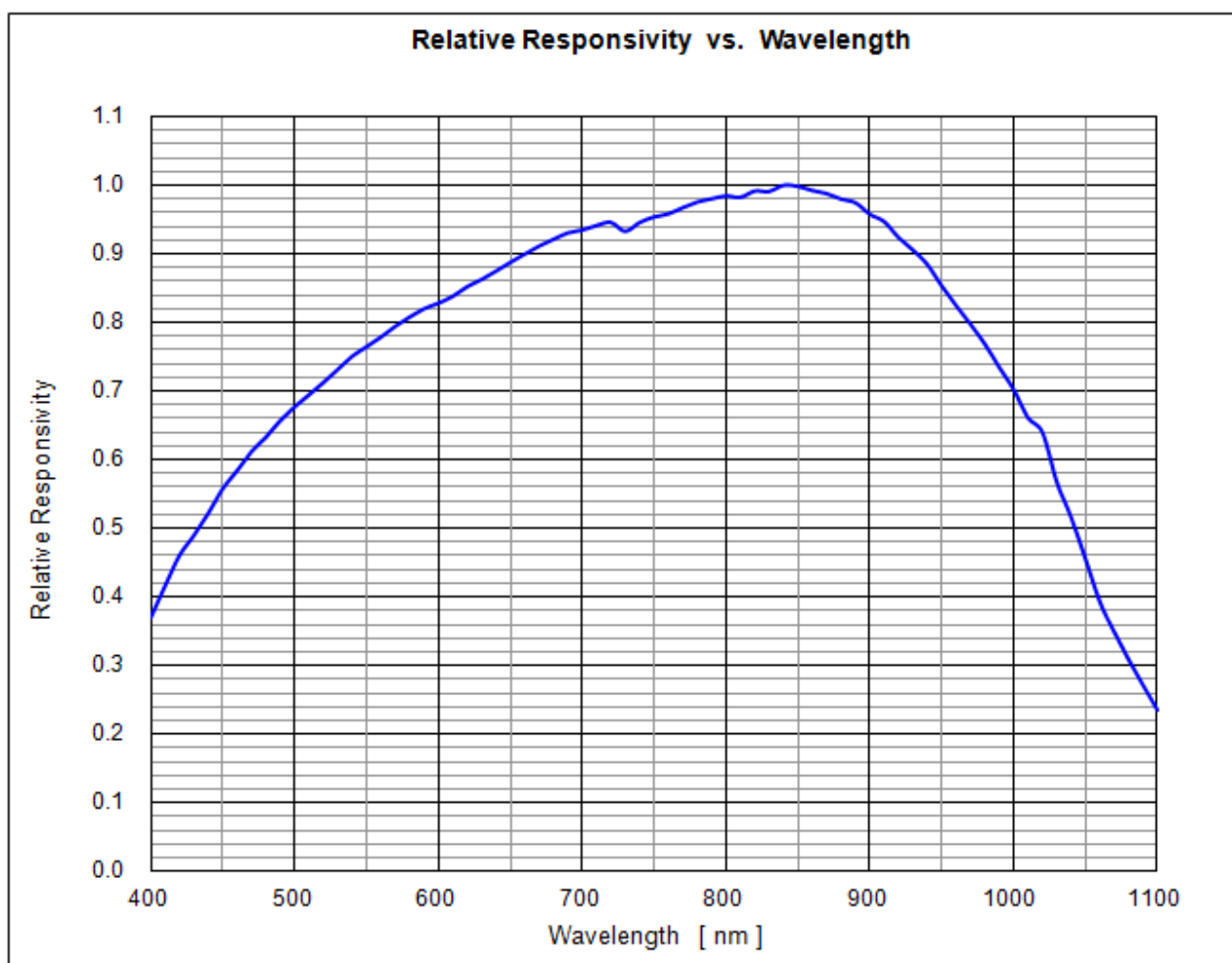
4. Electro-optical characteristics (Ta = 25 °C)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
*Reverse dark current	ID	VR=10V Ee=0mW/cm ²			10	nA
*Reverse breakdown voltage	V(BR)R	IR=100uA Ee=0mW/cm ²	60			V
*Forward Voltage	VF	IF=10mA Ee=0mW/cm ²			2.5	V
Sensitivity	S	$\lambda = 945 \text{ nm}, V_r = 5V$		0.54		A/W
		$\lambda = 660 \text{ nm}, V_r = 5V$		0.55		
		$\lambda = 525 \text{ nm}, V_r = 5V$		0.43		
		$\lambda = 460 \text{ nm}, V_r = 5V$		0.36		
Open circuit voltage	Voc	IF=0mA $\lambda = 940 \text{ nm}$ Ee=127mW/cm ²		430		m V
Short circuit Current	Isc	VR=0V $\lambda = 940 \text{ nm}$ Ee=1mW/cm ²		8.5		μA
Reverse light current	IL	VR=5V $\lambda = 940 \text{ nm}$ Ee=1mW/cm ²		9.6		μA
Total Capacitance	Ct	VR=3V Ee=0mW/cm ² f=1MHz		5.5		p F

*Based on 100% probing.



5. Relative spectral responsivity



*bare chip measured with integrating sphere, for reference only.

6. I-V curve

