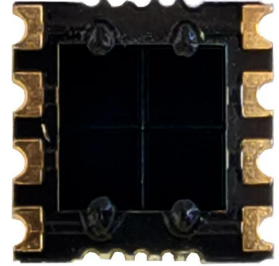


## Technical Data Sheet

### Four Quadrant Si PIN Photodiode: PDA5927

#### ■ Features

- . 4 photodiodes
- . Quadrant element format
- . Fast response time
- . High photo sensitivity
- . Pb free
- . The product itself will remain within RoHS compliant version.



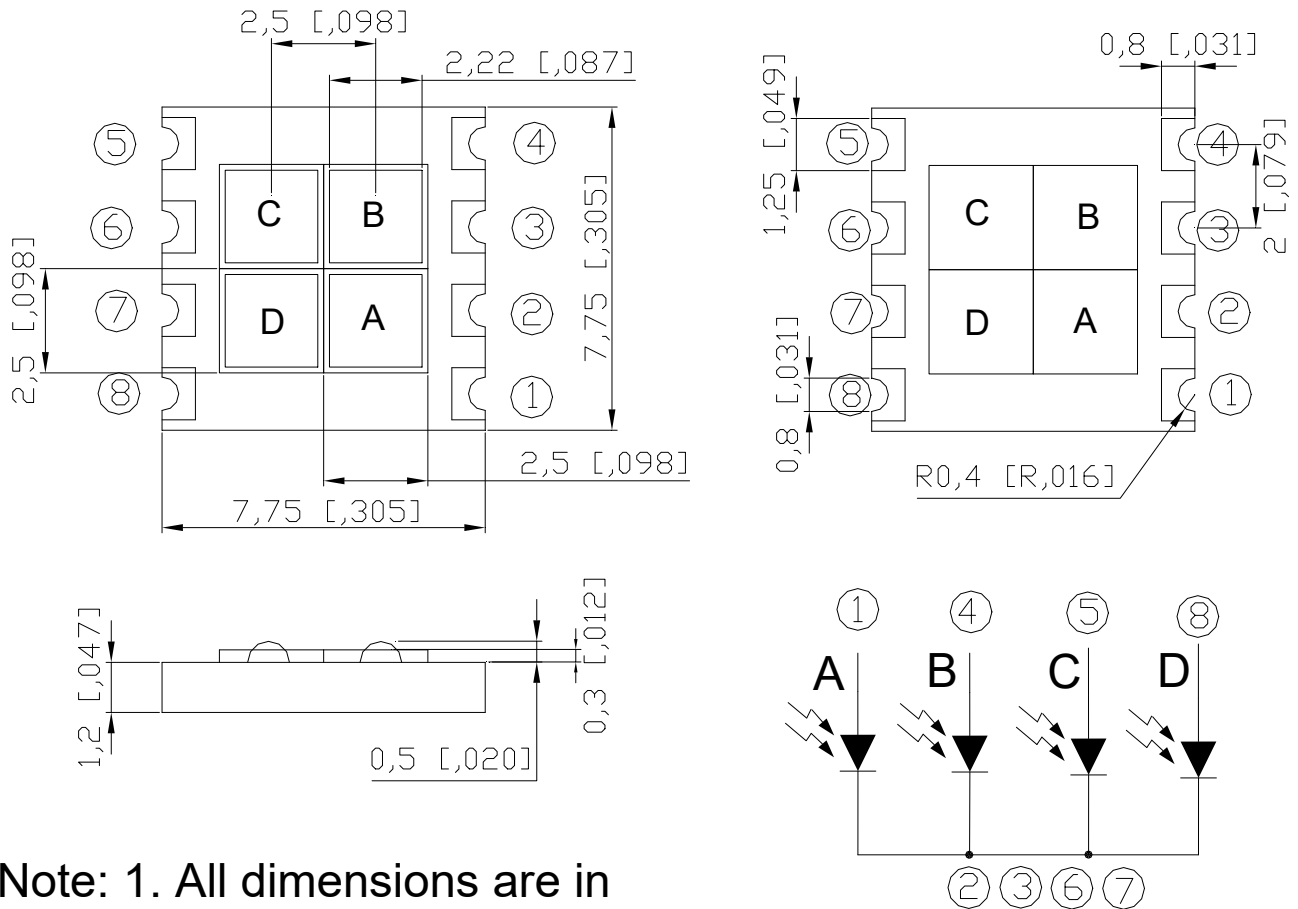
#### ■ Descriptions

PDA5927 is an array of 4 high sensitive and high speed silicon photodiodes mounted on PCB.

#### ■ Applications

- . Position sensing
- . Displacement monitoring
- . Track and Explore
- . Laser beam axis alignment

## ■ Package Dimensions



- Note: 1. All dimensions are in millimeters(inches)  
 2. Tolerances unless dimensions  $\pm 0.25\text{mm}(.01'')$

② ③ ⑥ ⑦ Cathode  
 ① ④ ⑤ ⑧ Anode

## ■ Absolute Maximum Ratings ( $T_a=25^\circ\text{C}$ )

Parameter	Symbol	Rating	Units
Reverse Voltage	VR	30	V
Power Dissipation	Pd	150	mW
Lead Soldering Temperature	Tsol	260	$^\circ\text{C}$
Operating Temperature	Topr	-20 ~ +85	$^\circ\text{C}$
Storage Temperature	Tstg	-40 ~ +85	$^\circ\text{C}$

## ■ Electro-Optical Characteristics ( $T_a=25^\circ\text{C}$ ) (For per element)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Units
Range of Spectral Bandwidth	$\lambda_{0.5}$	----	430	----	1100	nm
Wavelength of Peak Sensitivity	$\lambda_p$	----	----	940	----	nm
Open-Circuit Voltage	V <sub>OC</sub>	Note(1)	----	0.32	----	V
Short-Circuit Current	I <sub>SC</sub>	Note(1)	----	55	----	$\mu$ A
Reverse Light Current	I <sub>L</sub>	Note(1) V <sub>R</sub> =5V	----	55	----	$\mu$ A
Dark Current	I <sub>d</sub>	E <sub>e</sub> =0m W/cm <sup>2</sup> V <sub>R</sub> =10V	----	----	10	nA
Reverse Breakdown Voltage	BV <sub>R</sub>	E <sub>e</sub> =0m W/cm <sup>2</sup> I <sub>R</sub> =100 $\mu$ A	30	----	----	V
Total Capacitance	C <sub>t</sub>	E <sub>e</sub> =0m W/cm <sup>2</sup> V <sub>R</sub> =3V f=1MHZ	----	25	----	pF
Rise/Fall Time	t <sub>r</sub> /t <sub>f</sub>	V <sub>R</sub> =10V R <sub>L</sub> =1K $\Omega$		50/50		nS

Note(1): Parallel light of 1000 Lux illumination is applied by a Tungsten lamp of 2856K

## ■ Typical Electro-Optical Characteristics Curves

Fig.1 Power Dissipation vs. Ambient Temperature

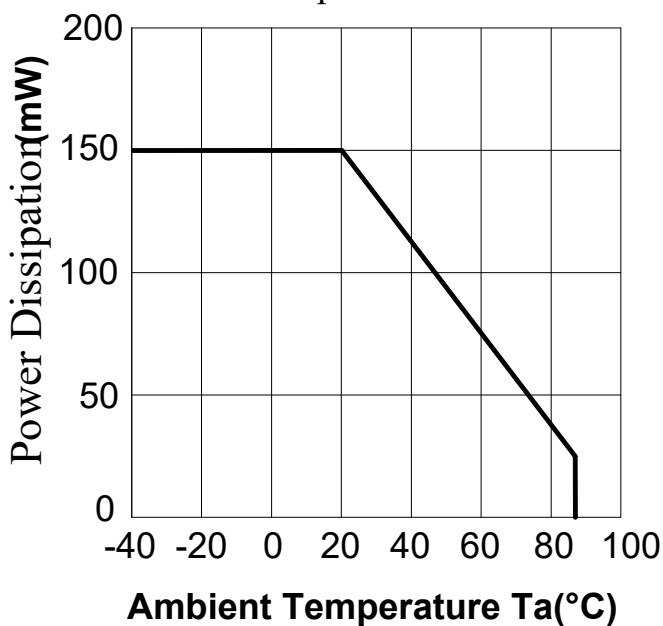


Fig.3 Dark Current vs.

Fig.2 Spectral Sensitivity

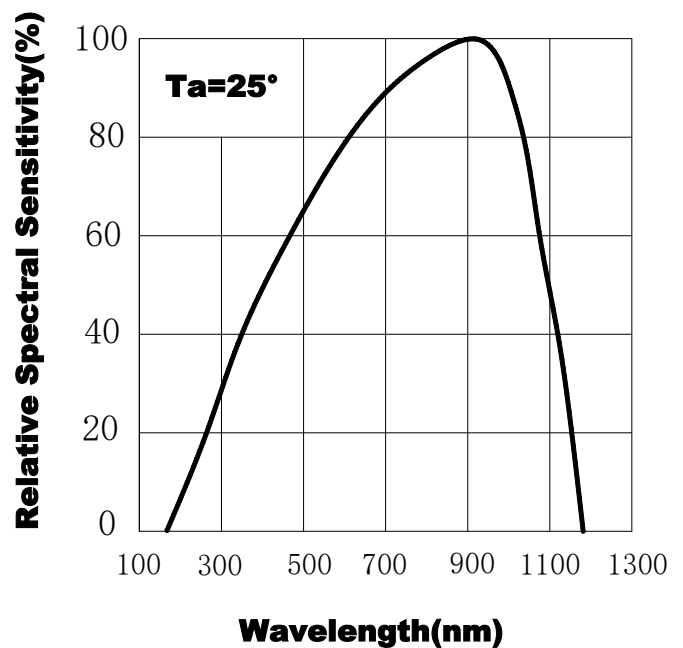
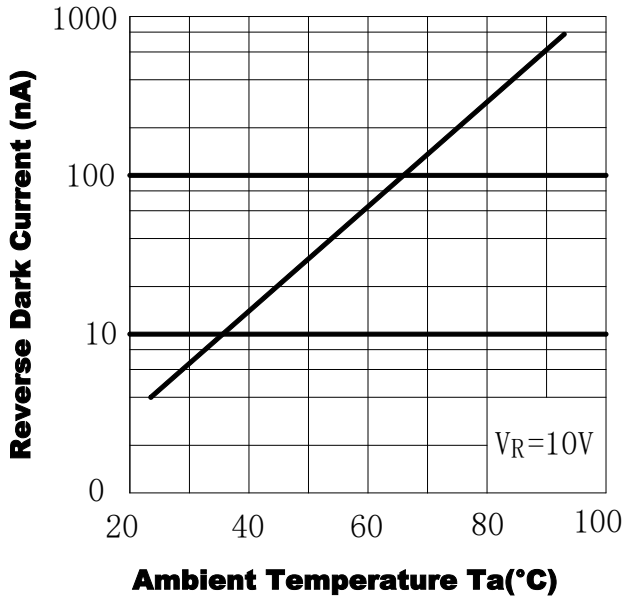


Fig.4 Reverse Light Current vs.

Ambient Temperature



Ee

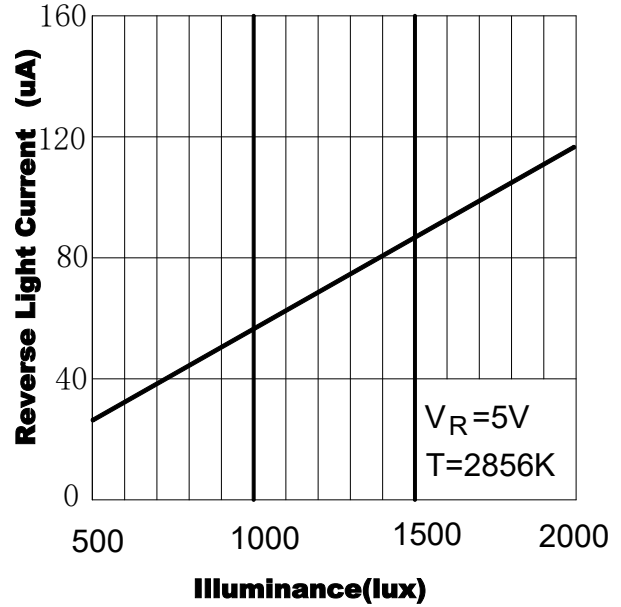


Fig.5 Terminal Capacitance vs. Reverse Voltage

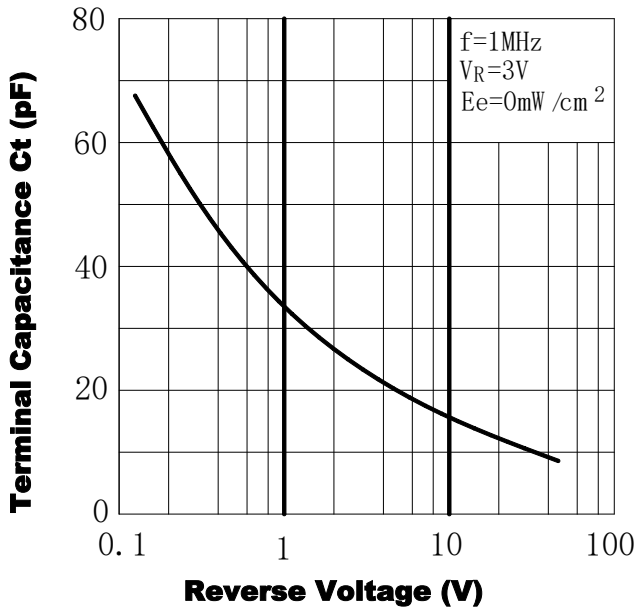
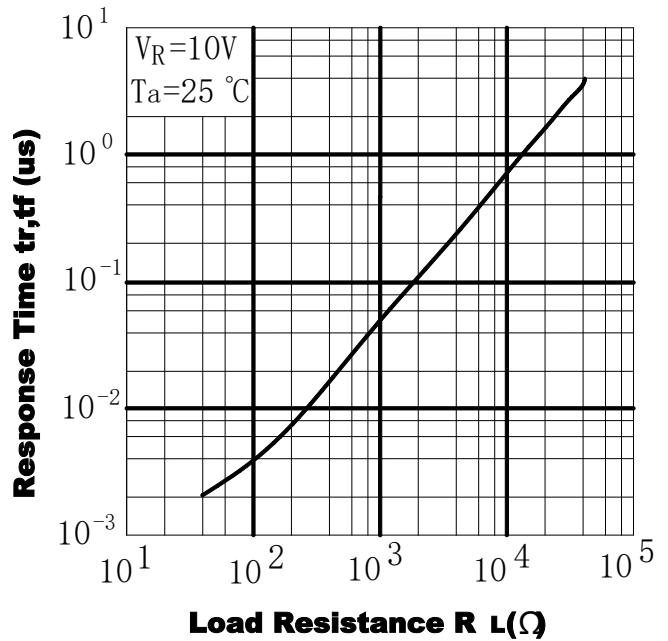
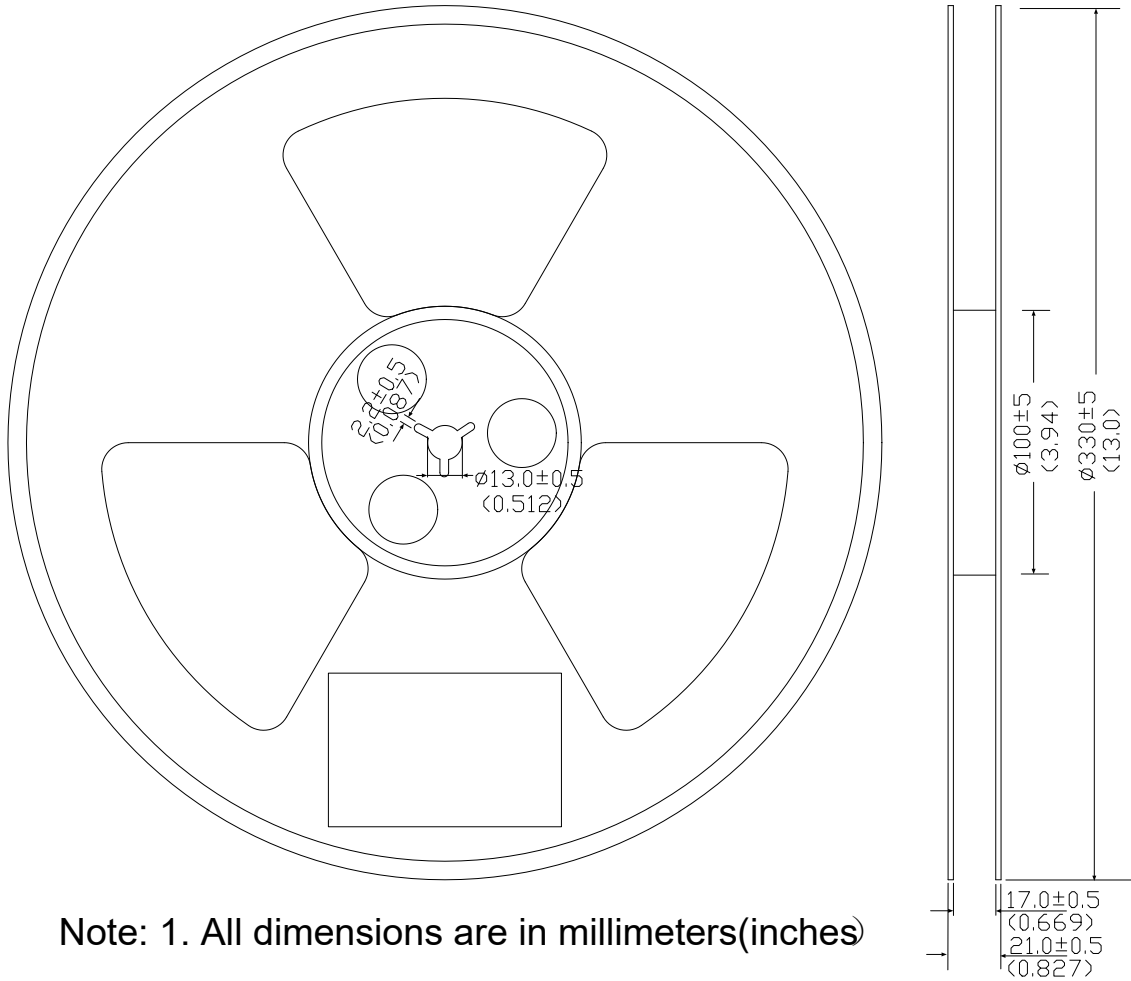


Fig.6 Response Time vs. Load Resistance

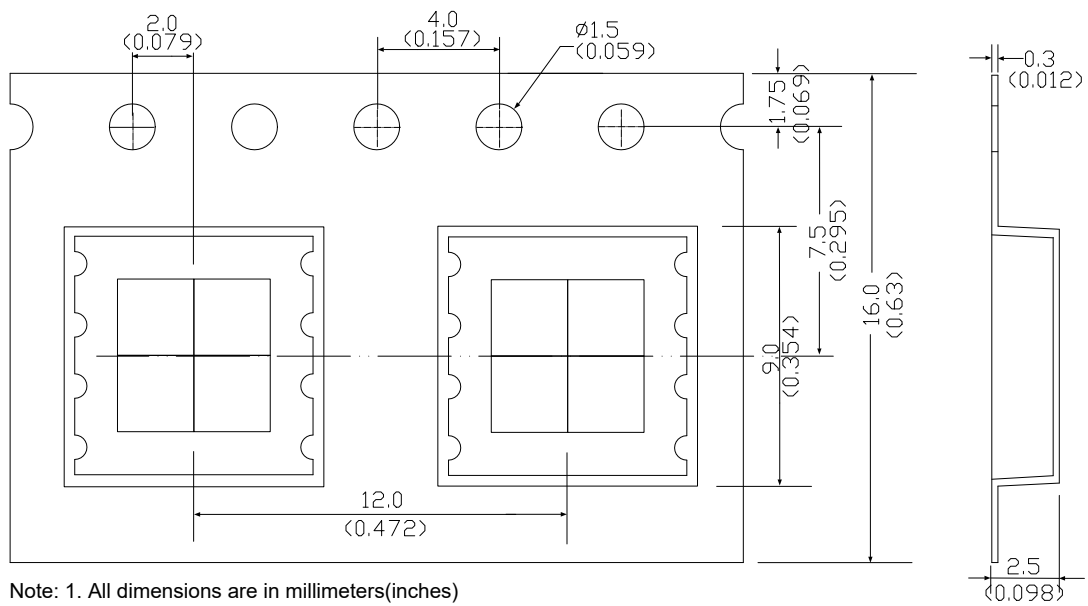


## ■ Packing Dimensions



Note: 1. All dimensions are in millimeters(inches)

■ Carrier Tape Dimensions (Quantity: 2000 pcs/reel)



Note: 1. All dimensions are in millimeters(inches)  
2. Tolerances unless dimensions  $\pm 0.1\text{mm}(.004\text{'})$

■ Notes

1. Above specification may be changed without notice. SHUGUAN will reserve authority on material change for above specification.
2. When using this product, please observe the absolute maximum ratings and the instructions for using outlined in these specification sheets. SHUGUAN assumes no responsibility for any damage resulting from use of the product which does not comply with the absolute maximum ratings and the instructions included in these specification sheets.
3. These specification sheets include materials protected under copyright of SHUGUAN corporation. Please don't reproduce or cause anyone to reproduce them without SHUGUAN's consent.
4. This products is bare chip products (wafers or diced chips), Unsealed products are not protected by an external enclosure and so require especially strict care to prevent physical breakage or contamination. It has protective tape, which is removed prior to use.
5. Condensation may form on the chip surface in environments subject to sharp or sudden fluctuations in temperature, so avoid use in such locations.
6. Applying excessive force to the product using a printed circuit board may cause the board to warp. This warping may damage the chip,wires connections, so use caution.
7. Do not let anything come in contact with the chip surface. Though the chip is hard, it is also brittle an easily notched. Sharped or hard items that come in contact with the chip may case cracks or scratches, which can lead to fluctuations in electrical characteristics or poor device reliability. Treat any products that were dropped as defect parts and dispose of them.