

Silicon APD

——905nm Series with Plastic SMD package

Silicon avalanche photodiode with optimized performance for NIR light detection, the responsivity is up to 55A/W at 905nm, which is suitable for optical rangefinder, LiDAR etc.

Circular active area chip, popular diameter 230um and 500um. With compact and low-cost plastic SMD package, this APD is the best option for commercial application.



◆ Features

- Low cost
- High responsivity at 905nm
- Low breakdown voltage: 130V-160V available
- High speed, low noise

◆ Applications

- Laser rangefinder
- LiDAR

◆ Structure/ Absolute Maximum Ratings

Type No.	Package	Active area (um)	Operating voltage (V)	Operating temperature (°C)	Storage temperature (°C)	Soldering temperature (°C)	Reverse DC current (mA)
SAD230NP2	Plastic	Φ230	0.9×VBR	-20~70	-40~85	260	0.25
SAD500NP2	Plastic	Φ500					

◆ Electro-Optical Characteristics (@Ta=22±3°C)

Type No.	Spectral response range (nm)	Peak sensitivity wave-length (nm)	Responsivity λ=905nm M=100 (A/W)	Dark current M=100 (nA)		Rise time λ=905nm R _L =50Ω (ns)	Operating voltage temperature coefficient (V/°C)	Total capacitance M=100 f=1MHz (pF)	Breakdown voltage I _R =10μA (V)	
				Typ	Max				Min	Max
SAD230NP2	400~1100	905	55	0.2	1.0	0.6	1.1	1.0	130	220
SAD500NP2				0.4	1.0			1.2		

◆ Typical Characteristic Curves (@Ta=25°C)

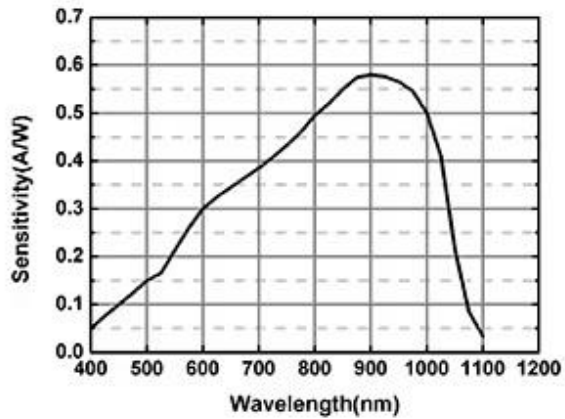


Figure1 Responsivity vs. Wavelength

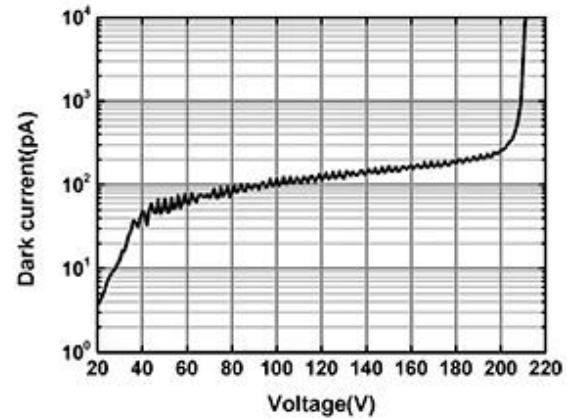


Figure2 Dark current vs. voltage

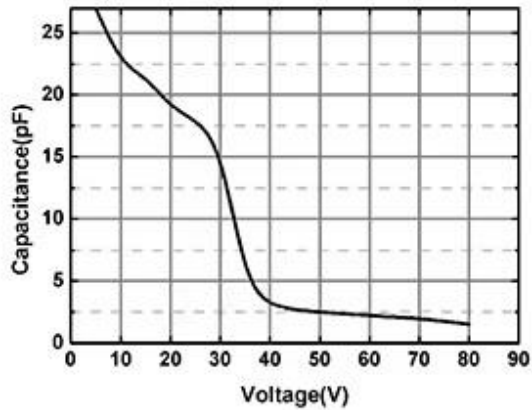


Figure3 Capacitance vs. voltage

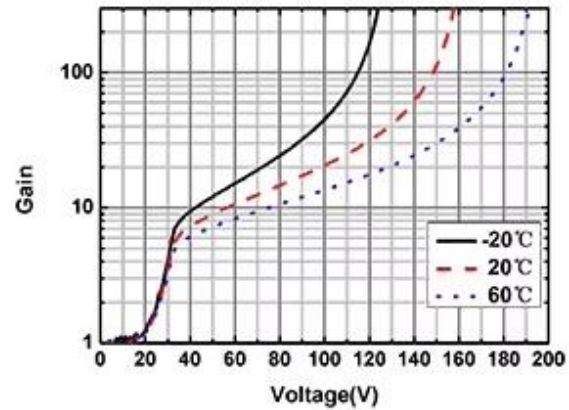


Figure4 Gain vs. voltage with different temp.

◆ Package Drawings (Unit: mm)

