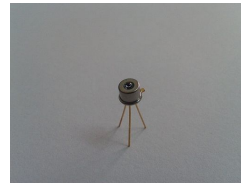


500um Silicon Avalanche Photodiode

Model: LSSAPD-500

- **The features**
- APD with 500um active area
- Slow multiplication curve
- QE > 80% @ 750 nm-910 nm
- Fast rise time, low noise
- Optimum gain: 50-60
- High reliability, low dark current



Applications:

- Industrial automatic control
- Laser range finder, laser lidar
- Automobile collision avoidance system
- High speed optical communications
- Science analysis and experiment
- Medical equipment

The absolute values

Operating voltage	$0.95 \times V_{BR}$	Operating temperature	$-20 \sim +80^{\circ}\text{C}$	Power dissipation	1mW
Forward current	1mA	storage temperature	$-45 \sim +100^{\circ}\text{C}$	Soldering temperature(time)	260°C (10s)

The opto-eletronic characteritics (@Tc=22±3℃)

Parameters	Sym.	Test conditions	Min	Typ	Max	Unit
Response Spectrum	λ	—	400~1100			nm
Active diameter	φ	—	500			μm
Reponsivity	Re	$\lambda=850\text{nm}, \varphi_e=1\mu\text{w}, M=1$		0.5		A/W
Response time	t_s	$f=1\text{MHz}, R_L=50\Omega, \lambda=850\text{nm}$.	0.6	1.5	ns
Dark current	I_D	M=100		0.2	1.2	nA
Total capacitance	C_{tot}	M=100, f=1MHz		1.2		pF
Reverse breakdown voltage	V_{BR}	$I_R=10\mu\text{A}$	120		200	V
Operating voltage temperature coefficient	δ	$T_c=-40^{\circ}\text{C} \sim 85^{\circ}\text{C}$		0.9		V/°C

The typical characteristic curve and application electric circuit

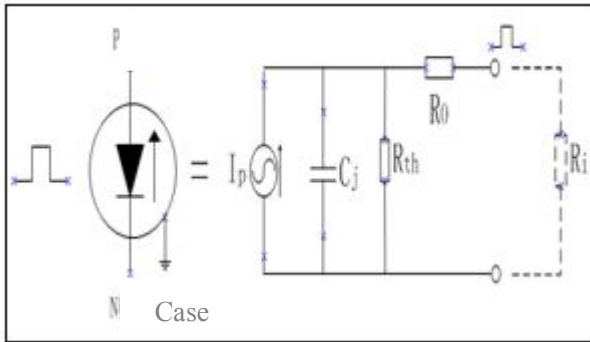


Figure1 Equivalent Circuit Diagram

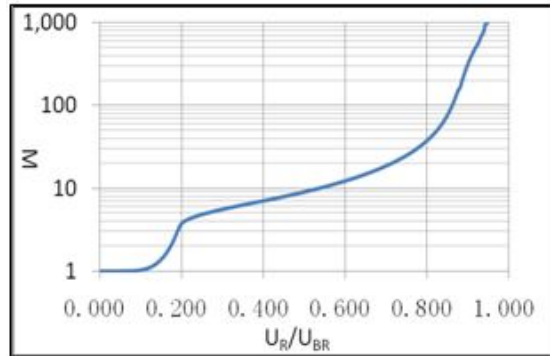


Figure2 Gain vs. U_R/U_{BR}

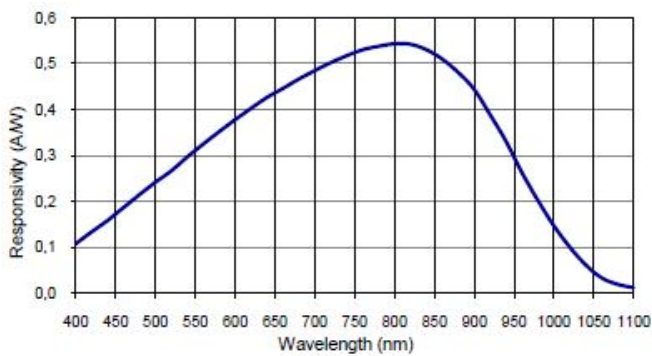


Figure3 Responsivity vs. Wavelength at 0v

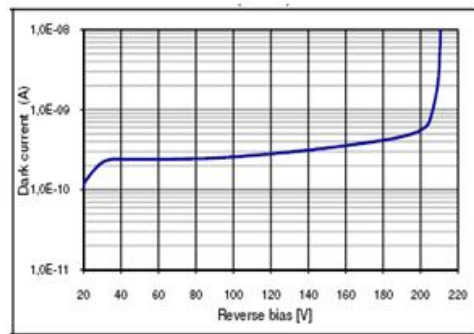


Figure4 Dark current vs. Operating voltage

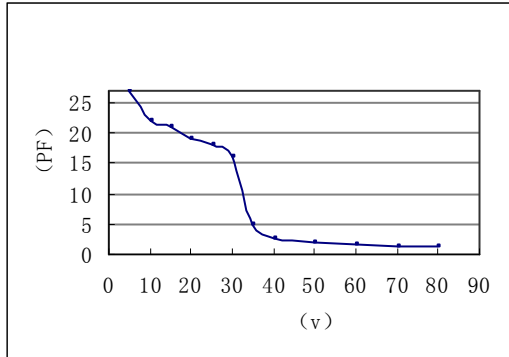
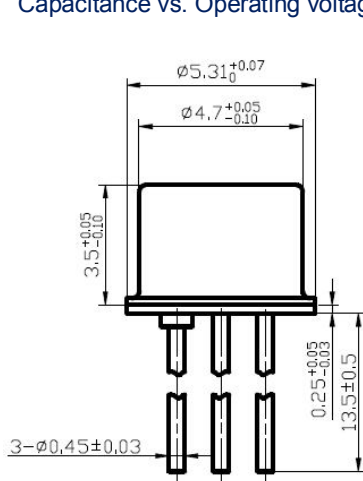
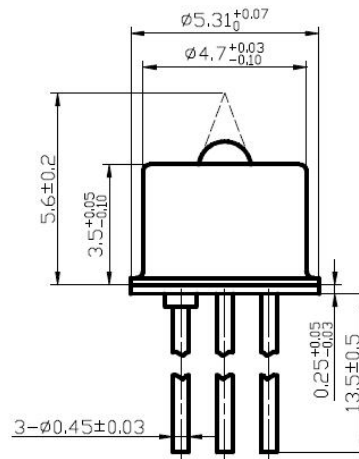


Figure5 Capacitance vs. Operating voltage

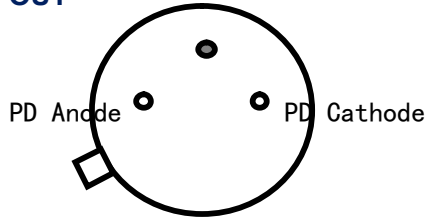
PIN Drawing



Flat Window



TO52 ball lens cap

PIN OUT**Ordering information:**

LSSAPD-500-X-X

X=0 without filter
X=6 with 650nm filter
X=9 with 905nm filter

X=0

TO-46 Can with ball lens cap

X=1

TO-46 Can with flat window cap

X=SMFP

SM Fiber coupling with FC-PC connector

X=SMFA

SM Fiber coupling with FC-APC connector

X=SMSA

SM Fiber coupling with SC-APC connector

X=5MMFA

50um MM Fiber coupling with FC-APC connector

X=6MMFA

62.5um MM Fiber coupling with FC-APC connector

X=JKFC

TO-46 Can with FC receptacle

X=Other

By customer's request

The Cautions

- 1: The suitable ESD protecting measures are recommend in storage, transporting and using.
- 2: The fiber bending radius no less than 20mm for avoiding fiber damaged ,Be sure the fiber coupling facet is clean before connecting it to opto-circuit.