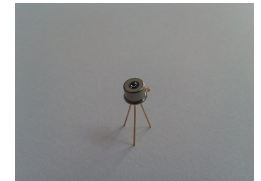


## 50um InGaAs Avalanche Photodiode

**Model: LSIAPD-50**

### The features

The series avalanche photodiode is the commercial available InGaAs APD with high responsivity and extremely fast rise and fall times throughout the 900 to 1700 nm wavelength range. The peak responsivity at 1550 nm ideally suited to eye-safe range finding applications, laser radar, free space optical communications, optical fiber sensor, OTDR and high resolution Optical Coherence Tomography. The chip is hermetically sealed in a TO46 package.



### The absolute values

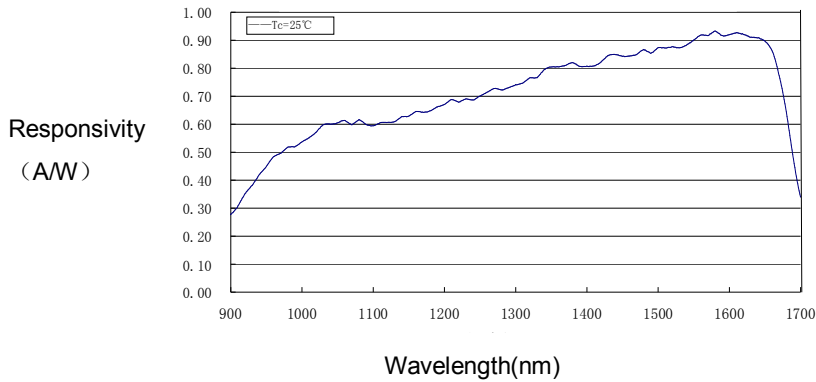
Operating voltage	$0.99 \times V_{BR}$	Operating temperature	$-40 \sim +85^{\circ}\text{C}$	Power dissipation	50mW
Forward current	3mA	storage temperature	$-45 \sim +100^{\circ}\text{C}$	Soldering temperature(time)	$260^{\circ}\text{C}$ (10s)

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

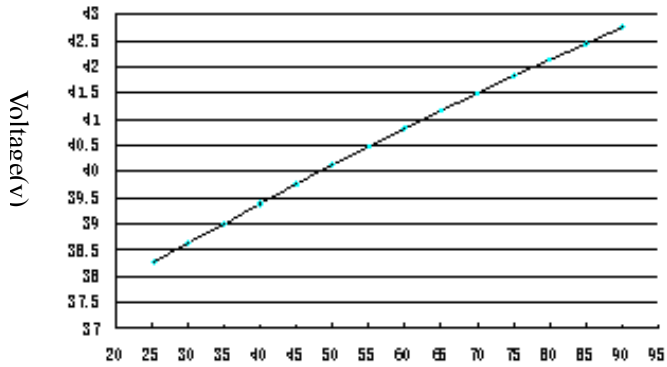
Parameters	Sym.	Test conditions	Min	Typ	Max	Unit
Response Spectrum	$\lambda$	—	800~1700			nm
Active diameter	$\varphi$	—	50			$\mu\text{m}$
Reponsivity	Re	$\lambda=1.55\mu\text{m}, \varphi_e=1\mu\text{w}, M=1$	0.85			A/W
Multiplication gain	$M_{\text{max}}$	$\lambda=1.55\mu\text{m}, \varphi_e=1\mu\text{w}$	10			
-3dB bandwidth	BW	$M=10, f_0=100\text{MHz}, R_L=50\Omega$		2		GHz
Dark current	$I_D$	$M=10$		2	11	nA
Total capacitance	$C_{\text{tot}}$	$M=10$		0.5		pF
Reverse breakdown voltage	$V_{BR}$	$I_R=100\mu\text{A}$	40		50	V
Operating voltage temperature coefficient	$\delta$	$T_c=-40 \sim +85^{\circ}\text{C}$		0.11	0.15	V/°C

The typical characteristic curve

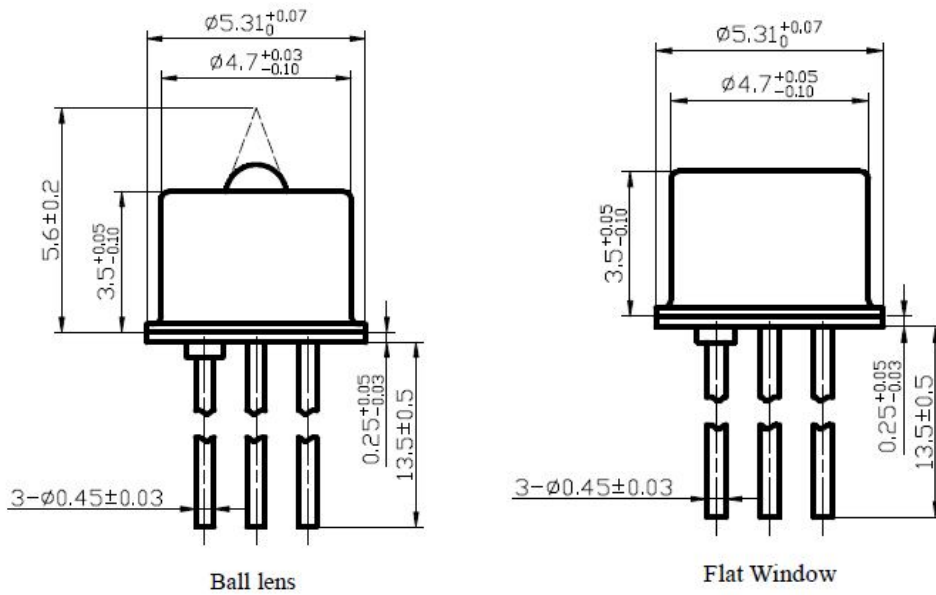
Spectral response curve at M=1



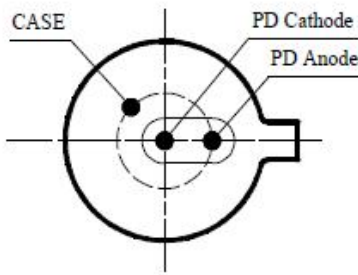
Breakdown voltage vs temperature



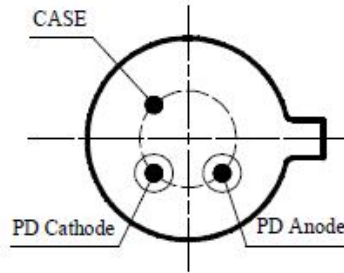
PIN Drawing



PIN OUT



Type A (Bottom view)



Type B (Bottom view)

**Ordering information**

LSIAPD-50-X-X

X=A	Type A PIN OUT	X=0	TO-46 Can with Ball lens cap
X=B	Type B PIN OUT	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.