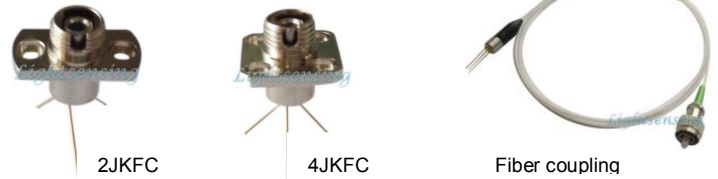
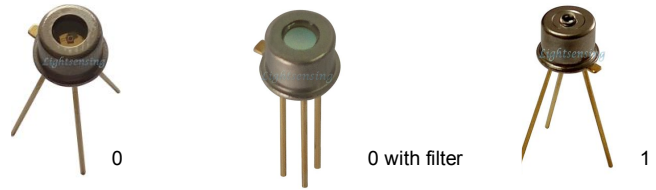


**905nm Silicon 500um Avalanche Photodiode**

Version: 3.1 17-03-01

**Model: LSSAPD9-500**
**Features:**

- High reliability, low dark current
- Top illumination Planar APD
- High Gain up to M=300
- Wavelength 400-1100nm
- Hermetic TO46 Can or with receptacle or with fiber coupling


**Applications:**

- Ultra Weak pulse optical detecting
- Laser lidar, laser range finding
- Optical fiber sensor, OTDR
- high resolution Optical Coherence Tomography
- Science analysis and experiment

**The absolute values**

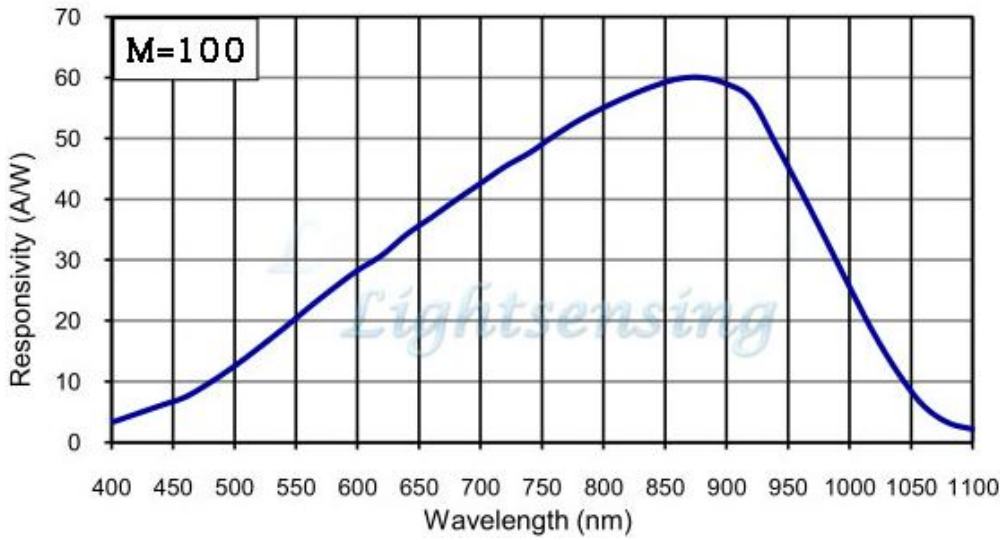
Operating voltage	0.95×VBR	Operating temperature	-45~+85℃	Power dissipation	1mW
Forward current	1mA	storage temperature	-45~+125℃	Soldering temperature(time)	260℃ (10s)

**The opto-eletronic characteritics ( T=22±3℃ )**

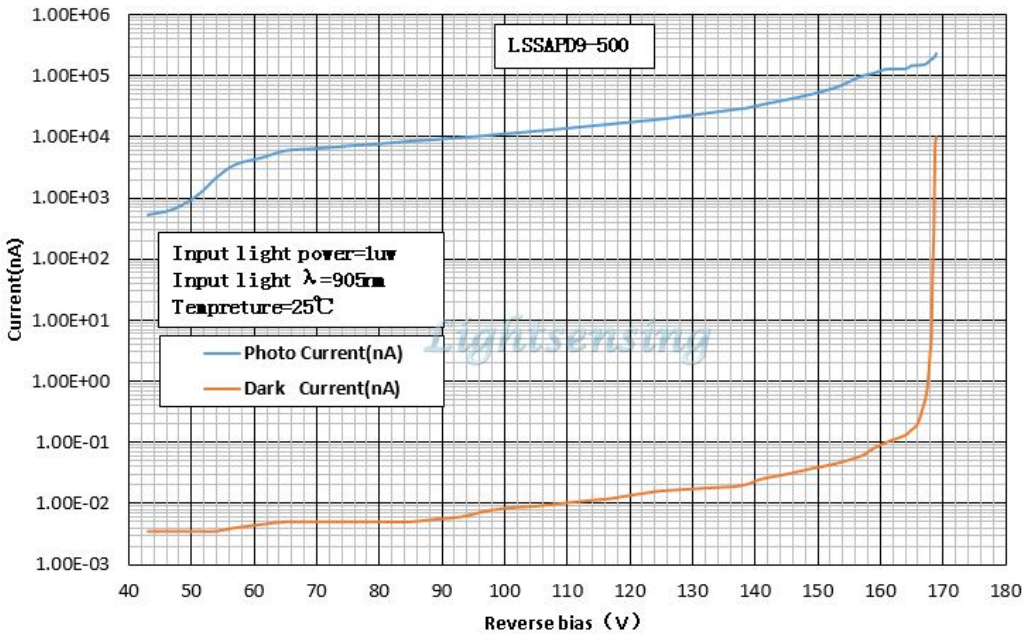
Parameters	Sym.	Test conditions	Min	Typ	Max	Unit
Response Spectrum	$\lambda$	—	400~1100			nm
Active diameter	$\varphi$	—	500			$\mu\text{m}$
Reponsivity	Re	$\lambda=905\text{nm}, 1\mu\text{w}, M=1$		0.57		A/W
Multiplication gain	M	$\lambda=905\text{nm}, 1\mu\text{w}, 0.8V_{\text{BR}}$		60		
		$\lambda=905\text{nm}, 1\mu\text{w}, 0.85V_{\text{BR}}$		100		
Response time	$T_r$	$M=100, R_L=50\Omega, \lambda=905\text{nm}$		0.5		ns
Dark current	$I_d$	$M=100$		0.05	1.2	nA
Total capacitance	$C_{\text{tot}}$	$M=100, f=1\text{MHz}$		1.5		pF
Reverse breakdown voltage	$V_{\text{BR}}$	$I_R=10\mu\text{A}$	120		200	V
Maximum instantaneous input power	P	$M=100, 905\text{nm}, 10\text{ns}, 10\text{KHZ}$			0.3	mW
Operating voltage temperature coefficient	$\delta$	$T_c=-40^\circ\text{C} \sim 85^\circ\text{C}$		0.9	1.3	V/℃
package	Hermetic TO46 Can or with receptacle or with fiber coupling					

NOTICE: The above product specifications are subject to change without notice.

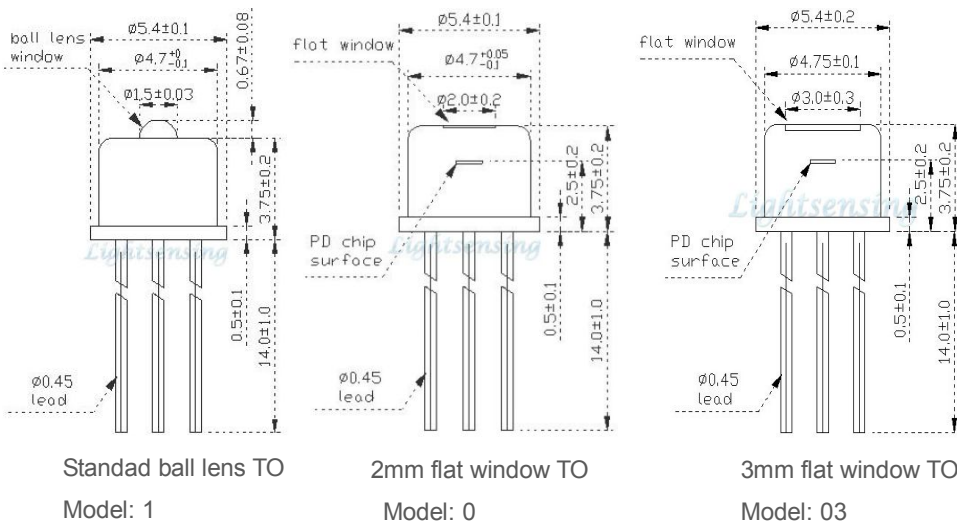
### The typical characteristic curve

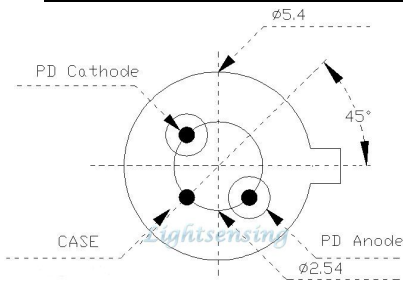


Dark current and photo current vs voltage



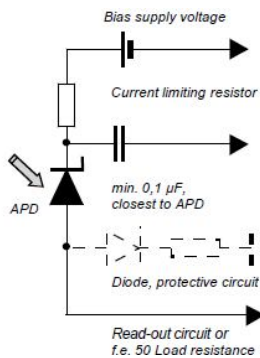
### The package and Lead





Type C1 PIN description  
Bottom View

### Application circuit



### Order information

LSSAPD9-500-X-X-X-X

X=C1	Type C1 PIN description	X=NF	no filter	X=1	$V_B:120-160V$	X=0	TO-46 Can with 2mm flat window cap
X=Other	By customer's request	X=9F	905 filter	X=2	$V_B:160-200V$	X=03	TO-46 Can with 3mm flat window cap
						X=1	TO-46 Can with ball lens cap
						X=SMFP	TO-46 Can with SM Fiber coupling with FC-PC connector
						X=SMFA	TO-46 Can with SM Fiber coupling with FC-APC connector
						X=SMSA	TO-46 Can with SM Fiber coupling with SC-APC connector
						X=5MMFA	TO-46 Can with 50um MM Fiber coupling with FC-APC connector
						X=6MMFA	TO-46 Can with 62.5um MM Fiber coupling with FC-APC connector
						X=10MMFA/P	TO-46 Can with 105um MM Fiber coupling with FC-APC/FC-PC connector
						X=20MMFA/P	TO-46 Can with 200um MM Fiber coupling with FC-APC/FC-PC connector
						X=2JKFC	TO-46 Can with fixed receptacle with FC connector and 2 pieces of fix holes
						X=4JKFC	TO-46 Can with fixed receptacle with FC connector and 4 pieces of fix holes
						X=Other	By customer's request

### The Cautions

- 1: The above product specifications are subject to change without notice.
- 2: The suitable ESD protecting measures are recommend in storage,transporting and using.
- 3: 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.