

1064nm enhanced Silicon 500um Avalanche Photodiode

Version: 3.1 17-03-01

Model: LSSAPDQ-500
Features:

- High reliability, low dark current
- Top illumination Planar APD
- High Gain up to M=400
- 1064nm responsivity 0.37A/W, 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

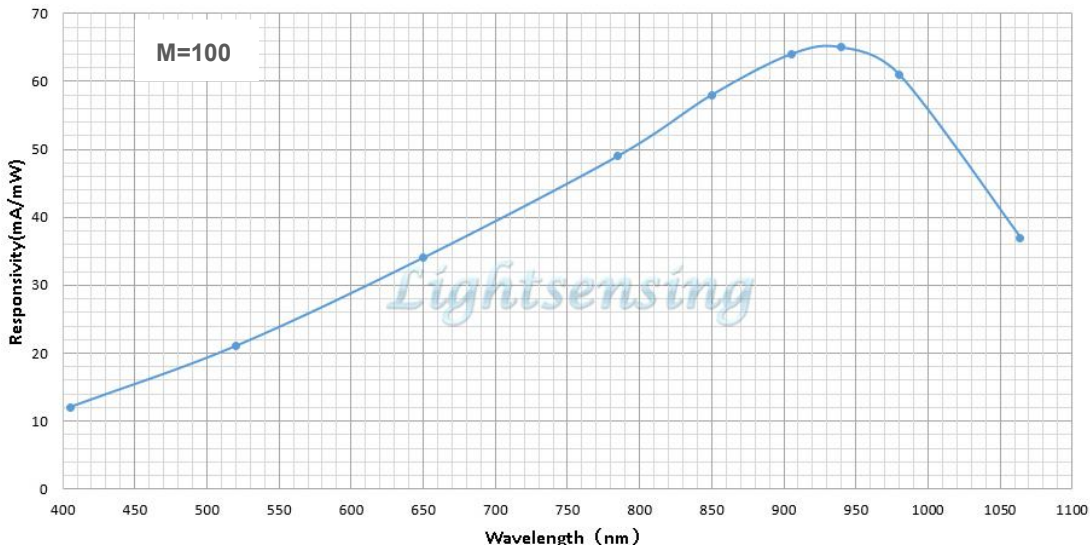
Operating voltage	0.9×VBR	Operating temperature	-45~+85℃	Power dissipation	1mW
Forward current	1mA	storage temperature	-45~+125℃	Soldering temperature(time)	260℃ (10s)

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

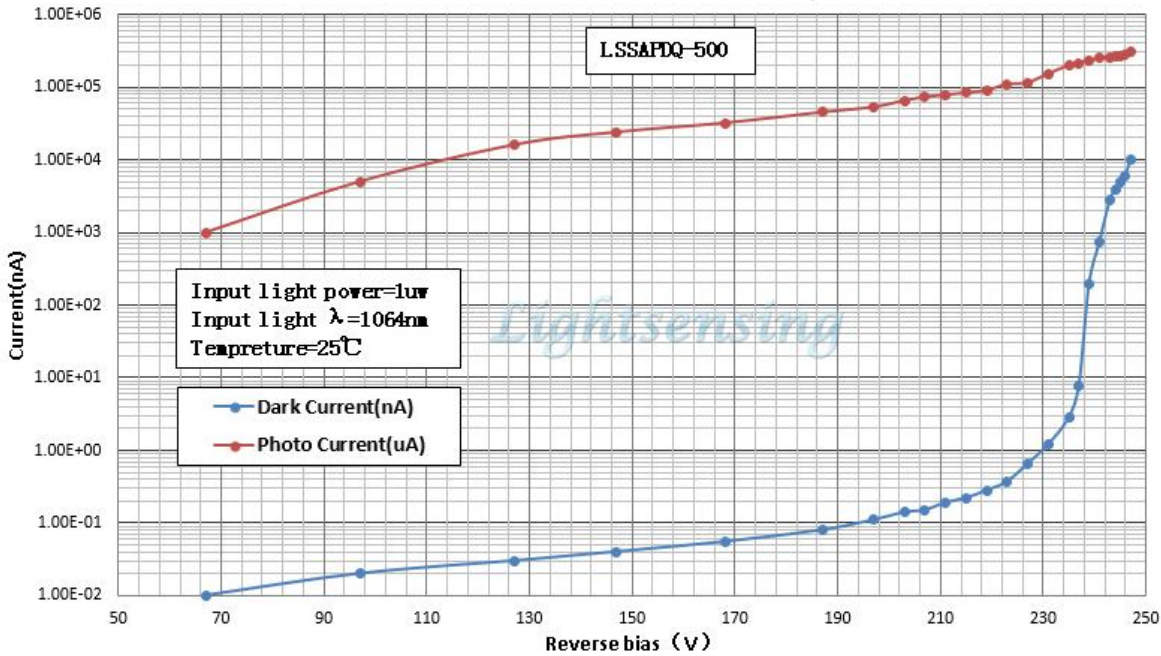
Parameters	Sym.	Test conditions	Min	Typ	Max	Unit
Response Spectrum	λ	—	400~1100			nm
Active diameter	φ	—	500			μm
Reponsivity	Re	$\lambda=905\text{nm}, 1\mu\text{w}, M=1$		0.65		A/W
		$\lambda=1064\text{nm}, 1\mu\text{w}, M=1$		0.37		A/W
Multiplication gain	M	$\lambda=1064\text{nm}, 1\mu\text{w}, 0.8V_{\text{BR}}$		100		
		$\lambda=1064\text{nm}, 1\mu\text{w}, 0.85V_{\text{BR}}$		200		
Response time	Tr	M=100, RL=50Ω, $\lambda=1064\text{nm}$.	2.5		ns
Dark current	Id	M=100		1.2	20	nA
Total capacitance	C _{tot}	M=100, f=1MHz		1.2		pF
Reverse breakdown voltage	V _{BR}	I _R =10uA	220	280	580	V
Maximum instantaneous input power	P	M=100, 1064nm, 10ns, 10KHZ			0.4	mW
Operating voltage temperature coefficient	δ	Tc=-40℃~85℃		3		V/℃
package	Hermetic TO46 Can or with receptacle or with fiber coupling					

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

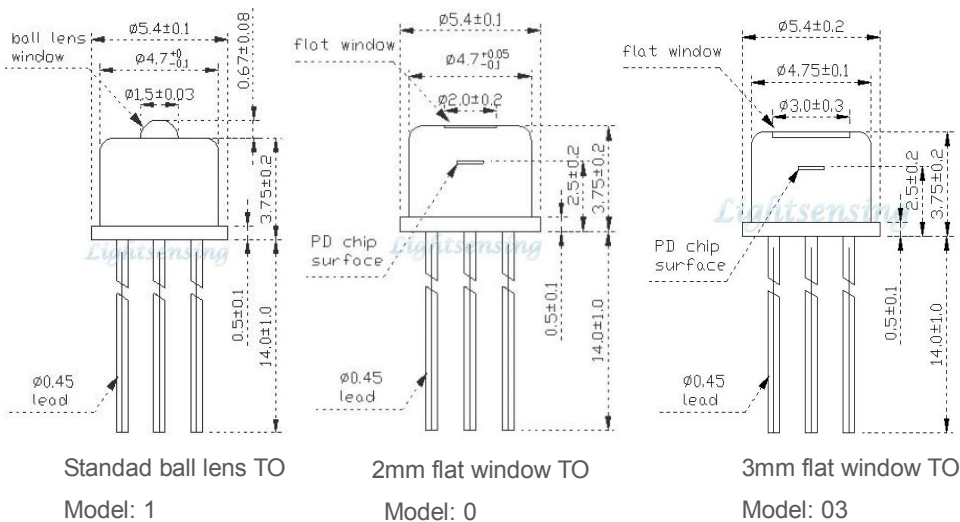
The typical characteristic curve

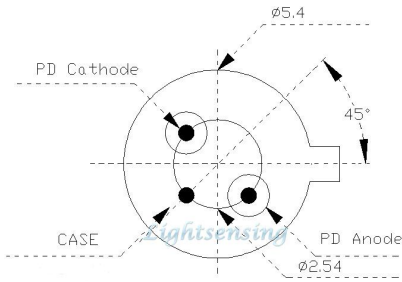


Dark current and photo current vs voltage



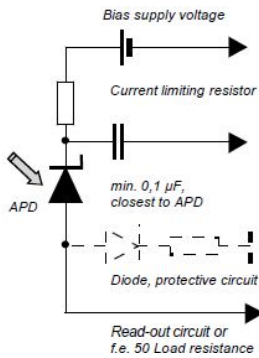
The package and Lead





Type C1 PIN description
Bottom View

Application circuit



Order information

LSSAPDQ-500-X-X-X-X

X=C1	Type C1 PIN description	X=NF	no filter	X=3	$V_B:220-300V$	X=0	TO-46 Can with 2mm flat window cap
X=Other	By customer's request	X=10F	1064 filter	X=5	$V_B:301-580V$	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.