1064nm enhanced Silicon 500um Avalanche Photodiode

Model: LSSAPDQ-500

V4.2SAPD-005 2022-01-01

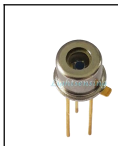
1.Features

- 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

2.Applications

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

3.Picture

							
0	0 with filter	03	L0	1	2JKFC	4JKFC	Fiber coupling

4.The absolute values

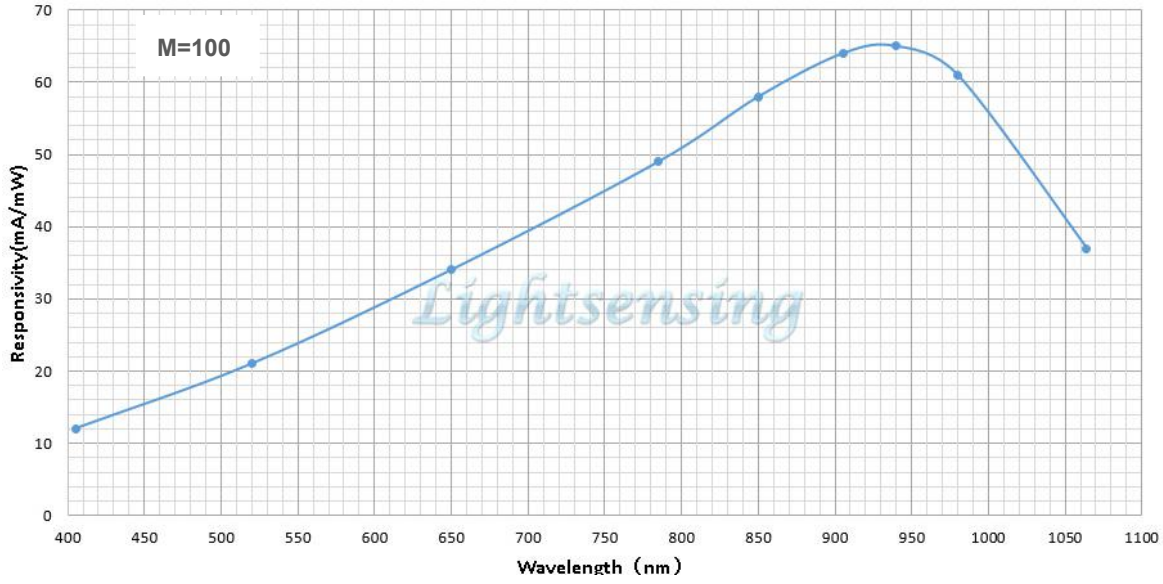
Operating voltage	0.95×V_{BR}	Operating temperature	-40～+85℃	storage temperature	-40～+100℃
Soldering temperature(time)	260℃(10s)				

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

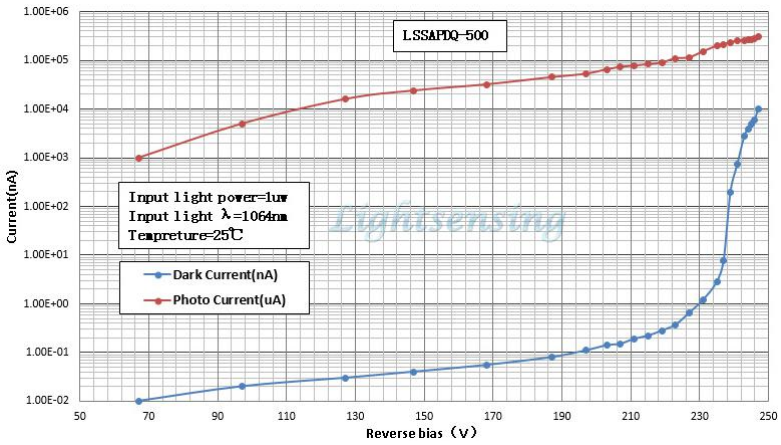
Parameters	Sym.	Test conditions	Min	Typ	Max	Unit
Response Spectrum	λ	—	400～1100			nm
Active diameter	φ	—	500			μm
Reponsivity	Re	λ=905nm,1μw, M=1		0.65		A/W
		λ=1064nm, 1μw, M=1		0.37		A/W
Multiplication gain	M	λ=1064nm, 1μw, 0.8V_{BR}		100		
		λ=1064nm, 1μw, 0.85V_{BR}		200		
Response time	Tr	M=100,RL=50Ω,λ=1064nm	.	2.5		ns
Dark current	Id	M=100		1.2	20	nA
Total capacitance	Ctot	M=100,f=1MHz		1.2		pF
Reverse breakdown voltage	V_{BR}	IR=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.

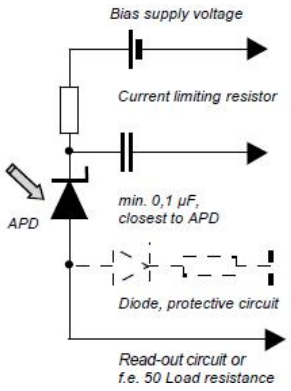
The typical characteristical curve



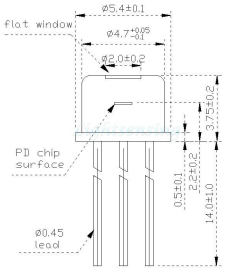
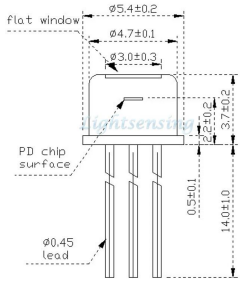
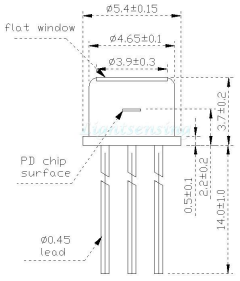
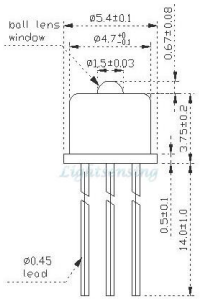
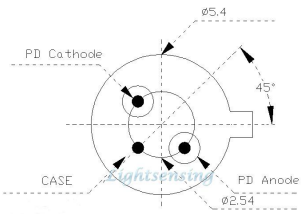
Dark current and photo current vs voltage



Application circuit



6. The package Dimensions and Lead

				
0	03	L0	1	Type C1 PIN description Bottom View

Note: For more information on dimension, please contact us

7.Order information

TO46 Can product order information:LS=Lightsensing

LS	SAPDQ	-500	-C1	-NF	-4	-03
	APD type	Active Area	PIN	Filter type	VB range	Cap type
	SAPD= Si APD	500=500um	C1=Type C1 PIN Other	NF=no filter 10F=1064nm filter Other	4=220-400V 5=401-580V	0=2mm flat window nickel-plated cap 03=3mm Flat window nickel-plated cap L0=3.9mm flat window nickel-plated cap 1=ball lens nickel-plated cap Other

Receptacle product order information:LS=Lightsensing

LS	SAPDQ	-500	-C1	-NF	-4	-2JKFC
	APD type	Active Area	PIN	Filter type	VB range	Receptacle type
	SAPD= Si APD	500=500um	C1=Type C1 PIN Other	NF=no filter 10F=1064nm filter Other	4=220-400V 5=401-580V	2JKFC=receptacle with FC connector and 2 mounting holes 4JKFC=receptacle with FC connector and 4 mounting holes Other

Fiber coupling product order information: LS=Lightsensing; Def=Default;

LS	SAPDQ	-500	-C1	-NF	-4	-SM	FA	-	-	-
	APD type	Active Area	PIN	Filter type	VB range	Fiber type	Fiber connector	Fiber tube	Fiber length	
	SAPD= Si APD	500=500um	C1=Type C1 PIN Other	NF=no filter 10F=1064nm filter Other	4=220-400V 5=401-580V	SM=9um SM 5MM=50um MM 6MM=62.5um MM 10MM=105um MM Other	FA=FC/APC FP=FC/PC SA=SC/APC SP=SC/PC Other	Def=0.9mm tight S=0.9mm Loose Other	Def=1 meter 0.3m=0.3 meter 0.5m=0.5 meter Other	

8. 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.