

1064nm enhanced Silicon 800um Avalanche Photodiode

Version: 3.1 17-03-01

Model: LSSAPDQ-800
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 TO5 Can


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

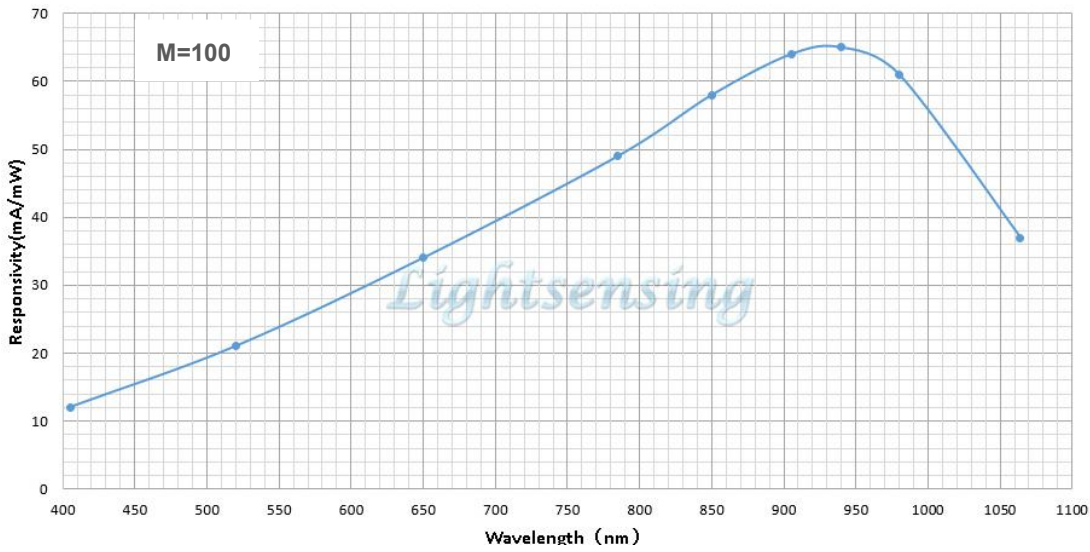
Operating voltage	$0.9 \times V_{BR}$	Operating temperature	$-45 \sim +85^{\circ}\text{C}$	Power dissipation	1mW
Forward current	1mA	storage temperature	$-45 \sim +125^{\circ}\text{C}$	Soldering temperature(time)	260°C (10s)

The opto-eletronic characteritics ($T=22\pm 3^{\circ}\text{C}$)

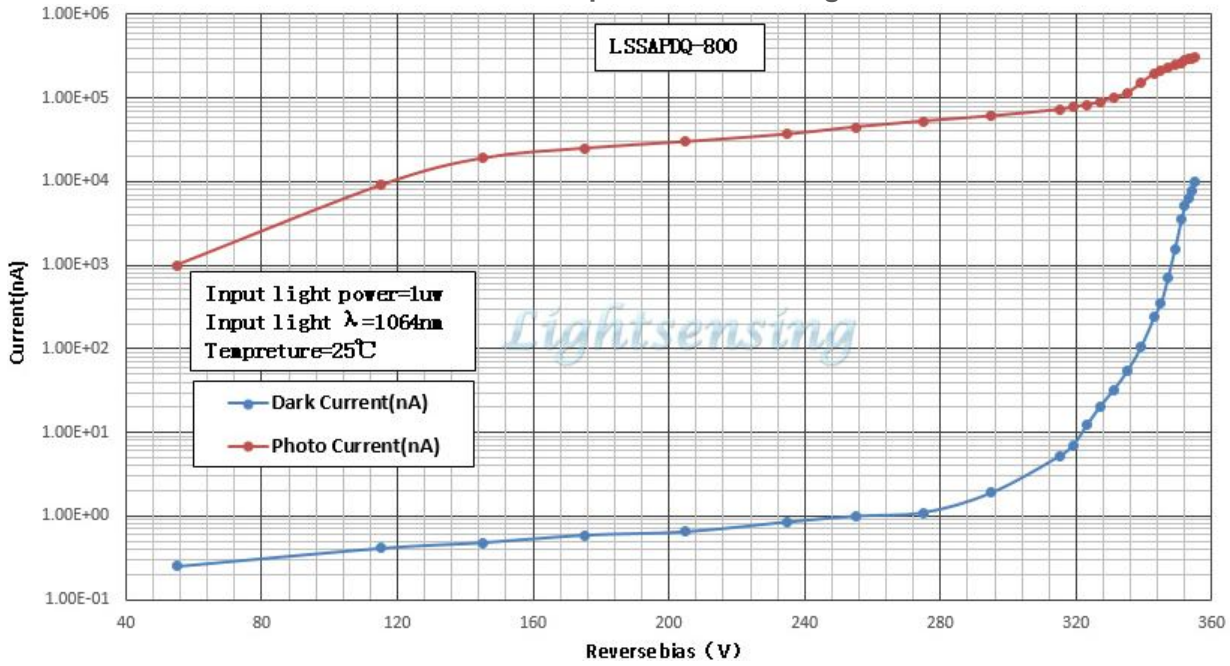
Parameters	Sym.	Test conditions	Min	Typ	Max	Unit
Response Spectrum	λ	—	400~1100			nm
Active diameter	φ	—	800			μm
Reponsivity	Re	$\lambda=905\text{nm}, 1\mu\text{w}, M=1$		0.65		A/W
		$\lambda=1064\text{nm}, 1\mu\text{w}, M=1$		0.37		A/W
Multiplication gain	M	$\lambda=1064\text{nm}, 1\mu\text{w}, 0.8V_{BR}$		100		
		$\lambda=1064\text{nm}, 1\mu\text{w}, 0.85V_{BR}$		200		
Response time	T_r	$M=100, RL=50\Omega, \lambda=1064\text{nm}$.	3		ns
Dark current	I_d	$M=100$		3	20	nA
Total capacitance	C_{tot}	$M=100, f=1\text{MHz}$		1.5		pF
Reverse breakdown voltage	V_{BR}	$I_R=10\mu\text{A}$	220	350	580	V
Maximum instantaneous input power	P	$M=100, 1064\text{nm}, 10\text{ns}, 10\text{KHZ}$			0.5	mW
Operating voltage temperature coefficient	δ	$T_c=-40^{\circ}\text{C} \sim 85^{\circ}\text{C}$		3		V/ $^{\circ}\text{C}$
package	Hermetic TO5 Can					

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

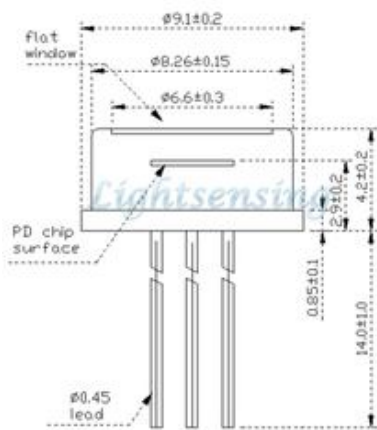
The typical characteristic curve



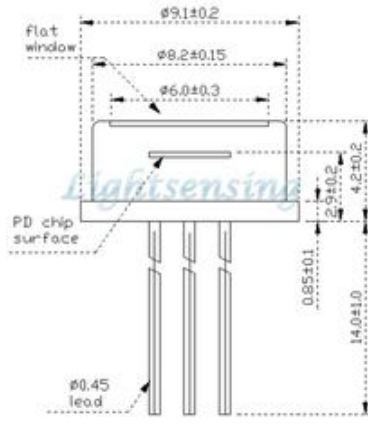
Dark current and photo current vs voltage



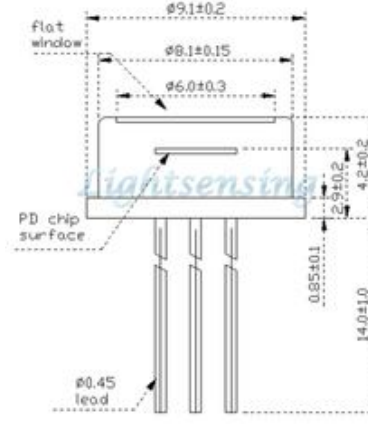
The package and Lead



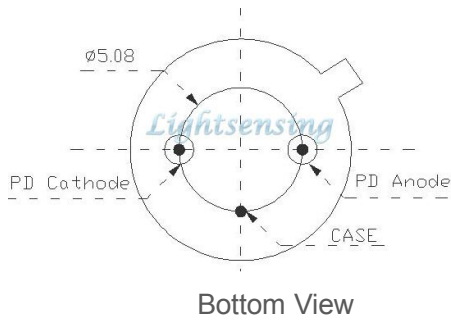
flat window 8.26mm TO
Model: 08.26



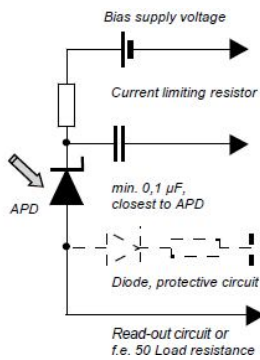
flat window 8.2mm TO
Model: 08.2



flat window 8.1mm TO
Model: 08.1



Application circuit



Order information

LSSAPDQ-800-X-X-X

X=NF	no filter	X=4	V_B :220-400V	X=08.1-Au	TO-5 Can with flat window Φ 8.1mm Au cap
X=10F	1064 filter	X=5	V_B :401-580V	X=08.1	TO-5 Can with flat window Φ 8.1mm nickel cap
				X=08.2	TO-5 Can with flat window Φ 8.2mm nickel cap
				X=08.26	TO-5 Can with flat window Φ 8.26mm nickel cap
				X=Other	By customer's request.

The Cautions

- 1: The above product specifications are subject to change without notice.
- 2: The suitable ESD protecting measure 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.