

200um InGaAs M=30 Avalanche Photodiode Version: 4.2 17-05-13

Model: LSIAPD-S200

Features:

- High reliability, low dark current
- Top illumination Planar APD
- High Gain up to M=30
- High bandwidth up to 1.25GHZ
- Hermetic TO46 Can or Mini TO Can or with fiber coupling



Applications:

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



The absolute values

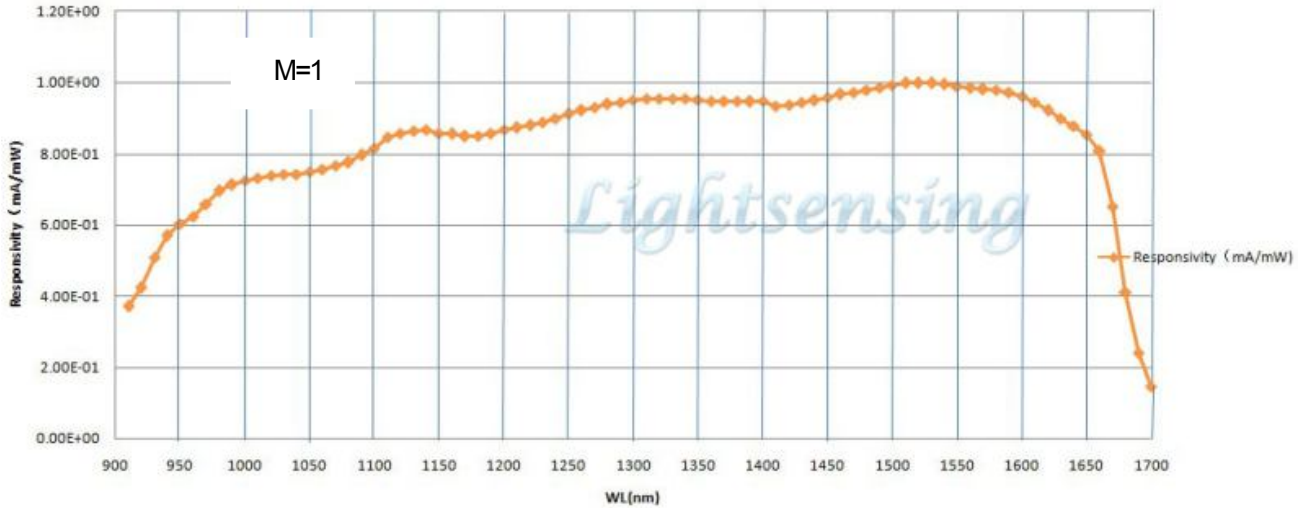
Operating voltage	$0.99 \times V_{BR}$	Operating temperature	$-40 \sim +85^{\circ}\text{C}$	Power dissipation	50mW
Forward current	8mA	storage temperature	$-45 \sim +100^{\circ}\text{C}$	Soldering temperature(time)	260°C (10s)

The opto-eletronic characteritics (@Tc=22±3°C)

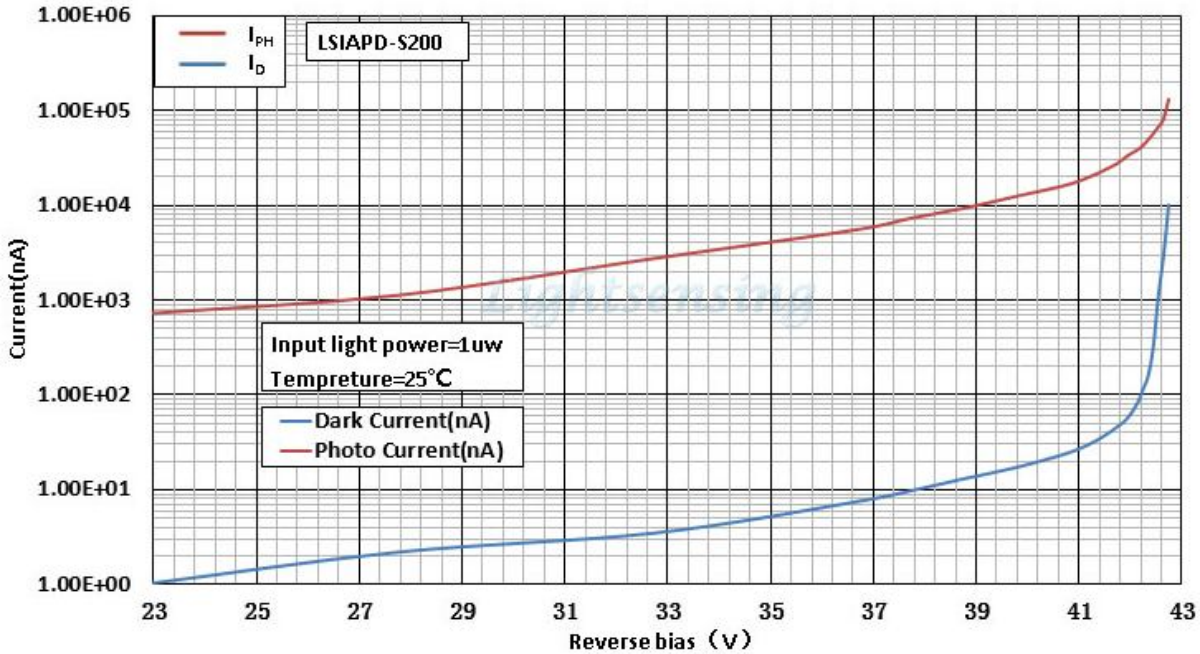
Parameters	Sym.	Test conditions	Min	Typ	Max	Unit
Response Spectrum	λ	—	800~1700			nm
Active diameter	φ	—	200			μm
Responsivity	Re	$\lambda=1.55\mu\text{m}, 1\mu\text{w}, M=1$		0.9		A/W
		$\lambda=1.064\mu\text{m}, 1\mu\text{w}, M=1$		0.65		A/W
Multiplication gain	M	$\lambda=1.55\mu\text{m}, 1\mu\text{w}, V_{BR}=4\text{V}$		10		
		$\lambda=1.55\mu\text{m}, 1\mu\text{w}, V_{BR}=2\text{V}$		20		
		$\lambda=1.55\mu\text{m}, 1\mu\text{w}, V_{BR}=1\text{V}$		30		
Rise time	Tr	$M=10, R_L=50\Omega$		300		ps
-3dB bandwidth	BW	$M=10, R_L=50\Omega$		1.25		GHz
Dark current	I_D	$M=10$		10	30	nA
Total capacitance	C_{tot}	$M=10$		2.4		pF
Reverse breakdown voltage	V_{BR}	$I_R=10\mu\text{A}$	35	43	55	V
Maximum instantaneous input power	P	$M=10, 1550\text{nm}, 10\text{ns}, 10\text{KHZ}$			0.6	mW
Operating voltage temperature coefficient	δ	$T_c=-40 \sim +85^{\circ}\text{C}$		0.11	0.15	V/°C
package	Hermetic TO46 Can or Mini TO Can or with fiber coupling					

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

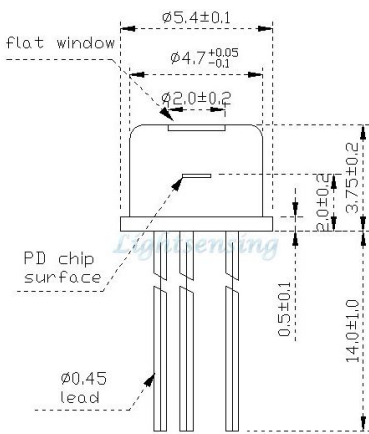
The typical characteristic curve



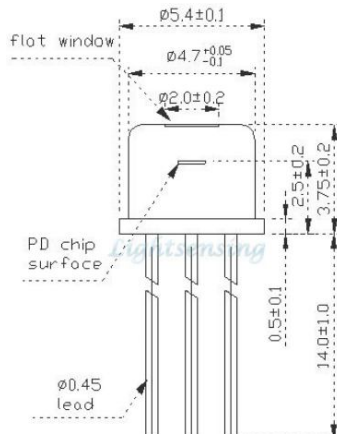
Dark current and photo current vs voltage



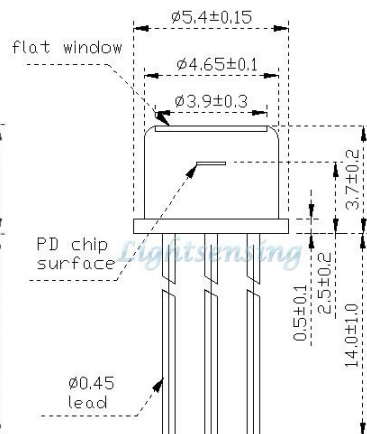
TO 46 package and Lead



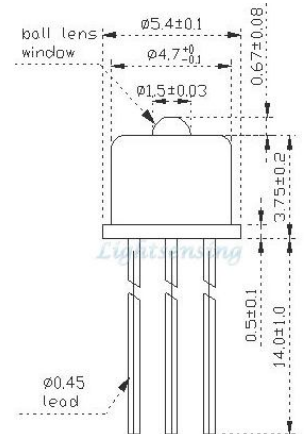
Type A PIN description
2mm flat window TO Model: 0



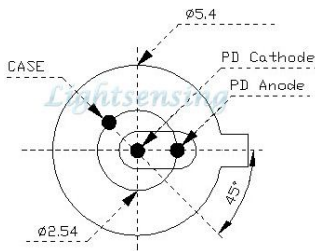
Type B PIN description
2mm flat window TO Model: 0



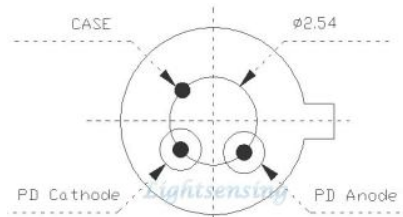
Type B PIN description
Large flat window TO Model: L0



Type B PIN description
ball lens TO Model: 1

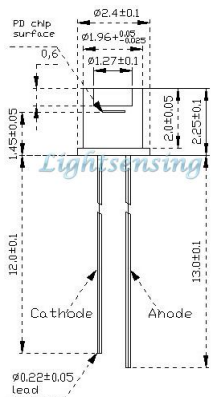


Type A PIN description
Bottom View

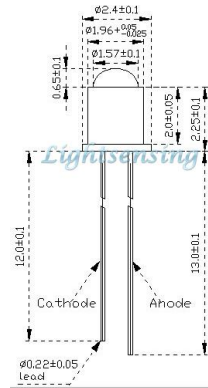


Type B PIN description
Bottom View

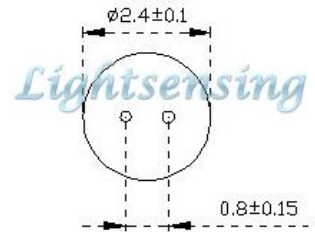
Mini-TO Can package and Lead



flat window Mini TO
Model: M0



ball lens Mini TO
Model: M1



TO46 package Ordering information

LSIAPD-S200-X-X	X=0	TO-46 Can with 2mm flat window cap
	X=0A	TO-46 Can with 2mm flat window cap and Antireflection Coatings
	X=L0	TO-46 Can with 3.9mm flat window cap
X=A Type A PIN description	X=L0A	TO-46 Can with 3.9mm flat window cap and Antireflection Coatings
X=B Type B PIN description	X=1	TO-46 Can with ball lens cap
	X=1A	TO-46 Can with ball lens cap and Antireflection Coatings
	X=SMFA/P	TO-46 Can with SM Fiber coupling with FC-APC/FC-PC connector
	X=SMSA	TO-46 Can with SM Fiber coupling with SC-APC connector
	X=5MMFA/P	TO-46 Can with 50um MM Fiber coupling with FC-APC/FC-PC connector
	X=6MMFA/P	TO-46 Can with 62.5um MM Fiber coupling with FC-APC/FC-PC connector
	X=10MMA/P	TO-46 Can with 105um MM Fiber coupling with FC-APC/FC-PC connector
	X=20MMA/P	TO-46 Can with 200um MM Fiber coupling with FC-APC/FC-PC connector
	X=Other	By customer's request

Mini TO package Ordering information

LSIAPD-S200-X	X=M0	Mini TO Can with flat window cap
	X=M1	Mini TO Can with ball lens window cap
	X=M1-SMFA/P	Mini TO Can with SM Fiber coupling with FC-APC/FC-PC connector
	X=M1-6MMFA/P	Mini TO Can with 62.5um MM Fiber coupling with FC-APC/FC-PC connector
	X=M1-10MMFA/P	Mini TO Can with 105um MM Fiber coupling with FC-APC/FC-PC connector
	X=M1-20MMFA/P	Mini TO Can with 200um MM Fiber coupling with FC-APC/FC-PC connector
	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.