200um InGaAs APD with pre-amplifier

Version: sample 17-05-15

Model: LSIAPDT-S200

Features:

- High sensitivity at the wavelength of 1310nm/1550nm
- wavelength range 800-1700nm
- Low voltage power supply: 3.3V and Differential output
- Built-in 200um InGaAs APD+TIA
- Hermetic TO-46 Can or with fiber coupling

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Fiber coupling

Applications:

- Free-Space Optical communication (FSO)
- laser range finding and laser lidar
- Low light sensor
- Analytical instruments and Medical equipment
- high resolution Optical Coherence Tomography
- Industrial automatic control

The absolute values

APD Operating voltage	0.99×V_{BR}	Operating temperature	-40～+85℃	Input light power	-5dBm
Amp Operating voltage	4V	storage temperature	-55～+85℃	Soldering temperature(time)	260℃（10s）

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

Parameters	Sym.	Test conditions	Min	Typ	Max	Unit
Response Spectrum	λ	—		800～1700		nm
APD responsivity	Re	λ=1.55μm,φ_e=1μw, VR=V_{BR}-3		10		A/W
Small signal bandwidth(-3dB)	BW	VR=V_{BR}-3		155(1)		Mbps
Small signal bandwidth(-3dB)	BW	VR=V_{BR}-3		1.25(2)		Gbps
Low frequency cut-off	LF	-3dB		20		KHZ
Sensitivity	S	PRBS= 2^{23}-1,BER=10^{-10}, 1310nm ER=10dB@2.5Gbps, V_R=V_{BR}-3		-42(1)		dBm
Sensitivity	S	PRBS= 2^{23}-1,BER=10^{-10}, 1310nm ER=10dB@2.5Gbps, V_R=V_{BR}-3		-32(2)		dBm
Output impedance	Rout	Differential output	60	100	140	Ω
APD reverse breakdown voltage	V_{BR}	ID=100μA	40		60	V
APD operation voltage	V_{APD}	Best sensitivity		V_{BR}-3		V
Saturated optical power	Psat			-7		dBm
Operating voltage of TIA	Vcc		3.0	3.3	3.6	V
Operating current of TIA	Icc			23(1)	33(1)	mA
Operating current of TIA	Icc			28(2)	36(2)	mA
Transimpedance	Zt		40(1)		300(1)	KΩ
Transimpedance	Zt		16(2)	26(2)	36(2)	KΩ
Operating voltage temperature coefficient	δ	Tc=-40～+80℃		0.12	0.15	V/℃
package	Hermetic TO-46 Can with pre-amplifier and lens cap or with fiber coupling					

Note: (1) for 155M amplifier; (2) for 1.25G amplifier.

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

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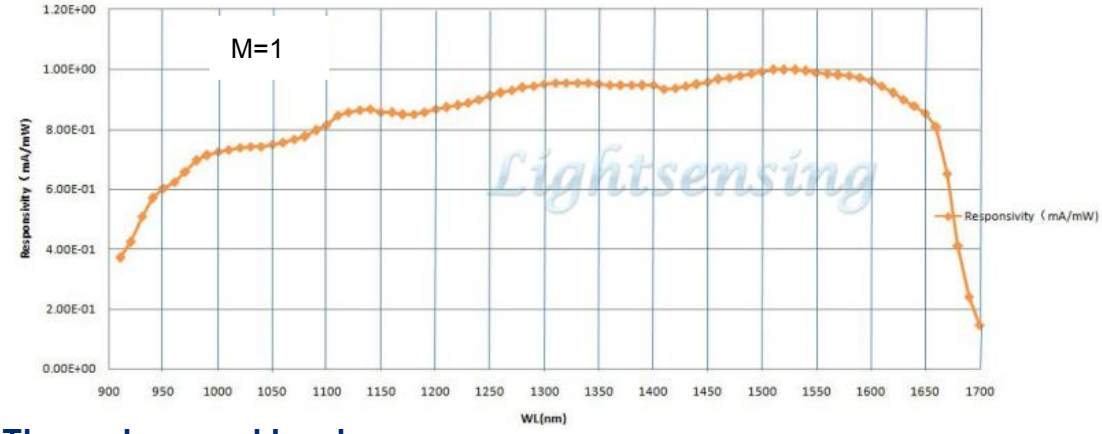
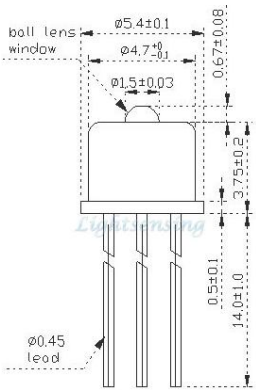
The typical Responsivity curve

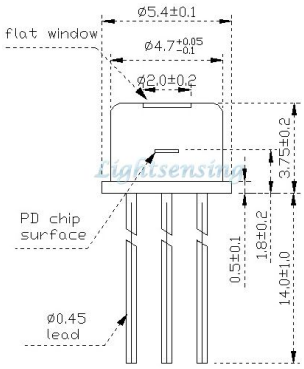


The package and Lead



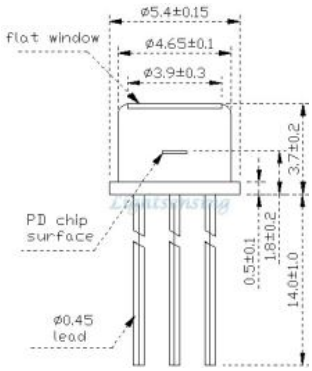
Standard ball lens TO

Model: 1



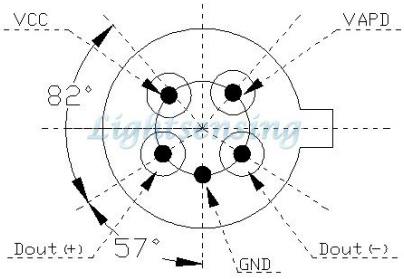
2mm flat window TO

Model: 0



large flat window TO

Model: L0



Bottom View

Note: In order to get other dimensions, please contact us.

Ordering Information

LSIAPDT-S200-X-X

X=155M 155Mbps

X=1.25G 1.25Gbps

X=1	TO-46 Can with ball lens cap
X=0	TO-46 Can with 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=L0A	TO-46 Can with 3.9mm flat window cap and Antireflection Coatings
X=SMFP	SM Fiber coupling with FC-PC connector
X=SMFA	SM Fiber coupling with FC-APC connector
X=SMSA	SM Fiber coupling with SC-APC connector
X=5MMFA	50um MM Fiber coupling with FC-APC connector
X=6MMFA	62.5um MM Fiber coupling with FC-APC 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 mearsure 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.

4. Pins must be connected correctly, and the differential load should be 100Ω when AC coupling output.

5. Proper design and measures are required to avoid high-voltage damage to operator when use this device.

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