

10Gbps InGaAs APD with pre-amplifier

Version: sample 18-09-01

Model: LSIAPDT-10G

Features:

- High sensitivity at the wavelength of 1310nm/1550nm
- Data rate up to 10Gbps
- Low voltage power supply: 3.3V and Differential output
- Built-in InGaAs APD+TIA
- Hermetic TO-46 Can or with fiber coupling



Fiber coupling

Applications:

- Telecommunication and Data communication
- Optical sensor and OTDR
- high resolution Optical Coherence Tomography
- Industrial automatic control
- Science analysis and experiment

The absolute values

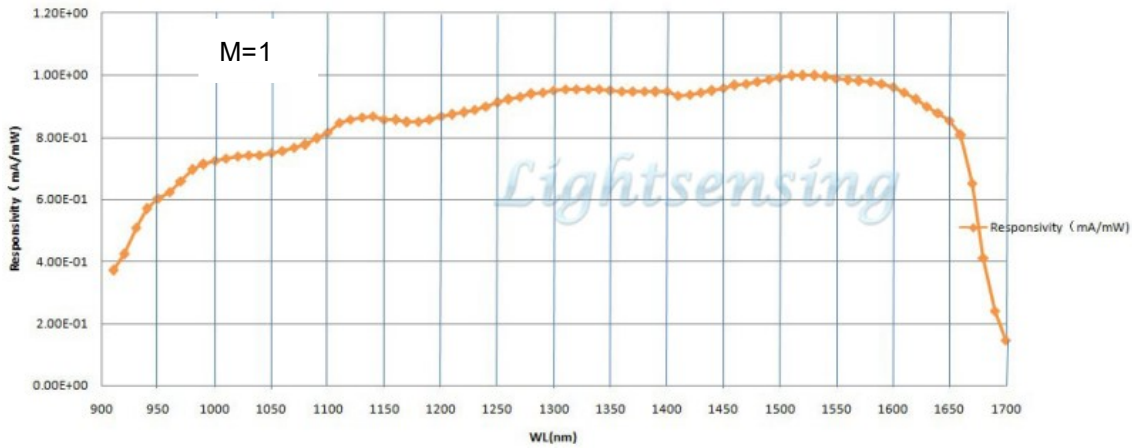
APD Operating voltage	$0.99 \times V_{BR}$	Operating temperature	$-40 \sim +85^{\circ}\text{C}$	Input light power	-5dBm
Amp Operating voltage	4V	storage temperature	$-55 \sim +85^{\circ}\text{C}$	Soldering temperature(time)	260°C (10s)

The opto-eletronic characteristics (@ $T_c=22 \pm 3^{\circ}\text{C}$)

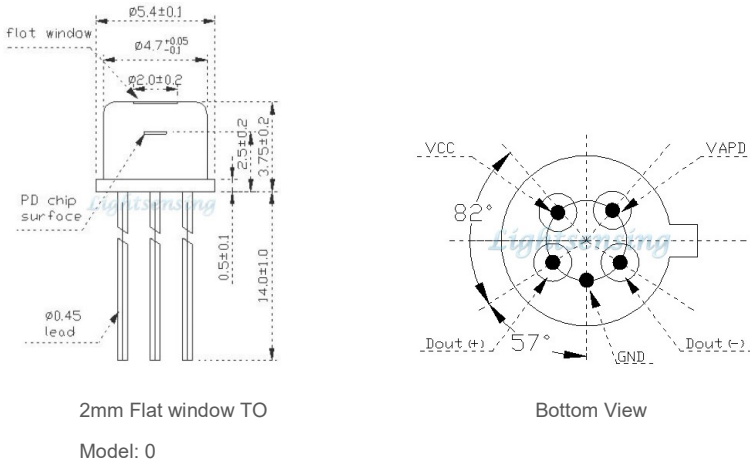
Parameters	Sym.	Test conditions	Min	Typ	Max	Unit
Response Spectrum	λ	—	800~1700			nm
APD responsivity	Re	$\lambda=1.55\mu\text{m}, \phi_e=1\mu\text{W}, V_R=V_{BR}-3$		8		A/W
Small signal bandwidth(-3dB)	BW	$V_R=V_{BR}-3$		10		Gbps
Low frequency cut-off	LF	-3dB		20		KHZ
Sensitivity	S	PRBS= $2^{23}-1$, BER= 10^{-10} , 1310nm ER=8dB@10.3125Gbps, $V_R=V_{BR}-3$		-25		dBm
Output impedance	R_{out}	Differential output	80	100	140	Ω
APD reverse breakdown voltage	V_{BR}	$I_D=100\mu\text{A}$	20	28	50	V
APD operation voltage	V_{APD}	Best sensitivity		$V_{BR}-3$		V
Saturated optical power	P_{sat}		-7			dBm
Operating voltage of TIA	V_{CC}		3.0	3.3	3.5	V
Operating current of TIA	I_{CC}			27	34	mA
Transimpedance	Z_t		1.7	3.2		K Ω
Operating voltage temperature coefficient	δ	$T_c=-40 \sim +80^{\circ}\text{C}$		0.12	0.15	V/ $^{\circ}\text{C}$
package	Hermetic TO-46 Can with pre-amplifier and lens cap or with fiber coupling					

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

The typical Responsivity curve



The package and Lead



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

Ordering Information

LSIAPDT-10G-X-X

X=TO 5 PIN TO

X=F Flex Circuit RF connection

X=0

X=SMFP

X=SMFA

X=SMSA

X=5MMFA

X=Other

TO-46 Can with flat window cap

SM Fiber coupling with FC-PC connector

SM Fiber coupling with FC-APC connector

SM Fiber coupling with SC-APC connector

50um MM Fiber coupling with FC-APC connector

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.
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.