100um InGaAs M=30 Avalanche Photodiode Version: 3.1 17-05-13

Model: LSIAPD-100

Features:

- High reliability, low dark current
- Top illumination Planar APD
- High Gain up to M=30
- High bandwidth up to 1.5GHZ
- Hermetic TO46 Can or Mini TO Can or with fiber coupling


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0


L0

Applications:

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


M0


M1


Fiber coupling

The absolute values

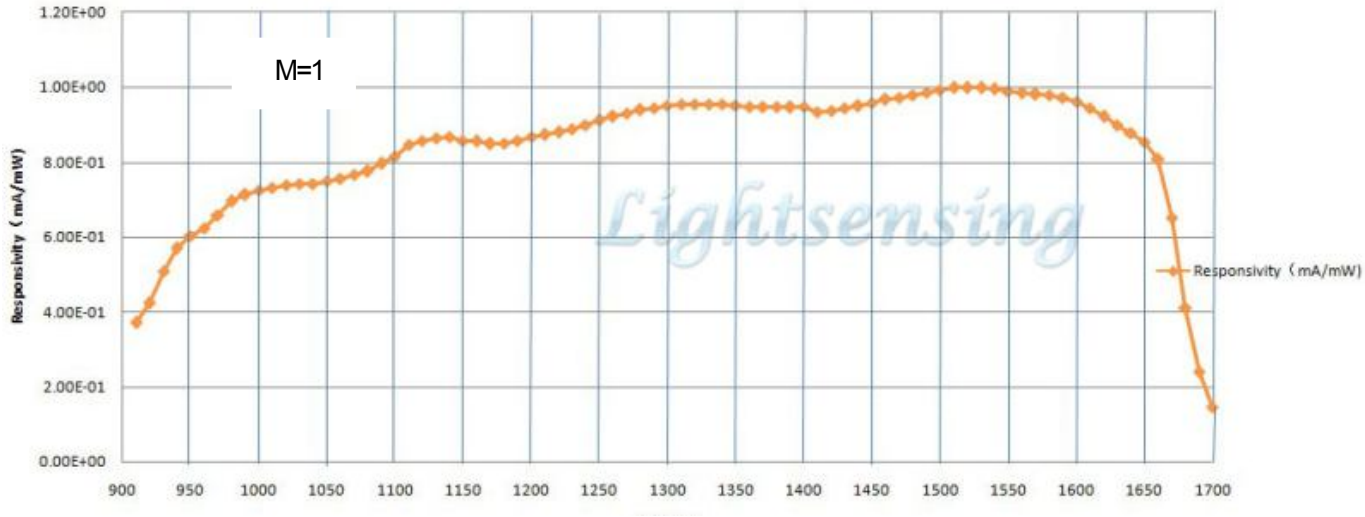
Operating voltage	0.99×V_{BR}	Operating temperature	-40～+85℃	Power dissipation	50mW
Forward current	5mA	storage temperature	-45～+100℃	Soldering temperature(time)	260℃（10s）

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

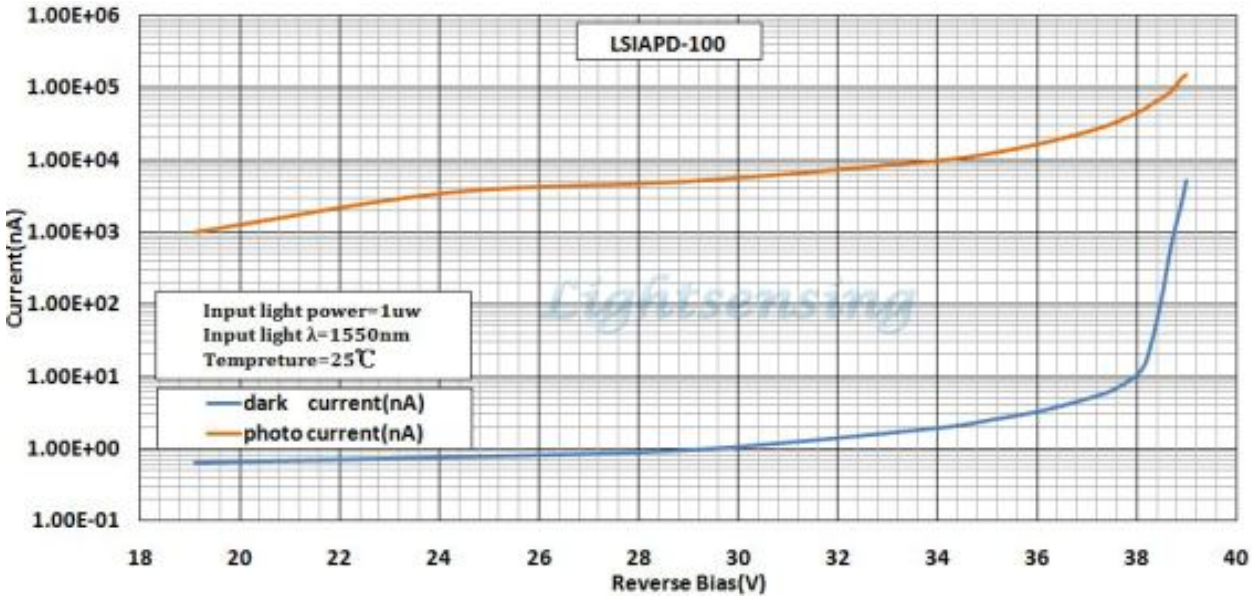
Parameters	Sym.	Test conditions	Min	Typ	Max	Unit
Response Spectrum	λ	—		800～1700		nm
Active diameter	φ	—		100		μm
Responsivity	Re	λ=1.55μm, 1μw, M=1		0.9		A/W
		λ=1.064μm, 1μw, M=1		0.65		A/W
Multiplication gain	M	λ=1.55μm, 1μw, V_{BR}-4V		10		
		λ=1.55μm, 1μw, V_{BR}-2V		20		
		λ=1.55μm, 1μw, V_{BR}-1V		30		
Rise time	Tr	M=10, R_L=50Ω		200		ps
-3dB bandwidth	BW	M=10, R_L=50Ω		1.5		GHz
Dark current	I_D	M=10		4	15	nA
Total capacitance	C_{tot}	M=10		2		pF
Reverse breakdown voltage	V_{BR}	I_R=10uA	35	43	55	V
Maximum instantaneous input power	P	M=10,1550nm,10ns,10KHZ			0.45	mW
Operating voltage temperature coefficient	δ	Tc=-40～+85℃		0.11	0.15	V/℃
package	Hermetic TO46 Can or Mini TO Can or with fiber coupling					

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

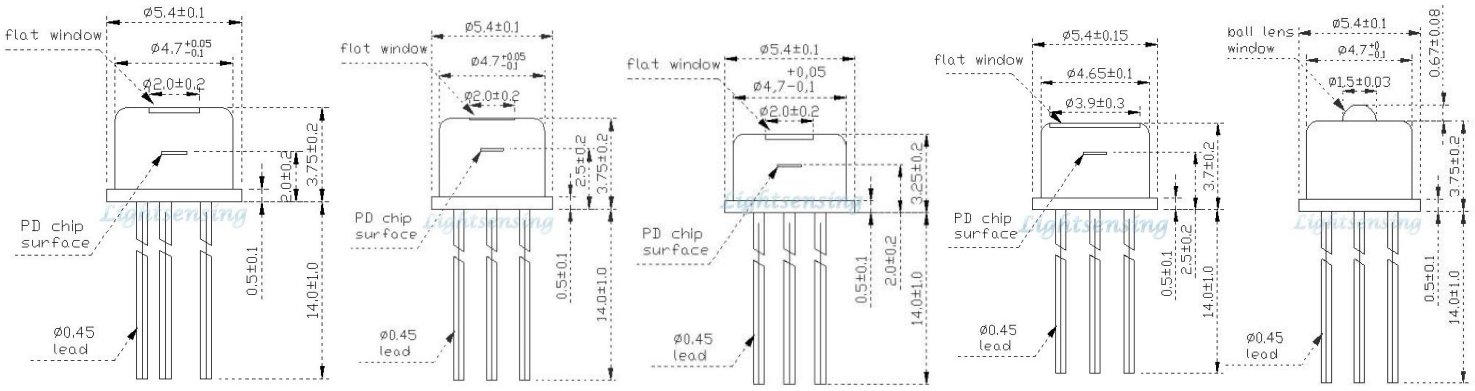
The typical characteristical curve



Dark current and photo current vs voltage



TO 46 package and Lead



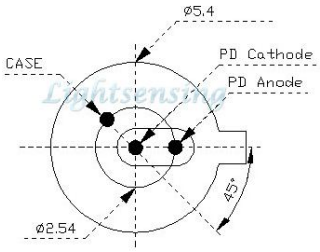
Type A PIN description
2mm flat window TO Model: 0

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

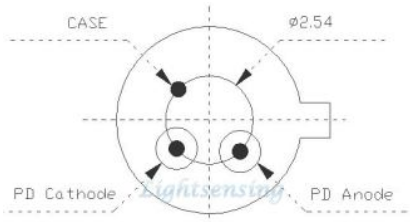
Type B PIN description short Cap
2mm flat window TO Model: S0

Type B PIN description
Large flat window TO Model: L0

Type B PIN description
ball lens TO Model: 1

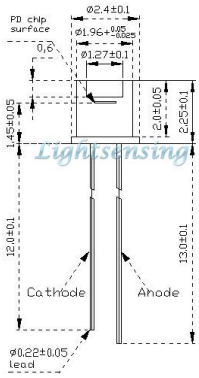


Type A PIN description
Bottom View

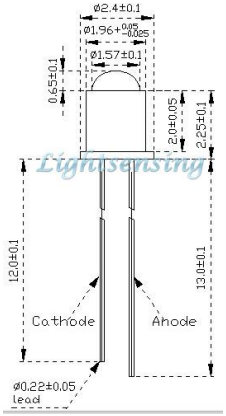


Type B PIN description
Bottom View

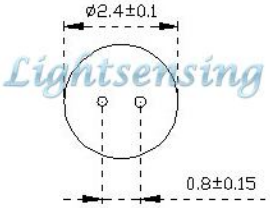
Mini-TO Can package and Lead



flat window Mini TO
Model: M0



ball lens Mini TO
Model: M1



TO46 package Ordering information

LSIAPD-100-X-X

X=A Type A PIN description
X=B Type B PIN description

X=0	TO-46 Can with 2mm flat window cap
X=0A	TO-46 Can with 2mm flat window cap and Antireflection Coatings
X=S0	TO-46 Can with 2mm flat window and 3mm short cap
X=S0A	TO-46 Can with 2mm flat window and 3mm short 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=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=Other	By customer's request

Mini TO package Ordering information

LSIAPD-100-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=Other	By customer's request