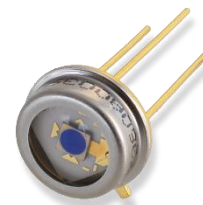




## LAPD-3-09-17-TO39

- InGaAs PIN Photodiode
- Ø 3 mm active area
- 0.9 – 1.7 µm spectral range
- Low Dark Current
- High Responsivity



### Description

**LAPD-3-09-17-TO39** is an InGaAs PIN photodiode with an active area diameter of **3 mm**, offering a very low dark current and excellent spectral sensitivity range from 0.9 to 1.7 µm. **LAPD-3-09-17-TO39** comes in a **hermetically sealed TO-39** Package with flat glass window. It is widely used for spectral analysis, power monitoring, SWIR camera, light detection, and LIDAR applications.

### Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Reverse Voltage	$V_R$	10	V
Reverse Current	$I_R$	10	mA
Forward Current	$I_F$	10	mA
Operating Temperature	$T_{OPR}$	- 40    + 85	°C
Storage Temperature	$T_{STG}$	- 40    + 85	°C
Soldering Temperature (max. 5s)	$T_{SOL}$	max. 260	°C



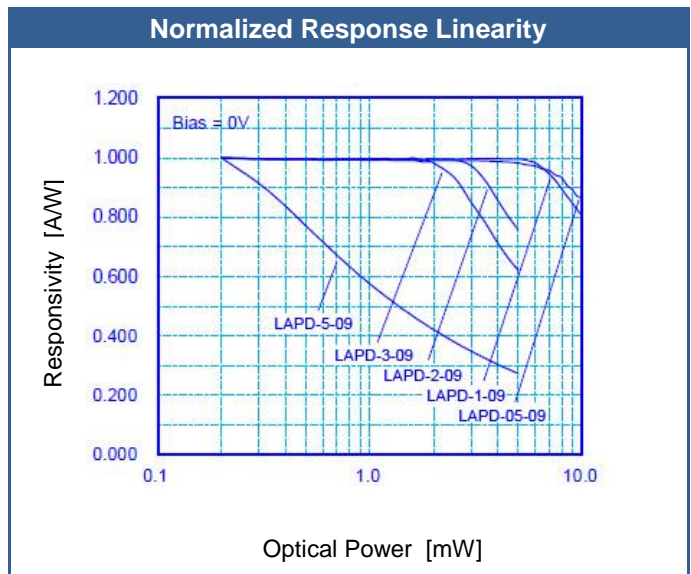
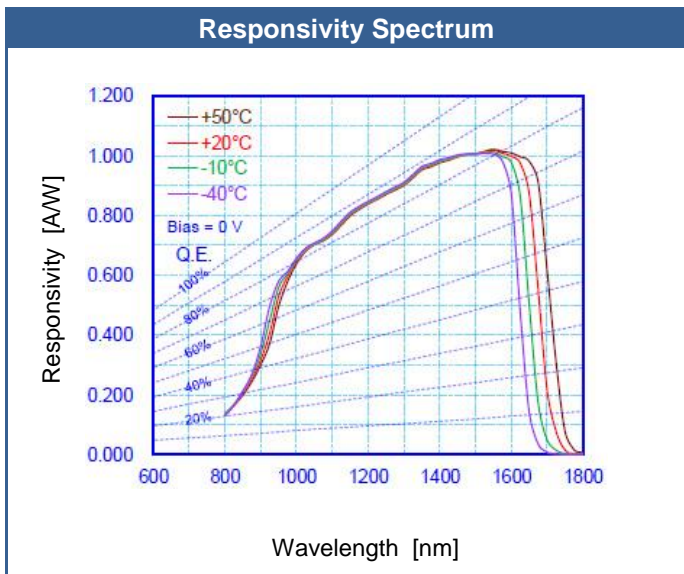
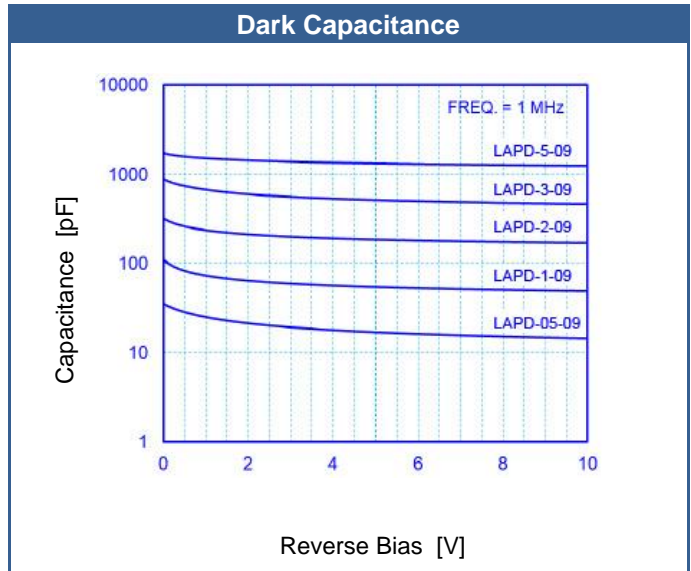
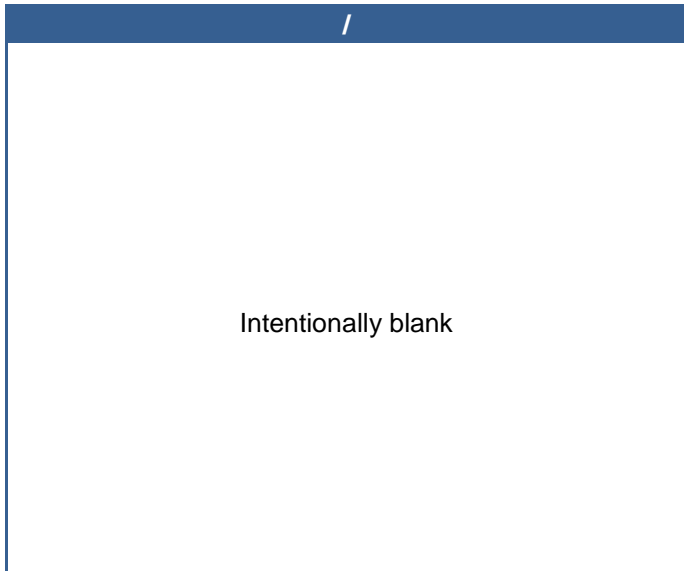
### Electro-Optical Characteristics ( $T_{CASE} = 23^\circ\text{C}$ )

Parameter	Symbol	Condition	min.	typ.	max.	Unit
Spectral Range	$\lambda$		0.9		1.7	µm
Aperture Diameter	$\varnothing$			3000		µm
Peak Sensitivity	$\lambda_P$	$V_R=0\text{ V}$		1.55		µm
Dark Current	$I_D$	$V_R=5\text{ V}$		10	20	nA
Shunt Resistance	$R_{SH}$	$V_R=10\text{ mV}$	5	20		MΩ
Capacitance	$C_J$	@ 1 MHz, $V_R=0\text{ V}$		900	1300	pF
		@ 1 MHz, $V_R=5\text{ V}$		500	700	pF
3dB Bandwidth		$V_R=5\text{ V}$ (50Ω)	4.5	6		MHz
Responsivity	$S_\lambda$	0.85 µm, 0 V	0.10	0.15		A/W
		1.3 µm, 0 V	0.80	0.90		A/W
		1.55 µm, 0 V	0.90	0.95		A/W
Saturation Power*	$P_S$	1.55 µm, 0 V, -0.2 dB	1.5	3		mW
Noise Equivalent Power	$NEP$	1.55 µm, 0 V, 1 KHz		4	8	$10^{-14}\text{ W}/\sqrt{\text{Hz}}$

\* measured at the aperture with an  $1/e^2$  beam diameter of 250 µm



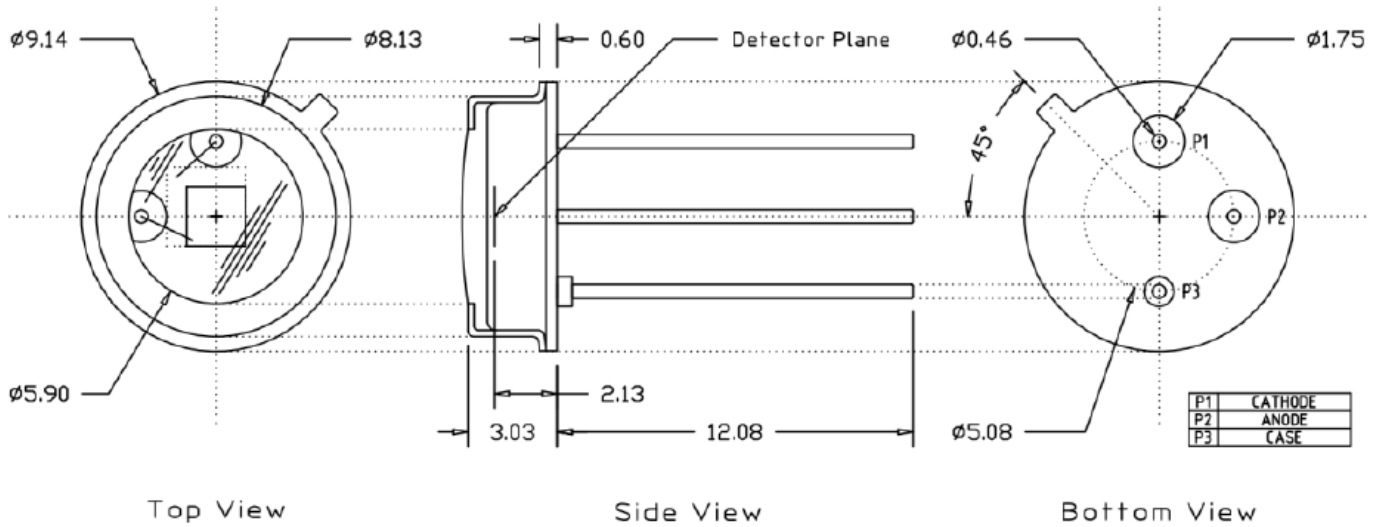
## Performance Characteristics ( $T_{CASE} = 23^{\circ}C$ )





## Outline Dimensions

TO-39



All dimensions in mm

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The above specifications are for reference purpose only and subjected to change without prior notice