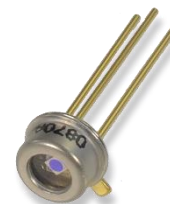




LAPD-1-09-17-TO46

- InGaAs PIN Photodiode
- Ø 1 mm active area
- 0.9 – 1.7 µm spectral range
- Low Dark Current
- High Responsivity



Description

LAPD-1-09-17-TO463 is an InGaAs PIN photodiode with an active area diameter of **1 mm**, offering a very low dark current and excellent spectral sensitivity range from 0.9 to 1.7 µm. **LAPD-1-09-17-TO463** comes in a **hermetically sealed TO-46** 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 | 20 | 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 |



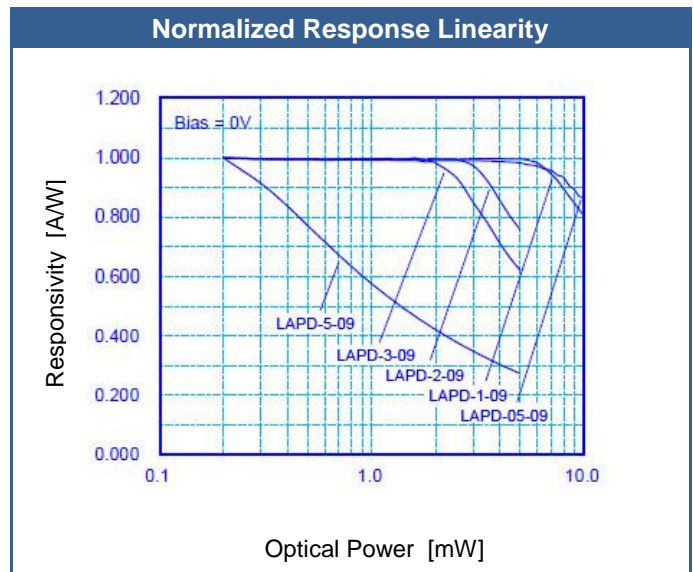
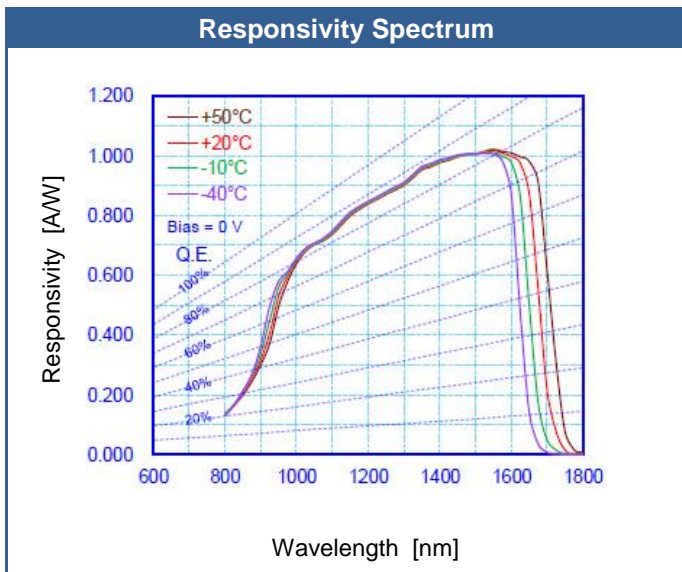
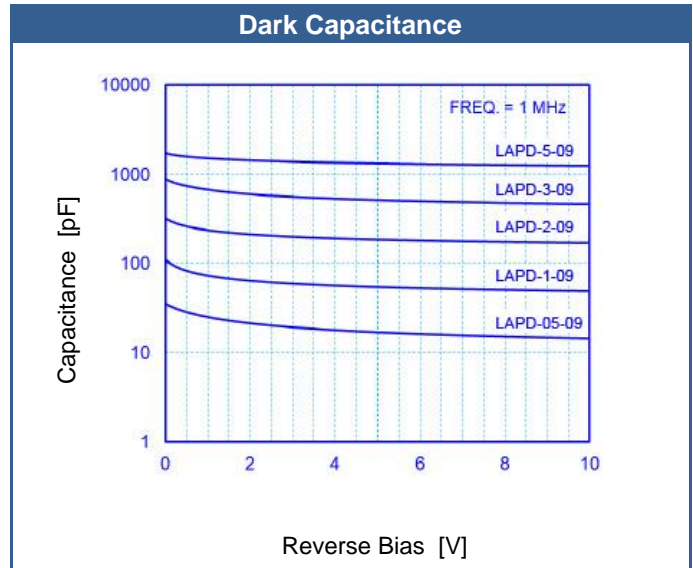
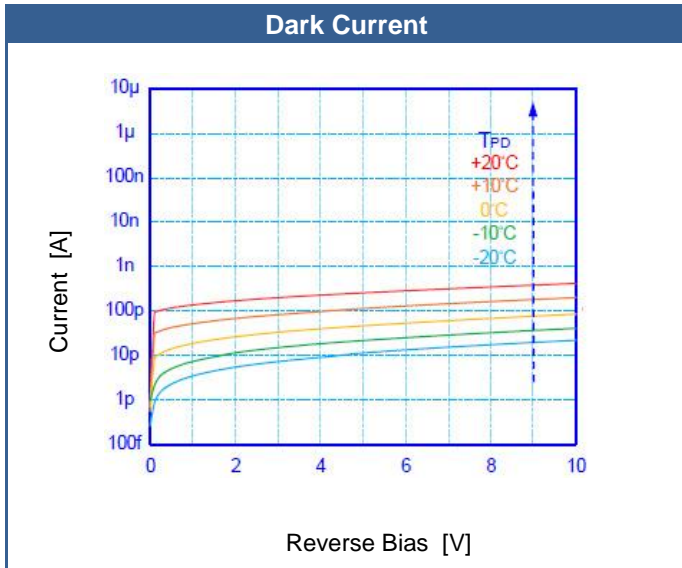
Electro-Optical Characteristics ($T_{CASE} = 23^\circ\text{C}$)

| Parameter | Symbol | Condition | min. | typ. | max. | Unit |
|------------------------|---------------|------------------------------------|------|------|------|--------------------------------------|
| Spectral Range | λ | | 0.9 | | 1.7 | µm |
| Aperture Diameter | \varnothing | | | 950 | | µm |
| Peak Sensitivity | λ_P | $V_R=0\text{ V}$ | | 1.55 | | µm |
| Dark Current | I_D | $V_R=5\text{ V}$ | | 1 | 2 | nA |
| Shunt Resistance | R_{SH} | $V_R=10\text{ mV}$ | 50 | 200 | | MΩ |
| Capacitance | C_J | @ 1 MHz, $V_R=0\text{ V}$ | | 120 | 160 | pF |
| | | @ 1 MHz, $V_R=5\text{ V}$ | | 60 | 80 | pF |
| 3dB Bandwidth | | $V_R=5\text{ V (50}\Omega\text{)}$ | 30 | 40 | | MHz |
| Responsivity | S_λ | 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 | 5 | 7 | | mW |
| Noise Equivalent Power | NEP | 1.55 µm, 0 V, 1 KHz | | 1.2 | 2.4 | $10^{-14}\text{ W}/\sqrt{\text{Hz}}$ |

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



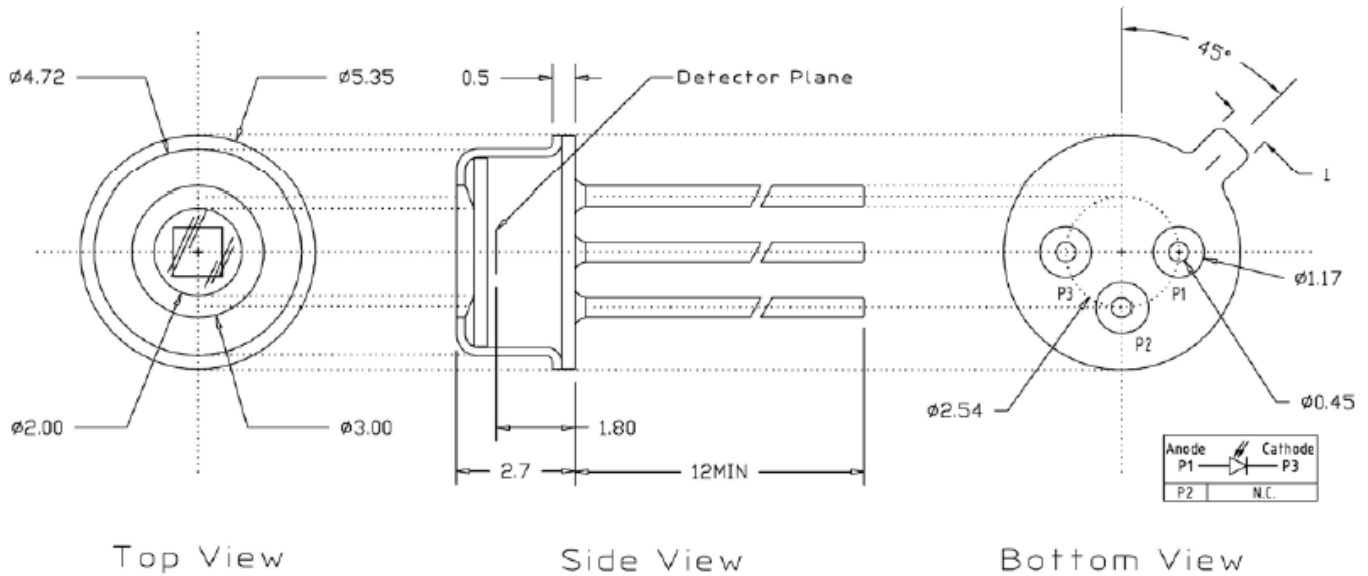
Performance Characteristics ($T_{CASE} = 23^{\circ}C$)





Outline Dimensions

TO-46



All dimensions in mm

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