# Chapter 6 Specifications

All measurements are performed at 25 °C unless stated otherwise.

| Electrical Specifications | | |
|---|---|---|
| **Parameter** | **Symbol** | **Value** |
| **Detector** | - | InGaAs PIN |
| **Active Area Diameter** | - | Ø80 µm |
| **Wavelength Range** | λ | 800 to 1700 nm |
| **Peak Wavelength** | $\lambda_p$ | 1550 nm |
| **Peak Response**[2] | $\Re(\lambda_p)$ | 0.90 A/W (Typ.) |
| **Diode Capacitance** | $C_J$ | 0.3 pF |
| **Bandwidth**[2,3,4] **(-3 dB)** | - | 5 GHz |
| **Rise Time**[2,3,4] **(20/80%) @ 952 nm** | - | 70 ps (Typ.) |
| **Fall Time**[2,3,4] **(80/20%) @ 952 nm** | - | 110 ps (Typ.) |
| **NEP ($\lambda_p$) @ 1550 nm** | - | 2 x $10^{-15}$ W/$Hz^{1/2}$ |
| **Output Voltage**[5] | $V_{OUT}$ | 2 V (Max) |
| **After-Pulse Ringing** | - | <20% of Maximum |
| **Bias Voltage** | $V_R$ | 12 V |
| **Dark Current**[2,6] | $I_D$ | 1.5 nA |
| **General** | | |
| **Input** | FC/PC Fiber Connector | |
| **Output** | SMA (DC Coupled) | |
| **Package Size** | 2.21" x 1.40" x 0.80"<br>(56.1 mm x 35.6 mm x 20.3 mm) | |
| **Ball Lens Diameter** | 0.059" (1.50 mm) | |
| **Ball Lens Clear Aperture** | ∅0.8 mm | |
| **Weight** | 0.18 kg | |
| **Storage Temp** | 0 to 40 °C | |
| **Operating Temp** | 0 to 40 °C | |
| **Battery** | A23, 12 $V_{DC}$, 40 mAh | |
| **Replacement Battery** | Energizer No. A23 | |

Bandwidth is defined as the boundary at which the output of the circuit is 3 dB below the nominal output.

[2] *Measured with a specified bias voltage of 12 V.*
[3] *For a 50 Ω Load*
[4] *Low battery voltage will result in slower rise times and decreased bandwidth.*
[5] *A higher output voltage will decrease the bandwidth.*
[6] *For a 1 MΩ Load*