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## InGaAs Free-Space Balanced Photoreceiver, 800-1700nm



#90-640 InGaAs Free-Space Balanced Photoreceiver, 800-1700nm

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⊖ 1 ⊕ **C\$5,587<sup>50</sup>**

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**General**

**Note:**  
Includes:  
Lemo®3-pin connector  
(3) Adapter SMA (male) to BNC (female)  
Datasheet

**Physical & Mechanical Properties**

**Weight (g):**  
410

**Dimensions (mm):**  
Case Size: 80 x 80 x 30.5

## Optical Properties

**Spectral Range:**  
800 - 1700 nm

## Sensor

**Detector Type:**  
InGaAs PIN photodiode

## Electrical

**Transimpedance Gain ( $\Omega$ ):**  
 $2 \times 10^4$  or  $6 \times 10^4$ (switchable)

**Noise Equivalent Power NEP ( $W/Hz^{1/2}$ ):**  
 $4.3 \times 10^{-12}$  @880nm

**Bandwidth (-3 db):**  
100 MHz

**Output Signal:**  
 $\pm 1.0$  V at 50  $\Omega$  load (for linear gain and low harmonic distortion), maximum  $\pm 2.0$  V at 50  $\Omega$  load

**Conversion Gain ( $V/W$ ):**  
 $19 \times 10^3$  or  $57 \times 10^3$ (switchable)

**Common Mode Rejection (dB):**  
50

## Hardware & Interface Connectivity

**Power Requirement:**  
 $\pm 15$  V ( $\pm 14.5$  V...  $\pm 16.5$  V) -90 / +120 mA

**Power Supply:**  
Power Supply Required and Sold Separately.  
USA: [#59-180](#)  
Europe: [#59-180](#)  
Japan: Not Available  
Korea: Not Available  
China: [#59-180](#)

## Environmental & Durability Factors

**Operating Temperature ( $^{\circ}C$ ):**  
0 to +60

## Regulatory Compliance

**RoHS 2015:**  
[Compliant](#)

**Certificate of Conformance:**  
[View](#)

## Product Details

- Subtracts Two Photodiode Signals for Differential Detection
- Improved Signal to Noise Ratio (SNR) for Weak or Modulated Optical Signals
- High Common-Mode Noise Suppression for Improved Measurement Sensitivity and Accuracy
- Available in Si and InGaAs models for UV-VIS and NIR spectral ranges

Balanced Photoreceivers use true differential detection by subtracting the photocurrents from two matched photodiodes, producing a single electrical output proportional to the difference in optical power between the two inputs. This suppresses common-mode noise, such as laser intensity fluctuations, improving SNR and measurement sensitivity. Balanced Photoreceivers are engineered with a low-noise transimpedance amplifier, which ensures stable, consistent performance for precision optical measurements. Available in Si and InGaAs models for UV-VIS (320-1000nm) and NIR (800-1700nm) spectral ranges, these photoreceivers are ideal for coherent optical detection, interferometry, spectroscopy, and optical coherence tomography (OCT).

**Note:** Power supply sold separately. Please see specifications for more details.