

# Coherent and Advanced Photodetectors and Receivers

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II-VI's Coherent and Advanced Photodetectors and Receivers offer exceptional performance for a wide variety of applications, including Communications, Test & Measurement, and Research and Development.

## Trust II-VI's Coherent and Advanced Photodetectors and Receivers for:

- Field Proven Reliability
- On Time Delivery
- Custom and Standard Products
- Vertically Integrated Design
- High-Volume Manufacturing Capabilities
- RoHS Compliance
- Extensive Patent Protection

## Coherent Receivers and Detectors

Intradyme coherent receivers (ICRs) manufactured by II-VI comply to the Optical Internetworking Forum (OIF) implementation agreement OIF-DPC-MRX-01.x form factors. The Micro-ICR form factors each contain two matched optical 90° hybrids with monolithically integrated balanced photodetectors, manufactured in InP. The polarization beam splitter (PBS) is realized in free space optics. A monitor photodiode and a variable optical attenuator are available as an option. We offer a High Bandwidth Micro-ICR that addresses the latest advances in coherent communication. The CPRV412x series of receivers provide over 40GHz of bandwidth to support baud rates up to 64Gbd.

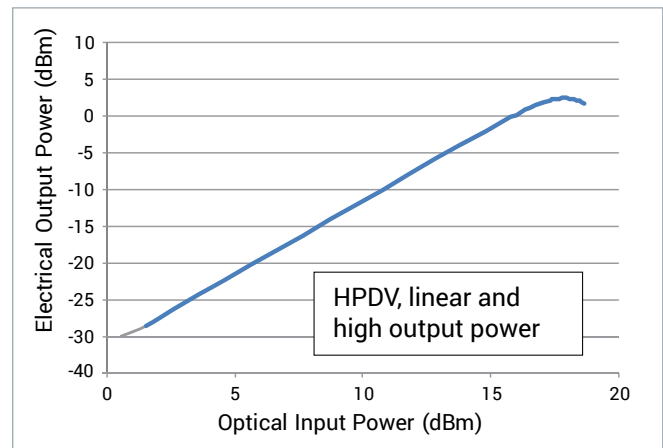
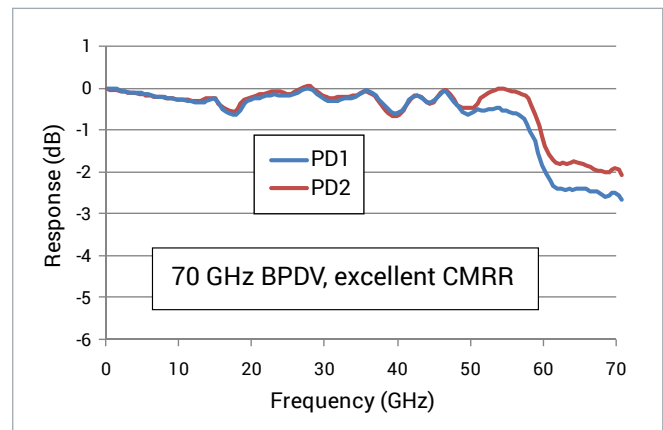
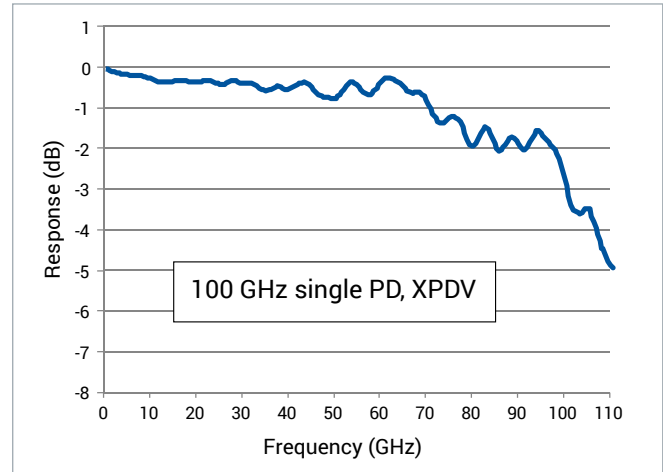
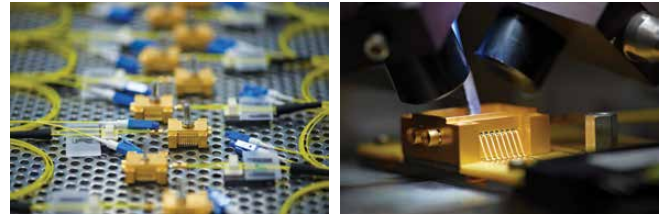
The coherent detector is a fully differential, optical front-end component suited for up to 64 GBaud with a 40 GHz bandwidth. The detector is the preferred product for coherent Test & Measurement systems and applications involving 400 Gb/s to 1 Tb/s detection and parallel optical sampling.

## Advanced Receivers and Detectors

Single and balanced photodetectors (PDs) are based on advanced waveguide integrated photodiodes. The detectors are designed for wavelengths including 1310 nm and 1550 nm, and ensure undisturbed linear frequency response from DC to the 3dB cut-off frequency of up to 100+ GHz bandwidth and high common mode rejection ratio (CMRR). The series of HPDV and VPDV detectors offer extremely high RF output power and are especially designed to support Radio-over-Fiber or Microwave Photonics applications.

Additionally, our receivers contain advanced waveguide-integrated photodiodes and transimpedance amplifiers. The receiver design allows applications at a data rate of 43Gb/s.

The entire receiver and detector portfolio meets requirements for high-speed, extreme linearity, high RF power performance. It is well suited for Aerospace & Defense, Communication, Test & Measurement, Research & Development, and Analog applications worldwide.



## Coherent Receivers and Detectors

### OIF COMPLIANT, CPRV-SERIES

- OIF-DPC-MRX-01.0 Class 40 Micro-ICR
- DP-QAM/QPSK/BPSK receiver
- Symbol rate up to 64Gbd per polarization
- Intradyne and homodyne
- Linear amplifier
- C-Band versions available



## Balanced Photodetectors

### 100, 70 AND 50 GHZ BALANCED PDS, BPDV-SERIES

- High bandwidth with excellent CMRR
- Low skew
- 1525 to 1625nm wavelength range
- Detection of 64-130 GBaud xQAM signals
- Unique on-chip bias network



## Balanced Photodetectors – Quad Set

### 100, 70, AND 50 GHZ BALANCED PHOTODETECTORS, BPDV2150RQ

- Dual input: FC/PC connector
- Output: V-female (50 and 70GHz) or W1 female (100GHz) connector
- Single band (C) or dual band (C+O) support (70GHz version)
- Low PDL
- Matched set of quad detectors for T&M and Advanced Laboratory applications



## Single Photodetectors

### 100 GHZ, 70 GHZ AND 50 GHZ DETECTORS, XPDV-SERIES

- Select the bandwidth for your application
- Waveguide integrated PD
- W1 connector for ultra high speed
- V-connector for 50 and 70 GHz
- Single band (C) or dual band (C+O) support up to 70GHz



## Single Photoreceivers

### 30GHZ SINGLE-ENDED RECEIVERS, XPRV-SERIES

- 150 V/W conversion gain
- Surface mountable package with V connector
- Analog Photonics links
- Radio-over-Fiber



## High Power Photodetectors

### HIGH POWER PHOTODETECTOR, HPDV-SERIES

- Up to 6 dBm RF output power @ 20 GHz
- High Linearity (>25 dBm OIP3 @ 40 GHz)
- No cooling required
- Analog Photonic links
- Radio-over-Fiber



### HIGH POWER PHOTODETECTOR, VPDV-SERIES

- Up to 23 dBm RF output power @ 10 GHz
- High Linearity (>25 dBm OIP3 @ 40 GHz)
- No cooling required
- Analog Photonic links
- Radio-over-Fiber



## About II-VI

II-VI Incorporated, a global leader in engineered materials and optoelectronic components, is a vertically integrated manufacturing company that develops innovative products for diversified applications in communications, materials processing, aerospace & defense, semiconductor capital equipment, life sciences, consumer electronics, and automotive markets. Headquartered in Saxonburg, Pennsylvania, the Company has research and development, manufacturing, sales, service, and distribution facilities worldwide. The Company produces a wide variety of application-specific photonic and electronic materials and components, and deploys them in various forms, including integrated with advanced software to support our customers. For more information, please visit us at [www.ii-vi.com](http://www.ii-vi.com).

The logo for II-VI, consisting of the letters 'II-VI' in a bold, white, serif font. The logo is centered on a dark red background that features a subtle geometric pattern of overlapping hexagons and lines.