CENTRONIC EO

PHOTONICS

Table of contents

Centronic EO

Centronic designs and manufactures high-performance silicon photodiodes tailored for demanding detection applications in medical, scientific, and industrial fields. Their photodiodes offer high sensitivity, low dark current, and excellent stability, making them ideal for accurate radiation, light, and X-ray detection.

Centronic supports OEMs with tailored solutions ranging from standard photodiodes to complex hybrid assemblies, offering flexibility for integration into a wide variety of medical, scientific, and industrial systems. Their deep manufacturing expertise, combined with rigorous in-house quality control processes, guarantees high-performance components with consistent output, reliability, and longevity—even in the most demanding environments.

Explore Centronic’s silicon photodiode portfolio to elevate the precision, sensitivity, and stability of your detection technologies.

SILICON PHOTODIODES / PHOTODETECTORS

PHOTONICS

Silicon Photodiodes / Photodetectors

UV Enhanced Detectors (series 7) – Centronic

Series 7 Super UV Photodiodes compliment Series 1 and primarily designed for application in the 194-400 nm range where high shunt resistance and maximum sensitivity are needed. These detectors are available in a range of standard packages with a choice of window material to suit specific applications.

UV Enhanced Detector (series 7) features

- bias:0V
- response: 200-1100nm
- responsivity (245nm): 0.1 A/W
- responsivity (340nm): 0.5 A/W
- technology

If you want to continue your search for additional information on this product try this link.

Silicon Photodiodes / Photodetectors

General Purpose Silicon Sensors (series 5T) – Centronic

The Centronic Series 5T detectors offer high blue sensitivity coupled with high shunt resistance and low dark leakage current. They are particularly suited to low light level applications from 430-900 nm where the highest signal to noise ratio is important. They may be operated photovoltaically or with a reverse bias of up to 12V where lower capacitance is needed. The 5T range provides the most economic solution for all applications where high speed of response above 800 nm is not critical.

General Purpose Silicon Sensors (series 5T) features:

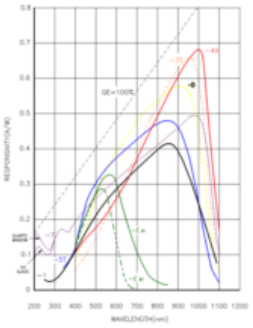
- bias:12V
- response: 350-1100nm
- responsivity (436nm): 0.21A/W
- technology: pn

If you want to continue your search for additional information on this product try this link.

Silicon Photodiodes / Photodetectors

Spectral Response Graph – Centronic

- Industry Standard Visible Light Detector (series E)
- Eye Response Silicon Sensors (series E)
- Blue and Ultraviolet Silicon Sensors (series 1)
- UV Enhanced Detector (series 7)
- Photometric and Photopic Silicon Sensors (series 5T)
- High Speed Extended IR Response Sensors (series 3T)
- High Speed 1064nm Pulse Sensors (series 4X)
- Infra-red Silicon Sensors (series 3T)
- General Purpose Silicon Sensors (series 0)
- General Purpose Silicon Sensors (series 5T)



Silicon Photodiodes / Photodetectors

Photodiodes with integrated amplifiers – Centronic EO

Centronic ASD Series integrate high performance single element photodiodes coupled to a high input impedance op-amp to create a low noise, high gain photodetector. Light falling on the active area of the photodiode causes the output voltage to swing positive with respect to ground. The photodiode has been optimised for sensitivity to near infrared wavelengths. The detector and circuit are hermetically sealed in an industry standard TO5 package with a flat glass window.

Amplified Single Element Detector (ASD) Series **NEW**

Centronic ASD Series integrate high performance single element photodiodes coupled to a high input impedance op-amp to create a low noise, high gain photodetector. Light falling on the active area of the photodiode causes the output voltage to swing positive with respect to ground. The photodiode has been optimised for sensitivity to near infrared wavelengths. The detector and circuit are hermetically sealed in an industry standard TO5 package with a flat glass window.

Features:

- DC supply (max): +/- 18V
- DC supply (typ): 5V
- Gain: 107
- Technology: transimpedance amplifier with series 3T diode

General Purpose Silicon Sensors (Series 0)

Series 0 photodiodes are designed for operation at up to 30V reverse bias voltage for applications where low capacitance and high speed are important. These detectors are tailored for peak responsivity in the 780-950 nm range but are successfully used for pulsed applications throughout the spectral range from 430-1064 nm.

Features:

- Bias: 0-30V
- Response: 400-1064nm
- Responsivity (900nm) 0.54 A/W
- Technology: pn junction

Blue and UV sensitive (Series 1)

Series 1 photodiodes offer a broadband spectral response extending into the UV region. The series is particularly intended for applications from 250 to 430 nm where high levels of illumination occur. The detectors may be operated with reverse bias up to 10 volts or in the photovoltaic mode for best signal

to noise performance. And are particularly suitable for monitoring the operation of UV lamps.

Features:

- Bias: 0-10V
- Response: 250-1064nm
- Responsivity (250nm): 0.12 A/W
- Responsivity (436nm): 0.16 A/W
- Technology: pn junction

UV Enhanced Detector (Series -7)

Series 7 Super UV Photodiodes compliment Series 1* and primarily designed for application in the 194-400 nm range where high shunt resistance and maximum sensitivity are needed. These detectors are available in a range of standard packages with a choice of window material to suit specific applications.

Features:

- Bias:0V
- Response: 200-1100nm
- Responsivity (245nm): 0.1 A/W
- Responsivity (340nm): 0.5 A/W
- Technology:

Ultra High Speed Detectors (AEPX)

The AEPX Series of photodiodes is offered in a range of small active area sizes suitable for high frequency fibre optic applications. These photodetectors take advantage of an epitaxial structure to achieve good high frequency response at operating voltages as low as 5 volts. The detectors may also be operated at higher bias levels up to 20 volts to achieve extremely fast pulsed response.

Features:

- Bias: 5V
- Response: 450-1064nm
- Responsivity (820nm) 0.35 A/W
- Risetime: 0.3 to 0.6 ns
- Technology: epitaxial

If you want to continue your search for additional information on this product try this link.

Silicon Photodiodes / Photodetectors

Industry standard visible light detector – Centronic EO

Generic industry standard visible light detector approximating the response of the human eye.

If you want to continue your search for additional information on this product try this link.

Silicon Photodiodes / Photodetectors

Eye Response Silicon Sensors – Centronic EO

Series E photodiodes packaged with a colour correcting filter to approximate the response of the human eye.

If you want to continue your search for additional information on this product try this link.

Silicon Photodiodes / Photodetectors

Blue and Ultraviolet Silicon Sensors (series 1) – Centronic EO

Blue and Ultraviolet Silicon Sensors (series 1)

Series 1 photodiodes offer a broadband spectral response extending into the UV region. The series is particularly intended for applications from 250 to 430 nm where high levels of illumination occur. The detectors may be operated with reverse bias up to 10 volts or in the photovoltaic mode for best signal to noise performance. And are particularly suitable for monitoring the operation of UV lamps.

Features:

- Bias: 0-10V
- Response: 250-1064nm
- Responsivity (250nm): 0.12 A/W
- Responsivity (436nm): 0.16 A/W
- Technology: pn junction

UV Enhanced Detector (series 7)

Series 7 Super UV Photodiodes compliment Series 1* and primarily designed for application in the 194-400 nm range where high shunt resistance and maximum sensitivity are needed. These detectors are available in a range of standard packages with a choice of window material to suit specific applications.

Features:

- Bias:0V
- Response: 200-1100nm
- Responsivity (245nm): 0.1 A/W
- Responsivity (340nm): 0.5 A/W
- Technology:

If you want to continue your search for additional information on this product try this link.

Silicon Photodiodes / Photodetectors

Photometric and photopic Silicon Sensors – Centronic EO

The Centronic range of photometric detectors features the proven Series 5T chip combined with specially designed coloured glass filters installed in front of the detector chip. The detectors simulate closely the spectral response of the human eye and are intended for applications requiring measurement of light levels for medical, CRT displays, LED, LCD displays and photography and other applications where a close match to the CIE curve is required.

Photometric and photopic Silicon Sensors features:

- series 5T photodiode package with specially designed colour filters to closely match the CIE photometric response curve

Silicon Photodiodes / Photodetectors

High speed Silicon Sensors – Centronic EO

High Speed Extended IR response (Series 3T)

3T series photodetectors are specifically designed for high speed, infra-red laser pulse detection. The detector structure designed to be fully depleted at 60 volts reverse bias, uses high resistivity silicon to achieve very low capacitance. The detectors offer high responsivity in the 800-1000 nm range but are equally suited to high speed application at longer wavelengths where maximum absolute responsivity is not as important as speed of response.

High Speed 1064nm Pulse sensing (Series 4X)

The 4X series of photodetectors are designed specifically for sensing high speed 1064 nm Nd YAG laser pulses. The detector structure is designed to be fully depleted at 150 volts reverse bias and offers high pulsed and DC responsivity at wavelengths up to 1100 nm coupled with an extremely low capacitance per unit area.

High Speed Detectors (BPX65)

The BPX65 family of detectors feature Centronic’s 1mm2 high speed, high sensitivity chip already successful in a wide variety of applications. The chip can be packaged in various forms suitable for fibre-optic communication, such as the AX65-RF (precisely centred, isolated, low chip to window spacing) a standard 2 or 3 lead TO18 or even epoxy encapsulated. It has also been used for encoder designs and with MIL SPEC release at the heart of advanced laser warning systems.

Ultra High Speed Detectors (AEPX)

The AEPX Series of photodiodes is offered in a range of small active area sizes suitable for high frequency fibre optic applications. These photodetectors take advantage of an epitaxial structure to achieve good high frequency response at operating voltages as low as 5 volts. The detectors may also be operated at higher bias levels up to 20 volts to achieve extremely fast pulsed response.

High Speed Silicon Sensors features:

High speed IR (series 3T)

- bias: 60V
- response: 400-1100nm
- responsivity (900nm): 0.61 A/W
- technology: pn fully depleted

1064nm pulsed (series 4X)

- bias: 150V
- response: 400-1100nm

- responsivity (1064nm): 0.4 A/W
- technology: pin fully depleted

High speed (BPX65)

- bias: 20V
- response: 400-1064nm
- responsivity (900nm): 0.55 A/W
- risetime: 3.5 ns
- rechnology: pn junction

Ultra high speed (AEPX)

- bias: 5V
- response: 450-1064nm
- responsivity (820nm) 0.35 A/W
- risetime: 0.3 to 0.6 ns
- technology: epitaxial

If you want to continue your search for additional information on this product try this link.

← Back to partner

Silicon Photodiodes / Photodetectors

Infra-red Silicon Sensors – Centronic EO

Centronic designed the Infra-red Silicon Sensors, 3T series photodetectors specifically designed for high speed, infra-red laser pulse detection. The detector structure is fully depleted at 60 volts reverse bias and uses high resistivity silicon to achieve very low capacitance.

The detectors offer high responsivity in the 800-1000 nm range but are equally suited to high speed application at longer wavelengths where maximum absolute responsivity is not as important as speed of response.

FEATURES

- Bias of 60V
- Response of 400 to 1.100 nm
- Responsivity (at 900 nm) of 0,61 A/W
- Technology: pn fully depleted

If you want to know more about Centronic's infra red silicon sensors, visit their website!

If you have any questions…

Contact PEO!

Silicon Photodiodes / Photodetectors

Series 0 General Purpose Silicon Sensors – Centronic EO

General Purpose Silicon Sensors (Series 0)

Series 0 photodiodes are designed for operation at up to 30V reverse bias voltage for applications where low capacitance and high speed are important. These detectors are tailored for peak responsivity in the 780-950 nm range but are successfully used for pulsed applications throughout the spectral range from 430-1064 nm.

Features:

- Bias: 0-30V
- Response: 400-1064nm
- Responsivity (900nm) 0.54 A/W
- Technology: pn junction

General Purpose Silicon Sensors (Series 5T)

The Centronic Series 5T detectors offer high blue sensitivity coupled with high shunt resistance and low dark leakage current. They are particularly suited to low light level applications from 430-900 nm where the highest signal to noise ratio is important. They may be operated photovoltaically or with a reverse bias of up to 12V where lower capacitance is needed. The 5T range provides the most economic solution for all applications where high speed of response above 800 nm is not critical.

Features:

- Bias:12V
- Response: 350-1100nm
- Responsivity (436nm): 0.21A/W
- Technology: pn

If you want to know more about Centronic Silicon Sensors, visit our partner's website!