DSi Series Silicon Photodetectors, 200–1100 nm, 100 mm^2 Active Area

Model DSi Series · waveqvanta.com/products/dsi-series-silicon-photodetectors

Silicon photodiode detectors that mount directly on monochromator slits for UV–NIR measurements at good light levels.



DSi series detectors are rugged silicon photodiodes for measurements where a reasonable amount of light is collected. Each detector sits in a housing with a BNC signal connector and a mounting flange that attaches directly to the slit assembly of Omni-λ series monochromators. The DSi200 is UV-enhanced for 200–1100 nm, while the DSi300 is a blue-enhanced general-purpose version.

Key features

- Two versions: DSi200 UV-enhanced (200–1100 nm) and DSi300 blue-enhanced (350–1100 nm)
- 100 mm^2 active area (Ø11.28 mm) on both models
- Housing with BNC signal connector and flange for direct mounting on Omni-λ series monochromator slits
- Current output; the ZAMP I-V transimpedance amplifier is recommended ahead of an oscilloscope or lock-in amplifier
- Connects to the DCS300PA data acquisition system without a separate preamplifier, as amplification is built in; with the DCS103 the ZAMP is recommended
- NEP of 4.5×10^{-13} W/√Hz (DSi200) and 2.0×10^{-13} W/√Hz (DSi300)

Specifications

Detector Type	Silicon photodiode
Active Area	100 mm^2 (Ø11.28 mm)
Spectral Range	200–1100 nm (DSi200); 350–1100 nm (DSi300)
Responsivity at 254 nm (DSi200)	0.14 A/W (min. 0.09 A/W)
Responsivity at 410 nm (DSi300)	0.20 A/W (min. 0.15 A/W)
Signal Output	Current
Output Signal Polarity	P (positive)
Connector	BNC
Mounting	Flange for the slit assembly of Omni-λ series monochromators
Recommended Preamplifier	ZAMP I-V transimpedance amplifier
Operating Temperature	-10 to +60 °C
Storage Temperature	-20 to +70 °C

Model overview

Model	Type	Spectral Range (nm)	Peak Wavelength (nm)	Peak Responsivity (A/W)	Rise Time (µs)	Shunt Resistance (MΩ)	NEP (W/√Hz)	Junction Capacitance at 0 V (pF)	Max. Operating Current at 0 V (mA)
DSi200	UV-enhanced	200–1100	820	0.52	5.9	10 (min. 5)	4.5×10^{-13}	4500	0.1
DSi300	Blue-enhanced	350–1100	970	0.60 (min. 0.55)	2	min. 10	2.0×10^{-13}	8800	10.0

Typical applications

- UV, visible and NIR measurements with scanning monochromators
- Transmission, reflection and absorption spectroscopy
- Spectral characterization of light sources
- Lock-in detection of chopped optical signals