DInSb Series Liquid-Nitrogen-Cooled InSb Detectors, 1–5.5 µm

Model DInSb Series · waveqvanta.com/products/dinsb-series-liquid-nitrogen-cooled-insb-detectors

Liquid-nitrogen-cooled InSb detectors for near- and mid-infrared spectroscopy and nanosecond time-resolved measurements.



DInSb series detectors are liquid-nitrogen-cooled, side-window InSb photodetectors covering 1–5.5 µm. The DInSb5-De02 is a current-output detector for routine measurements with an optional preamplifier, while the DInSb5-HS adds an integrated 20 MHz preamplifier with a rise time below 25 ns for infrared time-resolved work with an oscilloscope.

Key features

- LN2-cooled side-window InSb detectors, 1–5.5 µm
- DInSb5-De02: Ø2 mm active area as standard, with Ø1, Ø4 and Ø7 mm options
- DInSb5-HS: integrated 20 MHz preamplifier, rise time below 25 ns, for ns-scale detection with an oscilloscope
- D* of 1×10^{11} cm·Hz½/W at peak wavelength and 1 kHz
- Higher sensitivity with a preamplifier and lock-in amplifier (DInSb5-De02)
- Dewar mounts conveniently on the spectrometer; one liquid nitrogen fill lasts about 8 hours
- Fits the manual slit of Omni-λ series spectrometers

Specifications

Detector Type	InSb, liquid-nitrogen-cooled, side window
Spectral Range	1–5.5 µm
D* (at λpeak, 1 kHz)	1×10^{11} cm·Hz½/W
Cooling	Liquid nitrogen (user-supplied); about 8 hours per fill
Output Signal Polarity	P (positive)
Compatibility	Manual slit of Omni-λ series spectrometers

Model overview

Model	Active Area (mm)	Peak Responsivity	Rise Time (ns)	NEP (pW/Hz½)	Dark Current (µA)	Preamplifier	Signal Output
DInSb5-De02	Ø2 (Ø1, Ø4, Ø7 optional)	3 A/W	–	1.6	30	Optional	Current
DInSb5-HS	1 × 1 (square)	2×10^{4} V/W	below 25	–	–	Integrated, 20 MHz	Voltage

Typical applications

- Near- and mid-infrared spectroscopy
- Infrared time-resolved measurements
- Infrared photoluminescence
- Lock-in detection of chopped IR signals