



Beam Intensity Monitor

Silicon transmission photodiode with very low absorption < **15%** at 8 keV and very high efficiency, the photons you lose at least count.



OVERVIEW

Alibava Beam Intensity Monitor is a **small, easy to install** and **passive** photodiode circuit for X-ray beam diagnostic applications. This solution provides actual X-ray beam **intensity** data through direct measurement. Furthermore, its transmission properties allows the online monitoring of the most critical beam parameter **simultaneously with the data acquisition** during an experiment.

This valuable characteristic is achieved through its innovative thin detector with a very high X-ray transmission, good responsivity uniformity, stable, low absorption and uniform radiation stability.

This Beam Intensity Monitor was developed in collaboration with ALBA Synchrotron. Thanks to its unique characteristics Alibava Beam Intensity Monitor is especially useful not only for beamlines characterization in **synchrotrons** but also for **quality control of monochromatic X-ray machinery**.

FEATURES

- P-on-N silicon detector
- Size: 5x5 mm² or 10x10 mm²
- Thickness: 10 μm
- No external voltage needed
- Dimensions: 41x68x12 mm³
- Easily mounted in experiment
- The beam intensity is measured by output current
- Depletion layer thickness (bias = 0): 7 μm



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Beam Intensity Monitor

Ref.: AS04-110A
AS04-105A

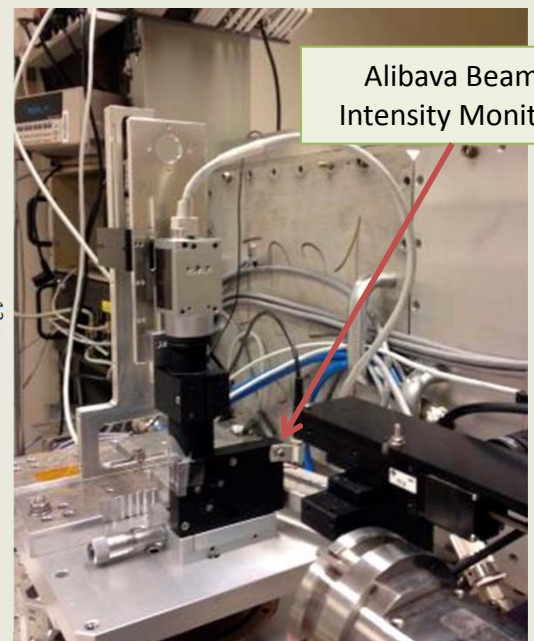
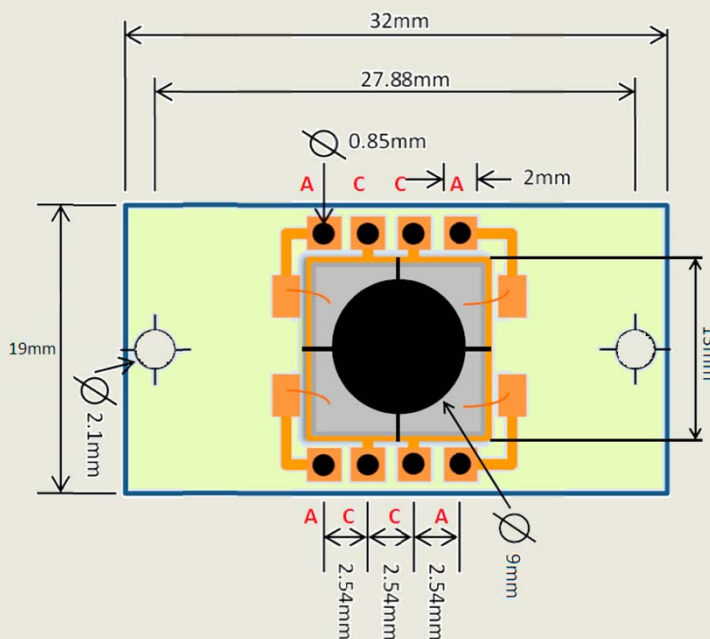
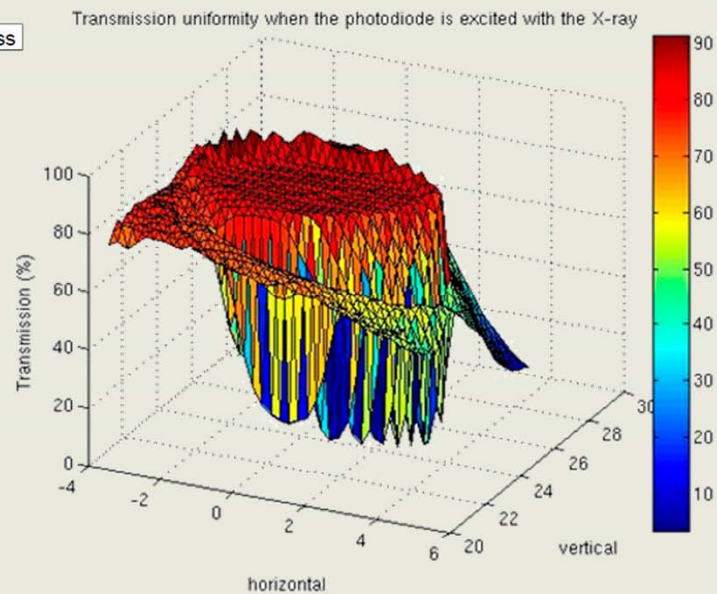
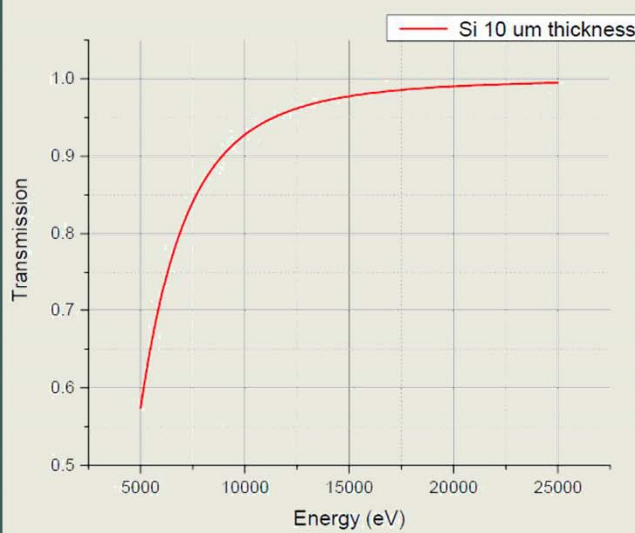
Electronic characterization

Model No.	Active area (mm ²)	Breakdown Voltage ⁽¹⁾ (V)	Dark Current ⁽²⁾ (pA)	Capacitance C ⁽²⁾ (nF)	Shunt Resistance (MΩ)	Sensitivity S ⁽³⁾ (A/W)	Max storage T ^e (°C)
AS04-110A 10x10mm ²	68.9	16.7	1.20	0.275	230	0.035	80
AS04-105A 5x5mm ²	28.1	14.6	0.13	0.123	420		

(1): 1μA Reverse current, (2): measured at 0V, (3): measured at 8keV

Transmission properties

Wide energy range. Transmission level above 80% at 8keV and 94% at 12keV.
Responsivity uniformity better than 5% inside the active area.



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