AMPTEK

X-Ray Detector Families

X-ray and gamma detectors

Amptek X-ray and gamma-ray detector families – FAST SDD, Si-PIN and CdTe – available in the XR-100, X-123 or OEM configurations.



Detector technologies

FAST SDD, Si-PIN, CdTe [1]

Specifications

DETECTOR

Detector technologies	FAST SDD, Si-PIN, CdTe	[1]
FAST SDD 25 mm²: area / collimated area	25 / 17 mm²	[4]
FAST SDD 70 mm²: area / collimated area (500 µm)	70 / 50 mm²; for the 500 µm thick detector	[5]
Si-PIN: detector area	6, 13 or 25 mm²	[6]
XR-100CdTe: detector area	25 mm² (5 × 5 mm)	[3]

COOLING

Cooling	Two-stage thermoelectric	[6]

ORDERING & ACCESSORIES

Configurations	XR-100, X-123, OEM	[2]
FAST SDD: window options	Be 12.5/8 µm or C-series Si_3N_4	[4]

GENERAL

XR-100	Detector/preamplifier; separate PX5 or DP5/PC5 required	[2]
X-123	Integrated detector, DPP, MCA and supply	[3]
FAST SDD: silicon thickness	500 µm; 1000 µm optional	[4]
Si-PIN: silicon thickness	500 µm	[5]
XR-100CdTe: thickness	1 mm	[3]

Sources

[1] **X-Ray Detectors**
Amptek · product-page · product page · checked 2026-10-16
https://www.amptek.com/products/x-ray-detectors

[2] X-Ray Detector Selection Guide
Amptek · product-page · product page · checked 2026-10-16
https://www.amptek.com/products/x-ray-detectors/x-ray-detector-selection-guide

[3] CdTe X-Ray & Gamma Ray Detector
Amptek · product-page · product page · checked 2026-10-16
https://www.amptek.com/products/x-ray-detectors/cdte-x-ray-and-gamma-ray-detectors/cdte-x-ray-and-gamma-ray-...

[4] FAST SDD® Ultra High Performance Silicon Drift Detector
Amptek · product-page · product page · checked 2026-10-16
https://www.amptek.com/products/x-ray-detectors/fastsdd-x-ray-detectors-for-xrf/fastsdd-silicon-drift-detector

[5] 70 mm² FAST SDD®
Amptek · product-page · product page · checked 2026-10-16
https://www.amptek.com/internal-products/70-mm2-fast-sdd

[6] Si-PIN X-Ray Detectors
Amptek · product-page · product page · checked 2026-10-16
https://www.amptek.com/products/x-ray-detectors/sipin-x-ray-detectors/sipin-x-ray-detectors

Every value is taken from the manufacturer’s own document; the number after the value refers to the source list. Always check against the latest datasheet before ordering.

The data comes from the manufacturer’s published documents. Manufacturers may change specifications; the current configuration and performance are confirmed in the quotation.