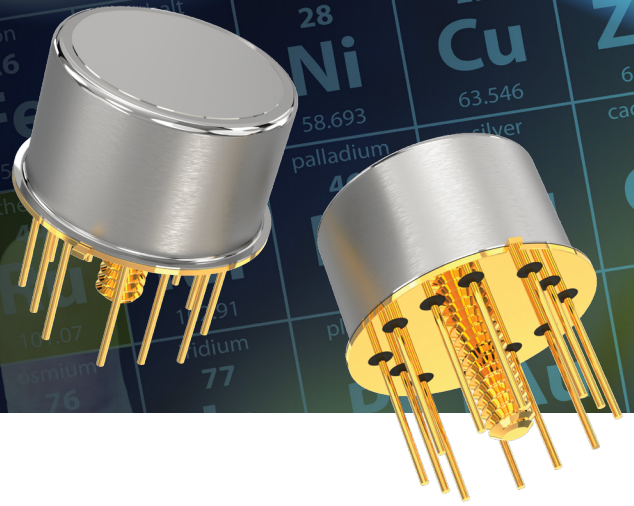


OEM's Top Choice FAST SDD®



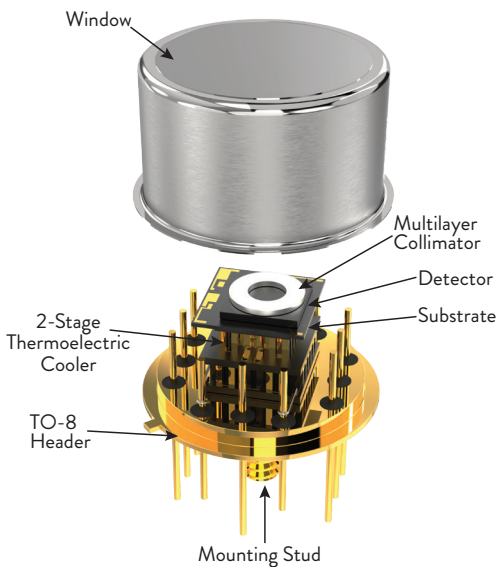
ULTRA HIGH PERFORMANCE SILICON DRIFT DETECTOR

The FAST SDD® XRF detector represents Amptek's highest performance family of X-ray detectors. With an energy resolution as low as 121 eV for 55Fe (near the Fano limit), operation at count rates over 1 Mcps, and a peak to background ratio of 20,000:1, Amptek's FAST SDD detectors provide the best spectroscopic performance available on the market. Amptek's detectors are vacuum encapsulated enabling reliable operation under field conditions, providing long-term high performance even in hot environments.

FAST SDD detectors are available in three different areas (25, 70 and 160 mm²). Window options include 12 μm (0.5 mil) Be and the C-Series Si₃N₄ window. The complete family of detectors are available in a wide range of preamplifier or complete spectrometer configurations.

SUPERIOR DETECTORS:

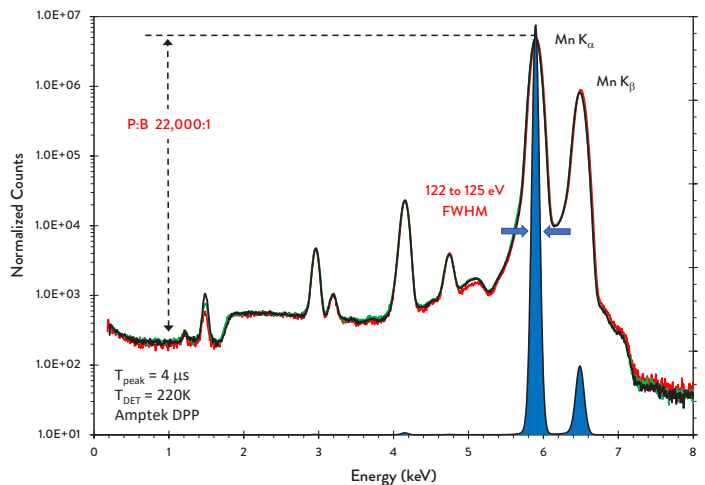
- Lower noise
- Better resolution down to 122 eV FWHM
- Higher Count Rate
- Lower leakage current
- TO-8 Package
- Cooling ΔT > 80 K (@30°C ambient)



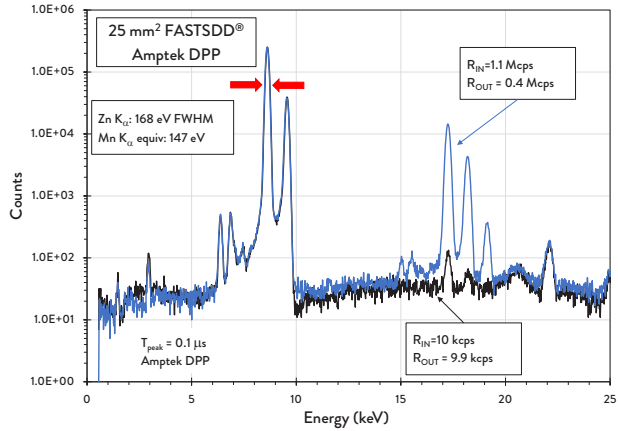
Parameters	Hardware Specifications
Detector Type	Silicon Drift Detector (SDD) with CMOS preamplifier
Detector Size	25 mm ² - collimated to 17 mm ² 70 mm ² - collimated to 50 mm ²
Silicon Thickness	500 μm (1000 μm options available)
Collimator	Internal Multilayer Collimator (ML)
Energy Resolution (@5.9 keV (55Fe))	25 mm ² : 129 eV FWHM (@4 μs T _{peak}) 70 mm ² : 131 eV FWHM (@4 μs T _{peak}) (guaranteed)
Peak to Background	20,000:1 (ratio of counts from 5.9 keV to 1 keV) (typical)
Detector Window Option	Beryllium (Be): 0.5 mil (12.5 μm) C-Series (Si ₃ N ₄) Low energy windows
Charge Sensitive Preamplifier	CMOS
Gain Stability	<20 ppm/°C (typical)
Size Detector Module	TO-8 package (0.640 in. high including pins, 0.600 in. diameter)
Weight Detector Module	0.14 oz (4.1 g)
Total Power	<2 Watt
Warranty Period	1 Year
Device Lifetime	Typical 5 to 10 years, depending on use
Operation Condition	-35°C to +80°C (Operation is guaranteed to 80°C. Performance depends on detector temperature rather than ambient.)

KEY

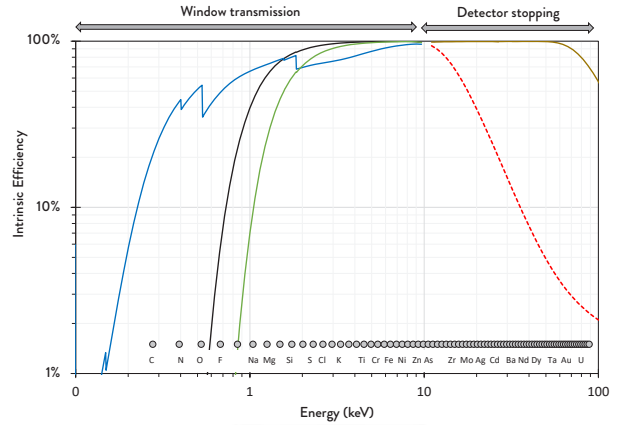
- 25 mm²
- 70 mm²
- 160 mm²



Typical ^{55}Fe spectra for 1 mm thick 25 mm² FAST SDD detector.mar



Compound Attenuation Plot showing transmission of different windows, and stopping power of the Si detector



Choose Your Perfect Setup:-

X-123 FAST SDD® – THE COMPLETE SPECTROMETER:



- 1 Silicon Drift Detector (SDD) with preamplifier
- Digital Pulse Processor with MCA
- Power Supply

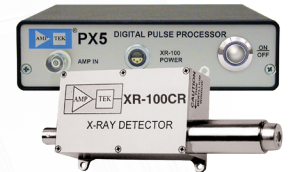
OEM FAST SDD® – CUSTOMIZABLE FOR YOUR NEEDS



Ideal for integrating into your own systems:

- FAST SDD® Detector with preamplifier
- Multiple configurations to fit your unique requirements

XR-100 FAST SDD® – COMPACT AND EFFICIENT



A streamlined solution for X-ray detection:

FAST SDD® X-Ray Detector paired with a Digital Pulse Processor and MCA

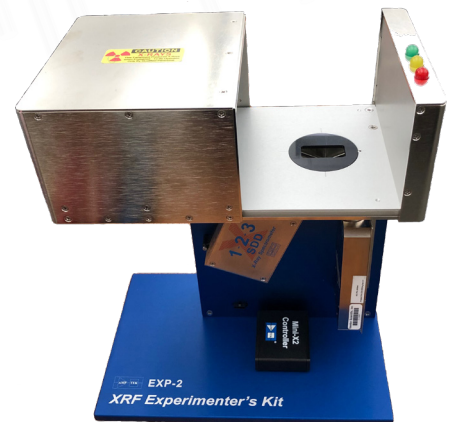
FAST SDD® VACUUM APPLICATION



EXPERIMENTER'S XRF KIT WITH FAST SDD®

Complete XRF system includes:

- X-123 FAST SDD® Complete Spectrometer
- Mini-X USB-Controlled X-Ray Tube
- XRF-FP2 Quantitative Analysis Software
- Test Stand with shielding and sampling



Why Wait? Build Your Ideal XRF Solution Today!

AMPTEK INC.® 14 DeAngelo Drive, Bedford, MA 01730-2204 USA
 +1 781-275-2242 Amptek.sales@ametek.com www.ametek.com

