Vacuum compatible single element Si drift detector

TechnoAP

XSDD50-01GR-ICF-SYS

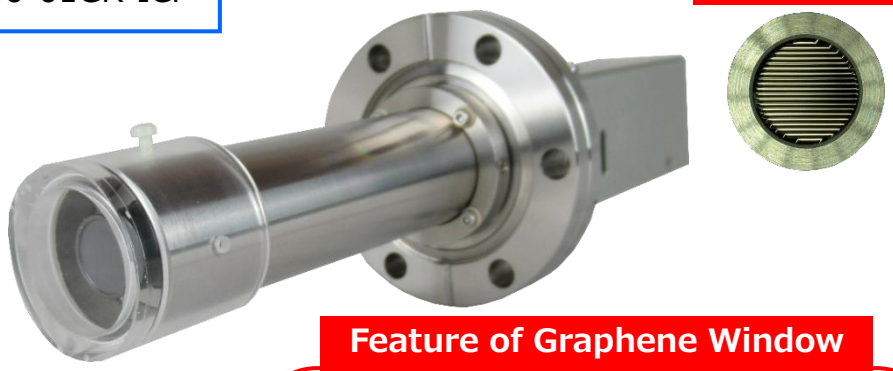
SYSTEM

The latest SDD detector uses a 4-element design, achieving high counting rates and high energy resolution. The APU504XDC offers selectable high counting rate mode and high resolution mode, enabling flexible measurements.

Silicon Drift Detector XSDD50-01GR-ICF

Total Sensitive Area: 47 mm²
(65 mm² Collimated to 47 mm²)
Total Element Area: 65 mm²
(65 mm²)
Window Material
Graphene, 1 μm Carbon

Graphene Window



Vacuum-Compatible
10^{-5} Pa

Customizable
- Flange (ICF70)
- Tube length: 200mm (default)
  *Modification will incur additional costs

Feature of Graphene Window

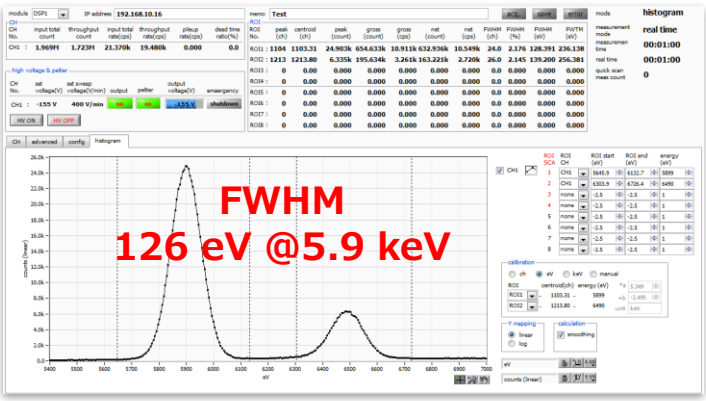
- No impact from visible light, so no need for darkroom or blackout curtains
- Maintains high performance up to a heat sink temperature of 80°C
- Capable of operating for over 10 years with stable vacuum conditions
- Transmittance equal to or greater than that of a polymer window

High Counting Signal Processing Module
APU101X

Quick-Scan Function & ROI-SCA Function

Power Supply for Detector (High Voltage, Pre-Amplifier, Peltier Cooling) Built-In

Measurement Mode	Histogram, List, Quick-Scan, ROI-SCA
ADC Sampling	100Msps 14-bit
Energy resolution (typ.)	126 eV @5.9 keV 2 μs 150 eV @5.9 keV 0.15 μs
SDD Power Supply	-200 V, ±5 V, +3.3 V
Throughput	Maximum 150 kcps : 2 μs Maximum 1000 kcps : 0.15 μs
Communication	Ethernet (TCP/IP)
Dimensions (mm)	210 (W) x 45 (H) x 275 (D)



Included Application Screen

*Images is for illustration purpose.
*Please note that contents may change without prior notice.

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20240313

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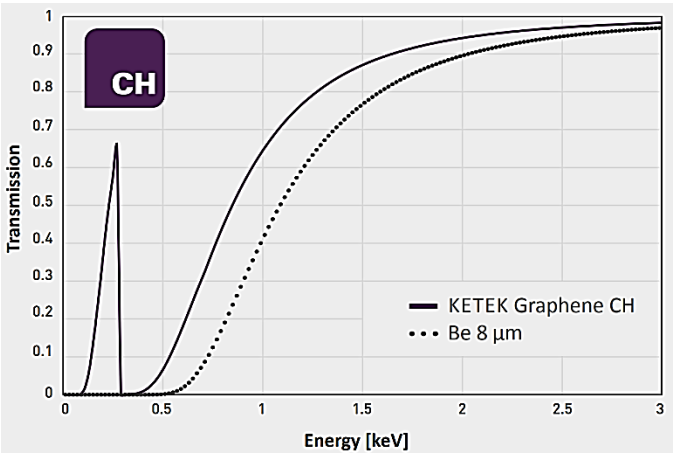
CH type (for high energy)

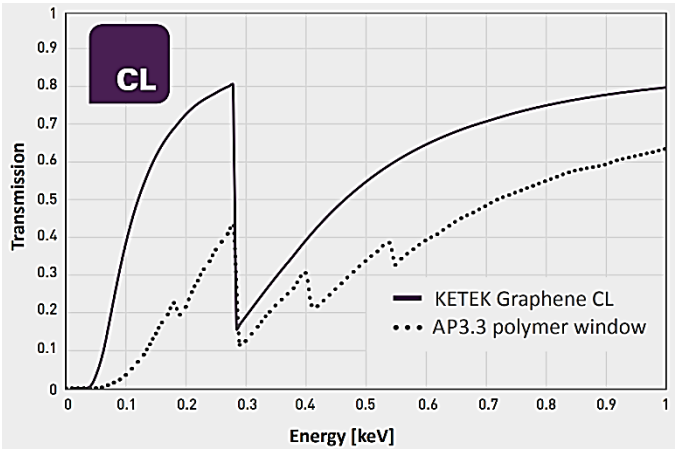
1 μm thick carbon
No support grid
Replacement with 8 μm beryllium window



Comparison between Beryllium Window and 1 μm Graphene Window

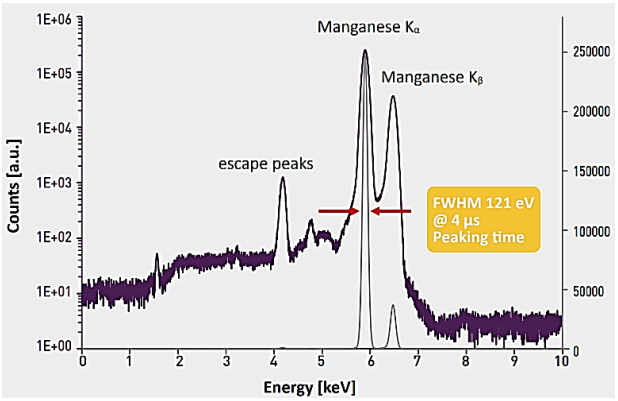
CL type (for low energy)

165 nm thick carbon
Silicon support grid(open area ratio 86%)
For low energy applications

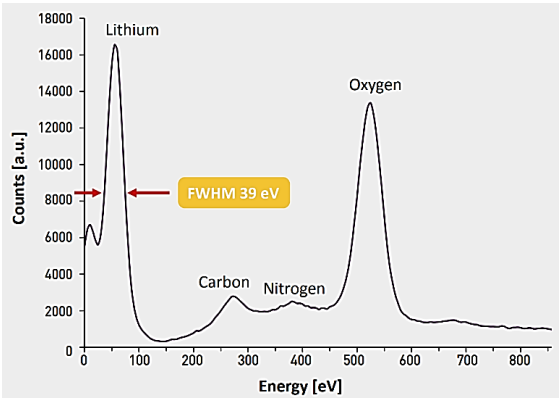


Comparison between AP.3 Window and 165nm Graphene Window

- Both windows provide vacuum sealing for the detector and exhibit excellent cooling performance.
- The transmission rate has been improved across the entire energy range compared to conventional windows.

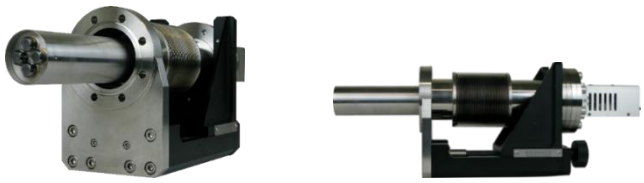


Energy resolution (FWHM) for Manganese Kα up to 121 eV at a peaking time of 4 μs



Low-energy spectrum
Gaussian lithium and oxygen Kα peaks

Applying a 25-degree angle to the detection surface
Reduces the focal distance to the sample



When using a vacuum-compatible bellows drive mechanism

We also accept custom orders and prototypes.
Please feel free to consult with us.

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