

EDAX Octane Elect EDS System

Product Bulletin – EDS



- Octane Elect EDS system with manual slide
- Fast SDD with silicon nitride window
- Increased light element sensitivity
- Outstanding low-energy performance
- Unparalleled resolution stability
- High-speed data processing
- Market-leading throughput count rate
- Integrated EDS-EBSD option with the Pegasus system

The EDAX Octane Elect EDS system is an enhanced energy dispersive spectroscopy (EDS) platform with the latest silicon drift detector (SDD) technology and high-speed electronics advancements. Tailored for users who demand higher performance and functionality, the Octane Elect EDS system provides excellent resolution and high throughput at an optimal value with remarkable low-energy sensitivity for light element detection and low voltage (kV) microanalysis.

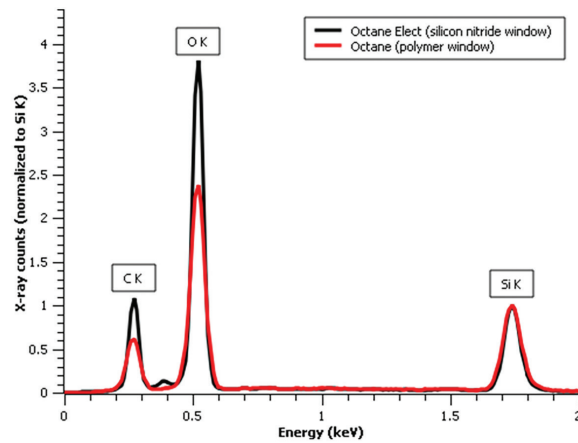


Figure 1. Spectra were acquired from a silicon dioxide sample at 10 kV. Comparing the scaled spectra to the Si K peak shows the increased oxygen and carbon peak intensities achieved with a Si_3N_4 window.

Best light element performance

The Octane Elect SDD with a silicon nitride (Si_3N_4) window offers major transmission improvements compared to detectors with a polymer window, leading to greatly improved light element performance and significantly more critical data for the materials analyst.

Low kV performance

The mechanical properties of Si_3N_4 allow the use of thinly fabricated windows with a low aspect ratio support grid, offering a significant benefit in terms of low energy sensitivity and optimal low voltage analysis.

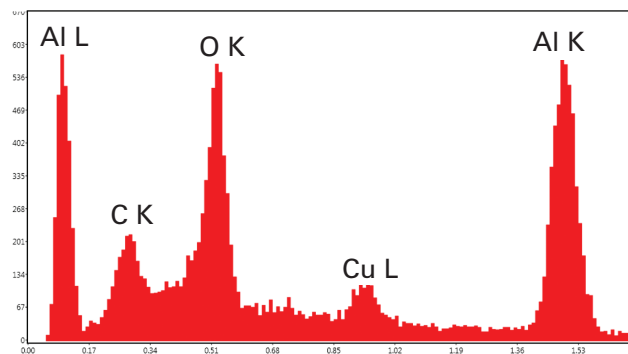


Figure 2. Al L to Al K peak height ratio of 1:1 at 2.5 kV.

Specifications

- Octane Elect SDD options:
 - Plus (30 mm²)
 - Super (70 mm²)
- 127 eV resolution at Mn Ka at 10k cps
- Carbon detection:
 - > 500k cps for ultra-fast mapping and particle acquisition
- Detection range: AL L (73 eV) – Am
- Throughput: 700k ocps at 1.6m icps
- Cooling: Peltier
- Al L to Al K peak height ratio of 1:1 at 2.5 kV
- Supplied with APEX software for EDS – standard and advanced options available
- APEX software available for integrated EDS-EBSD applications

Features and benefits

Silicon nitride window

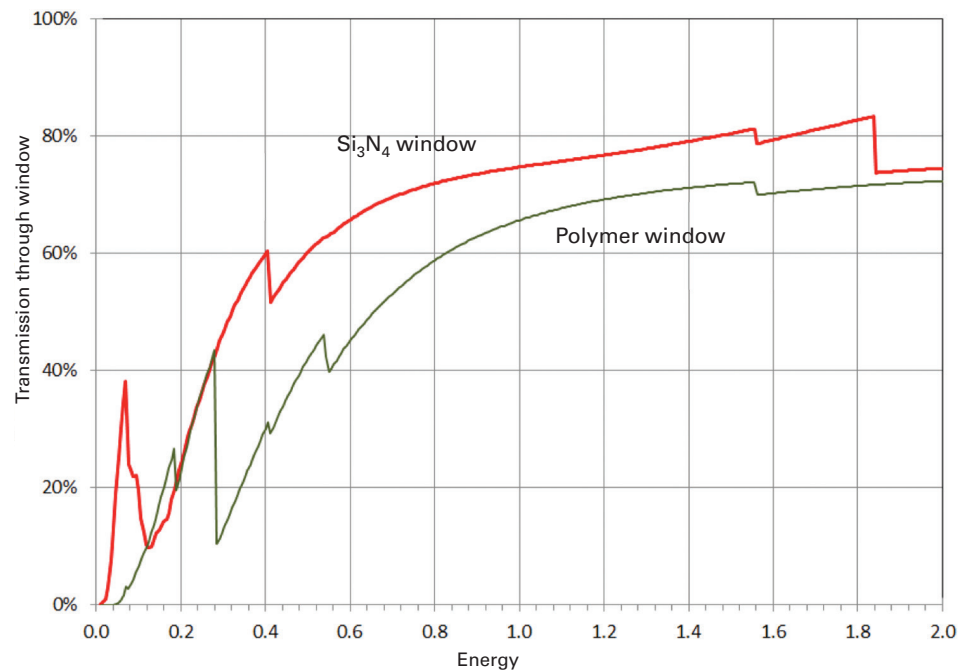


Figure 3. The Si₃N₄ window offers superior low-energy transmission compared to a polymer window.

Optimized SDD electronics for stable energy at high collection rates

- Fast pulse processing for mapping and quantification
- Optimized data quality at all count rates
- High-resolution quantitative analysis at mapping speeds greater than 400,000 output cps

Throughput

The EDAX EDS systems with advanced detection electronics offer the highest throughput count rate on the market for the best possible analysis and increased productivity.

Reliability

The design of the SDDs, with the material properties and durability of the Si₃N₄ window, offers the most robust and reliable detectors for all EDS applications. The unique design means they are corrosion and shock-resistant and suitable for plasma cleaning.

EDAX APEX EDS software allows users to optimize their analysis time and get the best possible data from their sample

APEX™ ensures high-quality, accurate results and increased productivity with its easy-to-use interface, live-time graphical display, and simultaneous review mode.

Conclusion

The design enhancements and analytical benefits of the EDAX EDS systems advance SDD technology to the highest level of performance. The Octane Elect EDS system offers users excellent value and sophisticated solutions to meet their materials characterization challenges with the best results.