



XFlash® QUAD 4040 - The first four-channel 40 mm² SDD

The XFlash® QUAD detector is the first four-channel 40 mm² Silicon Drift Detector (SDD) for Energy Dispersive Spectrometry (EDS) applications. Requiring no liquid nitrogen for operation, the four element array provides high throughput at low beam current while still affording the high resolution typical of much smaller devices. Using a passive thermoelectric cooler, the XFlash® QUAD contains no moving parts making it absolutely free of vibration and resulting in no distortion of SEM images even at extremely high magnification.

Four independently operating 10 mm² Silicon Drift Detector Chips (SDDs) with integrated anodes and FETs form the heart of the XFlash® QUAD Detector. This arrangement provides the high energy resolution of a single 10 mm² crystal at four times the count rate, accepting maximum input count rates in excess of 3,000,000 cps. To achieve this high count rate, the QUAD utilizes four independent

channels, ideally supported by Bruker's hybrid pulse processing unit QUAD SVE III.

The QUAD delivers significantly faster EDS results, making it ideal for high-resolution real-time spectrometry, high speed mapping applications, and Hyper Mapping (large area PTS / spectral imaging).

It is especially suitable for field emission, environmental and variable pressure scanning electron microscopes.

The QUAD's guaranteed standard energy resolution is $\leq 133\text{eV}$ (MnK α) at 100,000 cps.

Resolutions of ≤ 129 or ≤ 127 eV (MnK α at 100,000 cps) are available upon request.

The detector is ready for use as soon as it is switched on and works maintenance-free. No consumables are needed.

Technical Data

Guaranteed energy resolution of ≤ 133 eV at Mn $K\alpha$ 100,000 cps,

Resolutions of ≤ 129 or ≤ 127 eV at Mn $K\alpha$ 100,000 cps are available upon request

Allows extremely high count rates (maximum input count rate higher than 3,000,000 cps)

Active area of 40 mm² (4 x 10 mm²)

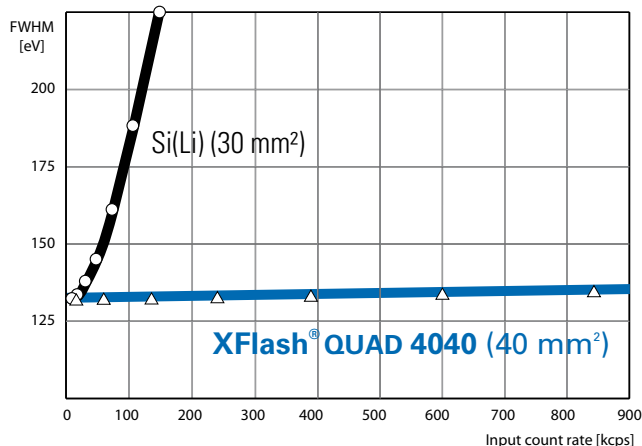
Detection from boron (5) to americium (95)

Peltier cooling (no liquid nitrogen or other cooling agents required)

Due to compact design, low weight and vibration-free cooling method no image distortion at the SEM

Comparison Si(Li) Detector / XFlash[®] QUAD Detector 4040

Typical energy resolution at Mn $K\alpha$ vs. input count rate



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