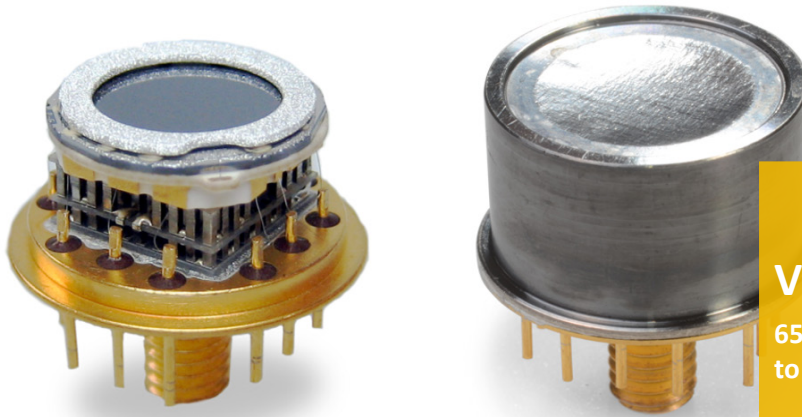


**KETEK**



## VITUS H50

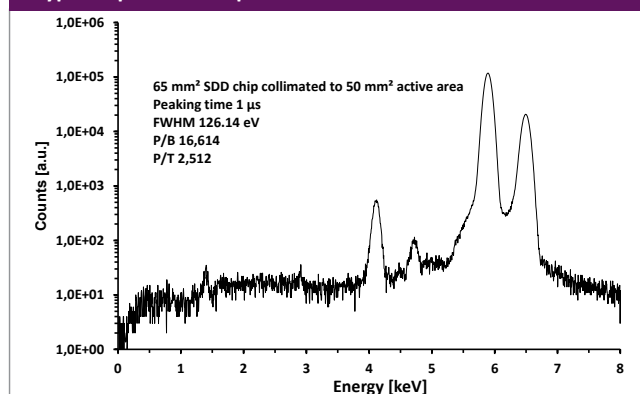
65 mm<sup>2</sup> collimated  
to 50 mm<sup>2</sup>

**H50  
VITUS**

## X-ray Silicon Drift Detector

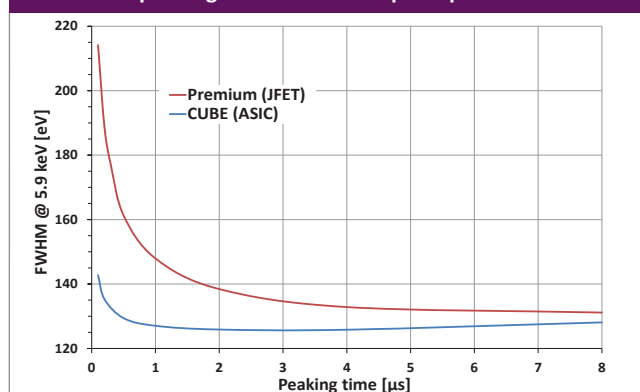
- Available with JFET or ultra-low-capacitance ASIC (CUBE) as first amplification stage
- Excellent energy resolution at very short peaking times down to 0.1 μs (CUBE)
- Very high count rate capability up to 2 Mcps (CUBE)
- Operable at up to +50 °C heat sink temperature with outstanding performance
- Best in class peak to background > 15,000 typ.

Typical spectrum acquired with the new VITUS H50 CUBE

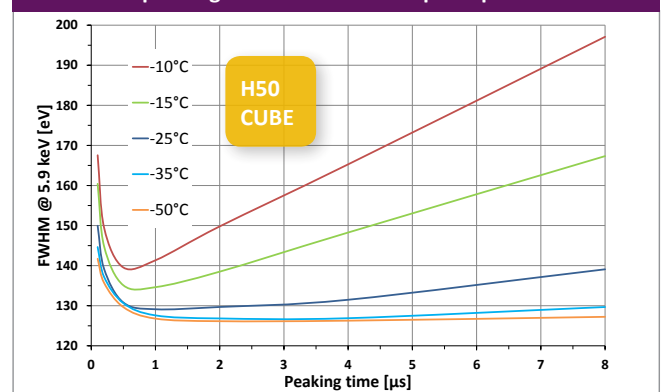


Class	CUBE ★★★★★	Premium ★★★★☆	Standard ★★★☆☆
First stage amplification	ASIC	JFET	JFET
Energy resolution	≤ 129 eV	≤ 129 eV	≤ 139 eV
Peak to background	> 15,000	> 15,000	> 6,000
Peak to tail	> 2,000	> 2,000	> 1,000
Optimal peaking time at max. cooling	1 μs	8 μs	8 μs
Absorption depth Si	450 μm	450 μm	450 μm
Peak shift stability up to 100 kcps	< 1 eV	< 1 eV	< 1 eV
Max. input count rate	2,000 kcps	500 kcps	500 kcps
Window Be DuraCoat Plus	12.5 μm	12.5 μm	12.5 μm
Cooling performance	ΔT > 75 K	ΔT > 75 K	ΔT > 75 K
On-chip collimator	multilayer	multilayer	multilayer
Ordering codes	CUBE: V5C2T0-H50-ML9BEV 129 Premium: V5F2T0-H50-ML9BEV 129 Standard: V5F2T0-H50-ML9BEV 139		

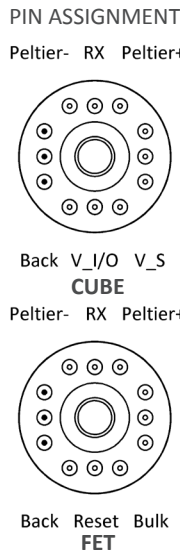
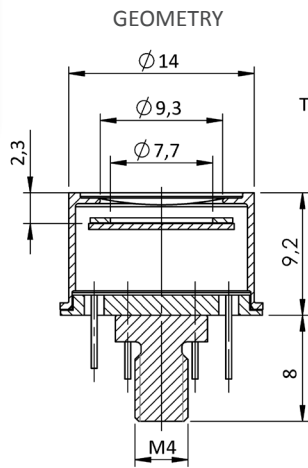
FWHM vs. peaking time at -35 °C chip temperature



FWHM vs. peaking time at different chip temperatures



# H50 VITUS



Typical SDD parameters	Voltages	Currents
Ring 1 (R1)	-20 V ± 5 V	10 µA
Ring X (RX)	-130 V ± 20 V	10 µA
Back	-60 V ± 5 V	<1 nA
Peltier element (Be window)	3.6 V	700 mA max.
Temperature monitor*	NTC thermistor 10 kΩ @ 25 °C *(application note with linearization circuit available)	
Output signal	ramped reset type	
Output gain	CUBE: 1.6 mV/keV ± 20 %	FET: 0.9 mV/keV ± 30 %

Product	Info	Ordering codes
<p><b>VIAMP H50</b></p>	<p>The <b>VITUS Amplifier</b> is a combination of the VITUS H50 SDD and a low-noise preamplifier circuit, encapsulated in a compact aluminum housing functioning, as an appropriate heat sink. A standardized FFC flex cable connector is integrated. Customized versions for your individual application are also available on request.</p>	<p><b>CUBE:</b> K5C2T0-H50-ML9BEV 129</p> <p><b>Premium:</b> K5F2T0-H50-ML9BEV 129</p> <p><b>Standard:</b> K5F2T0-H50-ML9BEV 139</p>
<p><b>OEM VICO-Kit</b></p>	<p>The <b>VITUS Components VICO-kit</b> is a highly integrated state-of-the-art electronic system including a low-noise preamplifier as well as accurately regulated power supplies for the TEC and the SDD. It is combined with VITUS H50 SDD. The compact size of the kit guarantees an easy and flexible integration in your system.</p>	<p><b>CUBE:</b> EVICO-AC (without DPP)</p> <p><b>CUBE:</b> EVICO-DC (with DPP)</p> <p><b>Premium / Standard:</b> EVICO-AF (without DPP)</p> <p><b>Premium / Standard:</b> EVICO-DF (with DPP)</p>
<p><b>AXAS-C</b></p>	<p>The <b>Analytical X-ray Acquisition System AXAS-C</b> is a compact, vacuum-compatible, complete solution for your spectroscopic application. The AXAS-C1 unit consists of the VITUS H50 SDD and a low-noise preamplifier encapsulated in the housing with a cold finger of customizable length. The AXAS-C2 unit is equipped with regulated power supplies for the TEC and the SDD, as well as an optional KETEK DPP with a USB interface.</p>	<p><b>CUBE:</b> C5C2T0-H50-ML9BEV 129</p> <p><b>Premium:</b> C5F2T0-H50-ML9BEV 129</p> <p><b>Standard:</b> C5F2T0-H50-ML9BEV 139</p>
<p><b>AXAS-A</b></p>	<p>The AXAS-A is an <b>analogue</b> vacuum-compatible spectroscopic detector system with regulated power supplies and a low-noise preamplifier. The AXAS-A is equipped with the VITUS H50 SDD. An easy upgrade to the AXAS-D with the KETEK Digital Pulse Processor is possible.</p>	<p><b>CUBE:</b> A5C2T0-H50-ML9BEV 129</p> <p><b>Premium:</b> A5F2T0-H50-ML9BEV 129</p> <p><b>Standard:</b> A5F2T0-H50-ML9BEV 139</p>
<p><b>AXAS-D</b></p>	<p>The AXAS-D is a completely <b>digital</b> and vacuum-compatible spectroscopic detector system. The AXAS-D consists of regulated power supplies, a low-noise preamplifier and additionally the KETEK DPP. This detector system is equipped with the VITUS H50 SDD.</p>	<p><b>CUBE:</b> D5C2T0-H50-ML9BEV 133</p> <p><b>Premium:</b> D5F2T0-H50-ML9BEV 133</p> <p><b>Standard:</b> D5F2T0-H50-ML9BEV 139</p>
<p><b>AXAS-M</b></p>	<p>The AXAS-M is a <b>modular</b>, vacuum-compatible and high performance spectroscopic detector system. The AXAS-M1 unit consists of the VITUS H50 SDD and a low-noise preamplifier encapsulated in a thermally optimized housing with a cold finger of customizable length. The AXAS-M2 unit comprises regulated power supplies for the TEC and the SDD, as well as the optional KETEK DPP with a USB interface.</p>	<p><b>CUBE:</b> M5C2T0-H50-ML9BEV 129</p> <p><b>Premium:</b> M5F2T0-H50-ML9BEV 129</p> <p><b>Standard:</b> M5F2T0-H50-ML9BEV 139</p>