

EVO® MA and LS Backscattered Detector

Introduction

The EVO® series of scanning electron microscopes makes use of the best detector technology available to provide feature rich images for all applications fields. The new EVO® Si diode backscattered detector (BSD) provides imaging solutions for all application needs. The ZEISS BSD series excel at low voltage imaging of low Z materials to complement the true secondary electron imaging provided by the ZEISS VPSE detector.

The ZEISS BSD physical design minimises the intrusion into the specimen space whilst doubling the collection solid angle relative to previous detectors, for specimens located at the class leading analytical working distance of 8.5mm. ZEISS BSD detectors also retain the four-quadrant detector philosophy that provides both compositional and topographic imaging from a single device. Coupled to the SmartSEM™ GUI design that emphasises usability, the new BSD series provides a problem solving ability that surpasses previous BSD implementations.



The ZEISS BSD is a universal detector system able to provide imaging solutions for all specimens in all modes for the EVO® series.

Applications

Materials Analysis

- Metallurgical sections
- Geological sections
- Complex materials

Life sciences

- Mineral deposits in plant structures
- Bone structures

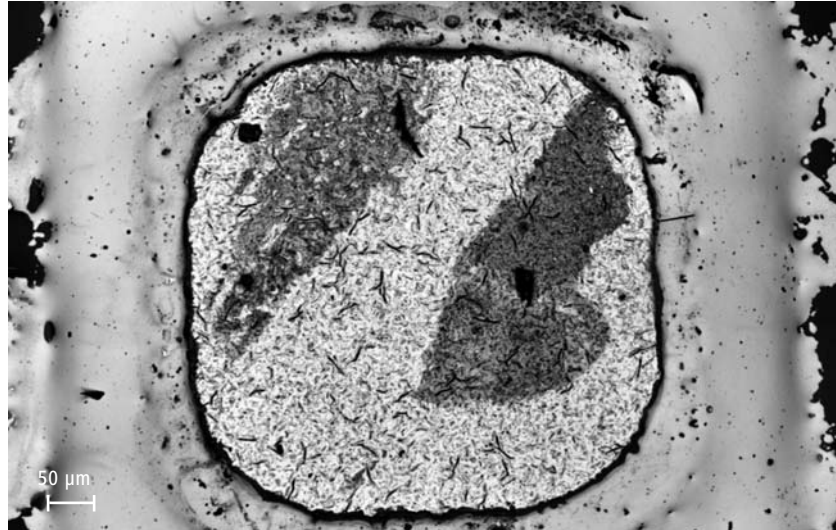
Semiconductor

- Bump balls
- Printed circuit board
- Bond pad

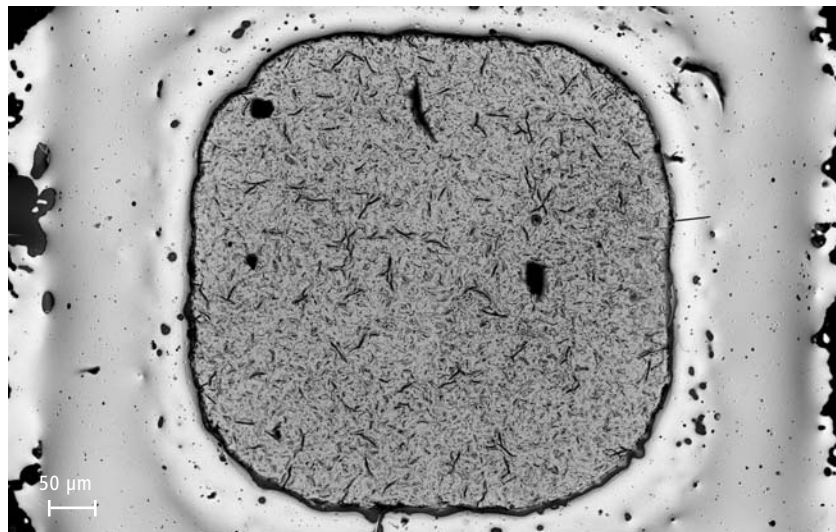
Healthcare

- Drug pellet microstructure
- Implants
- Drug delivery

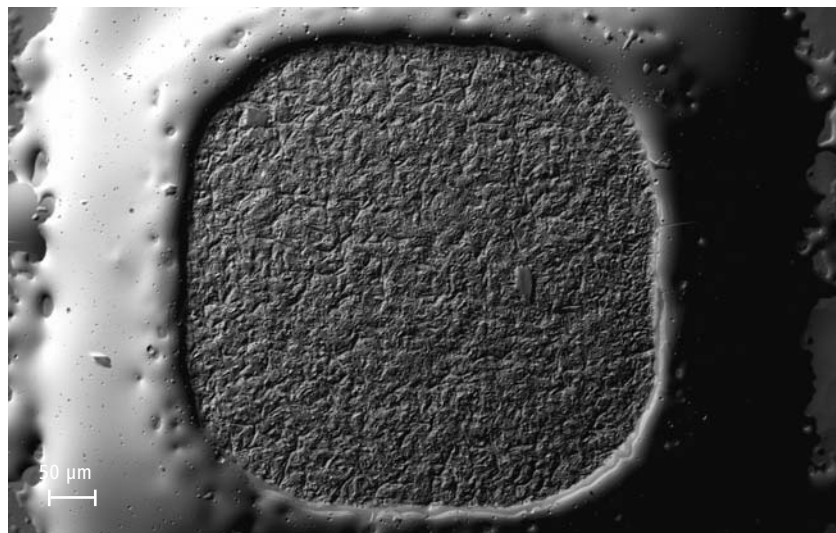
*Fig. 2:
Solder ball pad
showing thin surface
contamination
(2kV)*



*Fig. 3:
The same solder
ball pad as Figure 2.
(20kV).
At higher accelerating
voltages the surface
contamination is not
detected.*



*Fig. 4:
Solder ball pad
Topographic image
(20kV)*



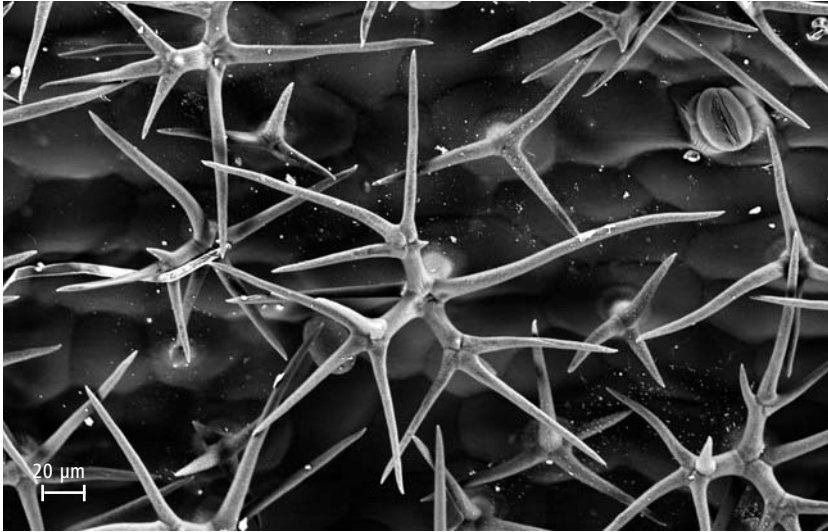


Fig. 5:
Lavender
(7kV, 30Pa, air)

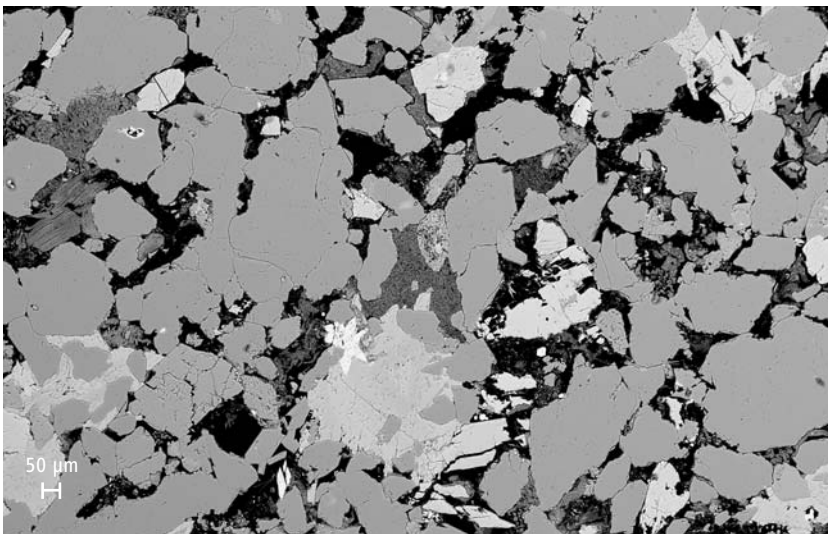


Fig. 6:
Polished Sandstone
(20kV)



Fig. 7:
Fabric
(20kV, 100Pa, air)

Essential specifications

The ZEISS BSD series is compatible with all EVO® series microscopes

- Mounting ▶ Lens mounted
▶ Retractable
- Alpha / beta brass imaging
- Compositional or Topographic
- 1 keV imaging

EVO® Series



EVO® Series					
Applications		Conductors	Non Conductors	Hydrated Specimens	Wet Dynamic Processes
Materials Analysis	MA	✓	✓	Future Assured	Future Assured
Life Sciences	LS	✓	✓	✓	✓



Maximum Information – Maximum Insight

More than 160 years of experience in optics has laid the foundation for pioneering electron and ion beam microscopes from Carl Zeiss. Superior integration of imaging and analytical capabilities provides information beyond resolution, unlocking the best kept secrets of your sample.

With a broad technology portfolio Carl Zeiss provides instruments both tailored to your requirements and adaptable to your evolving needs. With our highly versatile application solutions we endeavor to be your partner of choice.

Superbly equipped, regional demo centers provide you with access to our applications expertise developed in collaboration with world-class partners in industry and academia. Global customer support is provided by the Carl Zeiss Group together with an extensive network of authorized dealers.

Our mission at all times: Maximum Information – Maximum Insight.

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