

Quality and Failure Analysis Technician

Location: : Lehigh Valley (Bethlehem), Pennsylvania

Department: Failure Analysis

About iDEAL Semiconductor

At iDEAL Semiconductor, we're redefining what silicon can do.

Our proprietary SuperQ® technology is breaking long-standing performance limits of traditional power MOSFETs—enabling faster switching, higher efficiency, and more compact system designs across applications like AI infrastructure, battery management, motor drives, and fast charging.

We're a fast-moving, highly collaborative team of engineers and innovators focused on solving real-world power challenges.

Silicon. Reinvented.

The Role

We're looking for a detail-oriented **Failure Analysis (FA) Sample Preparation Technician** to support iDEAL Semiconductor's Quality and Failure Analysis teams. In this role, you will prepare electronic, mechanical, and material samples for detailed failure analysis investigations involving customer returns, production issues, and reliability test failures.

You will perform precision sample preparation, operate and maintain laboratory equipment, and document activities to help ensure analyses are completed accurately and on schedule. You will also provide administrative support to the Quality and Failure Analysis teams, including report management, data entry, record retention, and coordination of laboratory activities.

This is a hands-on role well suited for someone who is organized, methodical, and comfortable working with precision equipment in a technical laboratory environment.

Key Responsibilities:

- Prepare samples for failure analysis using sectioning, polishing, grinding, mounting, and other laboratory techniques.
- Operate and maintain sample preparation equipment, including cutting saws, mounting presses, polishing machines, and microscopes.
- Assist engineers in cross-sectioning, decapsulation, delayering and other destructive and non-destructive analysis activities.
- Handle and process returned products, reliability test samples, and manufacturing defect samples.

- Maintain proper identification, traceability, and storage of samples throughout the analysis process.
- Initiate CAPA and FA Reports
- Follow laboratory safety procedures and ESD (Electrostatic Discharge) requirements.
- Support laboratory organization, cleanliness, and equipment calibration activities.
- Assist with documentation of findings and preparation of analysis reports.
- Enter and maintain failure analysis data in databases and tracking systems.
- Generate reports, charts, and metrics related to quality and reliability performance.
- Maintain laboratory records, work instructions, and document control systems.
- Coordinate sample receipt, shipment, and inventory management.
- Schedule meetings and support department administrative activities.
- Assist with audit preparation and quality documentation compliance.
- Track corrective actions and follow-up activities as assigned.
- Support continuous improvement initiatives within Quality and Reliability functions.

Required Qualifications:

- Associate degree, technical certification, or equivalent experience in Engineering Technology, Electronics, Materials Science, Quality, or a related field preferred.
- High school diploma or GED required.
- 1-3 years of laboratory, manufacturing, quality, or failure analysis experience preferred.
- Experience with sample preparation techniques and laboratory equipment is highly desirable.
- Experience working in electronics, semiconductor, medical device, automotive, or manufacturing environments is a plus.
- Familiarity with microscopes, precision cutting, polishing, chemical handling and sample preparation processes.
- Understanding of quality systems and documentation practices.
- Proficiency in Microsoft Office applications (Excel, Word, PowerPoint, Outlook).
- Ability to use databases and tracking systems for data management.
- Basic understanding of failure analysis and reliability testing processes.

Why Join iDEAL

- Work on next-generation silicon technology redefining performance limits
- Direct impact on products used in high-growth markets
- Collaborative, low-ego culture with high technical depth
- Opportunity to grow with a scaling semiconductor company
- Exposure to global customers and cutting-edge applications
- Opportunity to shape the future of next-generation power electronics

Compensation & Benefits

- Competitive salary
- Equity participation
- Health, dental, and vision insurance
- 401(k), PTO

How to Apply

Submit your resume via [Careers - iDEAL Semiconductor](#)