

Quality Engineer – Laser Diode and Semiconductor Manufacturing

SemiNex is seeking a hands-on Quality Engineer to support laser diode manufacturing in a cleanroom environment. This role combines product quality ownership, inspection and test data analysis, RMA and CAPA investigation, and continuous improvement for precision photonics products used in demanding applications.

This is an opportunity for a hands-on quality professional to make a visible impact in a growing photonics manufacturer by working closely with engineering and operations to improve yield, reduce returns, and strengthen quality systems. You will have direct visibility into manufacturing performance and customer quality outcomes, with the ability to turn data, failure analysis, and hands-on process knowledge into measurable improvements in yield, reliability, and product quality.

Responsibilities:

- Conduct inspections and testing of incoming materials, in-process assemblies, and finished products to ensure compliance with specifications.
- Develop, implement, and maintain inspection plans, quality control methods, and process controls that prevent defects, improve repeatability, and support consistent product quality in laser diode manufacturing.
- Analyze inspection and test data using statistical methods to identify trends, process variation, and improvement opportunities.
- Coordinate the RMA process from initiation through resolution, working with engineering, operations, and customer-facing teams as needed.
- Analyze root causes and support corrective and preventive actions (CAPA) to resolve quality issues and prevent recurrence.
- Maintain accurate quality records, inspection reports, test results, and CAPA documentation in compliance with company and regulatory requirements.
- Participate in internal audits and support audit preparation; lead audits with appropriate training and qualifications.
- Support and train production personnel on quality standards, inspection methods, and cleanroom best practices.
- Generate regular reports on quality metrics, including defect rates, returns, trends, and resolution timelines.
- Ensure compliance with applicable industry standards, customer requirements, and internal quality systems.
- Enforce proper cleanroom protocols and maintain a clean, safe, and organized work environment.
- Support a collaborative, positive, and continuous improvement-focused culture.
- Success in this role looks like measurable improvements in product quality, faster and more effective RMA resolution, clearer quality documentation, and stronger collaboration between quality, engineering, and production teams.

Required Qualifications:

- Bachelor's degree in Engineering, Physics, Materials Science, Optics, or a related technical field, or equivalent hands-on quality/manufacturing experience in a precision manufacturing environment.
- 3+ years of quality engineering, manufacturing quality, or process quality experience; experience in semiconductor, photonics, optics, electronics, medical device, aerospace, or other precision manufacturing environments is preferred.
- Experience working in an ISO 9001 or similar quality system.
- Ability to analyze inspection, production, and test data to identify trends and root causes.
- Strong analytical, documentation, and communication skills with high attention to detail
- Hands-on comfort in a cleanroom, lab, or precision manufacturing environment.
- Must be authorized to work in the United States

**Preferred Qualifications:**

- Experience with laser diodes, photonics, semiconductor devices, optics, electronics, or other precision components.
- Experience with RMA, CAPA, 8D, FMEA, control plans, SPC, or DOE.
- Familiarity with optical/electrical testing, reliability testing, ESD controls, or microscope inspection
- Experience supporting implementation, audit preparation, or process documentation.
- Experience in semiconductors, photonics, optics, electronics, medical devices, aerospace, or other precision manufacturing environments.
- Familiarity with laser diode assembly, optical/electrical test data, burn-in and reliability testing, ESD controls, cleanroom handling or related photonics manufacturing processes.
- ASQ CQE, internal auditor training, or Six Sigma certification.
- Candidates do not need to bring deep laser diode expertise on day one. SemiNex values strong quality fundamentals, curiosity, hands-on problem solving, and the ability to learn specialized photonics processes in partnership with experienced engineering and operations teams.

Physical Requirements:

This role requires the ability to perform hands-on inspection and failure analysis support, including visual inspection of small components, use of microscopes or related inspection tools, and careful handling of precision parts in a cleanroom or lab environment.

Work Location:

Danvers, MA near I-95 and US Route 1. This is an on-site, factory-based role with regular hands-on work in cleanroom, lab, inspection, and manufacturing areas.

Company Background:

At SemiNex, our talented people make us successful. We promote an inclusive environment where we value individuality, differences, and unique perspectives. SemiNex is a fast-growing photonics company offering hands-on technical work, cross-functional visibility, competitive compensation and benefits, and opportunities for ongoing career growth and advancement.