



Job Description – Thin Film Process Engineer

Description of Responsibilities:

- Define and execute tasks in the support of R&D engineering programs.
- Primary focus is in area of process development technologies and applications for engineered substrates.
- Development and characterization of materials to improve engineered substrate efficiency.
- Assist in the development, planning, execution of tasks to achieve the corporate technology roadmap based on customer inputs and specifications.
- Establish BKM and drive optimization of processes to achieve high substrate yields.
- Perform analysis and characterization of processing steps for continuous improvement in process yields for manufacturability.
- Interface with current engineering staff to provide technical solutions.

Experience:

- Academic focus in material science/physics/chemistry or 3 -7 plus years of relevant industry experience.
- Strong fundamental knowledge in substrate fabrication processes, design and execution of experiments, and transfer of technical understanding and insights to Process / Equipment/ Application development programs.
- Hands-on experience in the operation of R&D and Manufacturing types of equipment.
- Hands-on experience in the electrical and mechanical maintenance and repair is a plus.
- Expertise in statistical design-of-experiments (DOE) for process development.
- Understanding of thin film (sputter, PECVD, CVD) depositions and substrate cleaning.
- Understanding of bonding, implant, laser thermal annealing and fracture mechanics is a plus.
- Experience in the characterization and analysis of materials/devices for LED applications such as lifetime defect characterization, mechanical properties, and the like.
- Hands on experience in processing LED substrates and devices including:
 - III-V compound semiconductor (GaN & GaAs) substrate cleaning
 - III-V compound semiconductor (GaN & GaAs) wet etches
 - III-V compound semiconductor (GaN) growth methods
- Fundamental background of GaN properties and impact of process parameters on the material (i.e.: thermal properties, decomposition environments (gasses / temperature, differences of Ga vs N-face surfaces, etc.)).
- Fundamental understanding and/or experience in device characterization, test and failure analysis of LED device.
- Good understanding of metrology for characterization of III-V compound semiconductor materials / films.

- Actual experience in working in an III-V compound semiconductor R&D and/or pilot fabrication area.
- Aptitude and ability to work with and diagnose complex material issues and formulate solutions.
- Experience with PE4400 and production sputter systems.
- Demonstrated ability to meet aggressive program deliverables.
- Familiar with the safety regulations and protocols of a R&D / manufacturing clean room.

Skills:

- Self-motivated, ability to work in a fast paced environment.
- Ability to work both independently and in a team environment and interface effectively with all levels and departments within the organization.
- Ability to document projects/experiments to meet key organization technical milestones.
- Strong analytical, troubleshooting and problem solving skills.
- Excellent critical thinking skills, along with verbal and written communication abilities.
- High level organizational and time management skills, with the ability to effectively manage multiple projects and prioritize tasks.
- Proficiency with all Microsoft Office applications.

Education:

M.S in Physics, Chemistry or Material Science. PhD a plus.