Driving decarbonization and digitalization. Together.

Principal Engineer Substrate and Defect Engineering (SDE)

Job description

In your new role you will:

- Act as a lead Defect Density (DD) Engineer for the Wide Band Gap (WBG) technologies.
- Provide expertise in defect density engineering to improve yield and stability of SiC and GaN technologies.
- Support ramp of high-volume manufacturing and ramp-up of Infineon's SiC cold split technology and WBG Epi manufacturing by implementing health of line monitoring and fast feedback mechanism to ensure stable performance.
- Analyses the defects originating from substrates and epi process block and drive for improvement with process integration, product engineering and unit process teams.
- Establish correlations between inline defect density scan with electrical parameters, yield, and reliability of products.
- Establish the Defect monitoring plan, out-of-control action plans, and DD targets.
- Establish Defect Pareto and carry out defect characterization and killing ratios.
- Drive continuous Defect Density baseline improvements and substrate/epi-to-product interactions.
- Conducts defect learning for existing and new technologies and products to establish the impact of defects on yield, reliability, and cosmetic appearance.
- Improves yield by reducing DD-related yield loss. Collaborate and closely work with process integration, unit process development and production wafer inspection teams to achieve the best performance of technologies and products.
- Provide input for SiC boules and substrate suppliers for quality improvement programs.
- Ensure process windows and implement fault detection and classification (FDC) limits for process and tool parameters to achieve early detection and excursion-free manufacturing.
- Ensure flawless process/tools change management for the technologies and products under responsibility.
- Support deviation management by defect assessment of affected material.
- Cost, quality, stability, and productivity improvement of the WBG technologies, products, substrate manufacturing and epi block.
- Act as an interface between substrate and Epi manufacturing site and substrate user sites.

At a glance

Location:	**Kulim (Malaysia)**
Job ID:	**HRC0669813**
Start date:	**as soon as possible**
Entry level:	**5+ years**
Type:	**Full time**
Contract:	**Permanent**

Apply to this position online by following the URL and entering the Job ID in our job search. Alternatively, you can also scan the QR code with your smartphone:

Job ID: HRC0669813
www.infineon.com/jobs

- Support technology transfer and technology/product development to achieve best-in-class yield and ensure excursion-free manufacturing.

Profile

You are best equipped for this task if you have:

- Bachelor/Master/PhD Degree in Electrical/Electronics/Physics/Material Science /Chemistry/Mechatronics
- 10+ years experience in defect density (DD) and yield engineering in Frontend Wafer fab environment.
- Expertise in defect reduction and defect excursion prevention.
- In-depth know-how of state-of-the-art DD inspection tools, methods, and methodologies and emerging trends.
- Good understanding of substrate and epi-related defects and interaction with devices and yield.
- Experience with Wide Band Gap (WBG) semiconductors like SiC and GaN, substrate and epitaxial layer process would be an added advantage.
- Familiar with Technology and Products Transfers and Qualification methodologies
- Experience of ramping up technologies in high volume and New Products Introduction
- Experienced with quality and reliability requirements of Automotive and Industrial products.
- Good understanding of wafer fab High-volume Manufacturing Systems, Quality and Reliability requirements, and Failure Analysis
- Familiar with Change and Deviation management and problem-solving methodologies.
- Must be a self-starter who can work both independently and in groups.
- Able to lead, organize and coordinate multiple projects promptly.
- Ability to work with multiple teams and interfaces in a highly demanding, time-critical, and agile environment.

Benefits

- **Kulim:** Coaching, mentoring networking possibilities; Wide range of training offers & planning of career development; International assignments; Different career paths: Project Management, Technical Ladder, Management & Individual Contributor; Flexible working conditions; Holiday child care; Medical coverage; On-site social counselling and works doctor; Health promotion programs; On-site gym, jogging paths, beachvolleyball, tennis & soccer court; On-site canteen; Private insurance offers; Flexible transition into retirement

Why Us

Driving decarbonization and digitalization. Together.

Infineon designs, develops, manufactures, and markets a broad range of semiconductors and semiconductor-based solutions, focusing on key markets in the automotive, industrial, and consumer sectors. Its products range from standard components to special components for digital, analog, and mixed-signal applications to customer-specific solutions together with the appropriate software.

We are on a journey to create the best Infineon for everyone.
This means we embrace diversity and inclusion and welcome everyone for who they are. At Infineon, we offer a working environment characterized by trust, openness, respect and tolerance and are committed to give all applicants and employees equal opportunities. We base our recruiting decisions on the applicant´s experience and

skills.
Please let your recruiter know if they need to pay special attention to something in order to enable your participation in the interview process.