

Principal Reliability Engineer

Type: Full-time
Reports To: Sr Director of Design
Location: San Diego, CA USA

Experience & Education:

- BSEE or equivalent
- Minimum 15 years working experience in Semiconductor industry, 10+ years working in product reliability.
- Experience with reliability HW setups and equipment for HTOL, HAST, THB, ESD, Latch-Up, etc.
- Knowledge of device physics, IC fabrication, packaging and testing method.
- Understanding of power topologies such as buck, boost, buck-boost, charge pumps, LDOs.
- Statistical analysis knowledge to assess reliability risk on abnormal materials at suppliers and at customer end.
- Knowledge of board level considerations, including component selection, PCB layout, packaging technologies and thermal analysis.
- Experience leading multi-functional team to develop robust qualification strategies.
- Experience applying JEDEC quality related standards, and the science behind them.
- Experience with reliability fail modes of packaging technologies and fail mechanisms with respect to reliability.
- Experience driving suppliers in the areas of packaging/assembly, test, ongoing reliability monitoring, post-production qualification.
- Good communication skills.

Core Responsibilities:

- Lead cross functional team to develop robust qualification strategies.
- Drive all aspects of qualification activities to ensure qualification successful meeting internal schedule and customer requirement.
- Define and ensure qualification hardware readiness, including schematic, layout, BOM selection, HW validation, reliability tests bring up, focused on HTOL, bHAST, ESD and Latch-Up.
- Drive issues occur during qualification, provide test and failure analysis instruction as needed.
- Risk assessment on abnormal materials at supplier and customer end.
- Utilize reliability statistical analysis to predict product / device life time and failure rate.
- Support to expand internal reliability tests capabilities, including HTOL, bHAST, ESD and Latch-Up.
- Explore customer application in use tests and bring up to internal lab.
- External reliability lab vendor management, maintain and optimize supplier relationship, define best reliability lab management strategy.
- Interpret JEDEC standard and apply in Silanna product qualification strategy with consideration of schedule, cost and resource constraint.
- Ongoing Reliability Monitoring (ORM) activities and generate ORM reports.