Qiuhong Wang

Austin, TX
-Email me on Indeed:

Power Electronics Engineer with 3+ years of experience designing and developing electromagnetic, thermal, and mechanical models to bring power converters from concept and requirements to design, verification, and manufacturing. Data-driven Engineer focused on creating innovative, cost-effective solutions from scratch while setting the highest bar for quality, sustainability, and efficiency.

Authorized to work in the US for any employer

Work Experience

Electronics Engineer

Flex Power Modules - Kalmar
April 2017 to December 2020

• Led the virtual prototyping, design, and verification for DC/DC power module products with a team of 3 engineers.
• Improved product performance and reduced costs and product time to market by streamlining the development lifecycle and reducing the need for physical prototyping.
• Designed, prototyped, and optimized PCB layouts for magnetic power converter components by developing and leveraging 3D electromagnetic models to simulate winding loss distribution with COMSOL and creating SPICE models.
• Built a patented electromagnetic model for reducing winding loss, Multilayer Transformer Structure Comprising Multiple Rectification Elements (16/387301).
• Developed and verified an Excel tool for accurately calculating the core loss of magnetic components in DC/DC converters.
• Created and implemented an advanced 3D time-domain core loss model applicable for an arbitrary waveform with COMSOL and verified the model using a 132-450W isolated DC/DC converter while maintaining a 20 percent error rate.
• Developed a 3D model for the heat distribution in DC/DC converters to identify potential hot spots with COMSOL and created a thermal stress model to predict PCB deformation during thermal analysis and determine part fragility.
• Built a model and performed structural simulations of a voltage regulator module product using COMSOL to demonstrate the product's support for 90N of compression force and secure a contract with Google.
• Developed an Excel calculator tool for estimating the Mean Time Between Failures (MTBF) for electronic components.
• Trained and mentored 2 new EE colleagues on COMSOL modeling to help develop virtual prototyping for all projects.

Education

Master of Engineering in Electric Power Engineering

Royal Institute of Technology (KTH)

Bachelor of Engineering in Electrical Engineering and Automation
Shenyang University of Technology

Skills

- Electrical Engineering: Research & Development, Analog Circuit/Digital Circuit/PCB Design, Magnetic Design and Simulation, Layout Optimization, FEA Modeling and Verification, Data Analysis, Documentation, Tool Development, Problem Solving
- Strategic Planning & Execution
- Project Management
- Prioritization
- Process Improvement
- Collaboration
- Staff Hiring & Management
- Training & Development
- Coaching & Mentorship
- Reporting
- COMSOL
- Spice
- Cadence Allegro
- ATP-EMTP
- MATLAB/Simulink
- Python
- LATEX
- Microsoft Office
- AutoCAD
- Team Work
- Problem-solving
- Reliability
- Flexibility
- CAD

Languages

- Mandarin - Expert

Patents

Multilayer Transformer Structure Comprising Multiple Rectification Elements (#16/387301)
October 2020