

IDEAL POWER

IDEAL POWER INC.

Ideal Power (NASDAQ: IPWR) is a semiconductor technology company focused on its patented Bi-directional, Bi-polar Junction Transistor (B-TRAN™) semiconductor technology. B-TRAN™ is a unique double-sided bi-directional AC switch expected to deliver substantial performance improvements over today's conventional power semiconductors. B-TRAN™ offers the potential to improve efficiency and system economics of a wide variety of power converter applications including electrified vehicle traction drives, energy storage applications, PV inverters and wind converters, variable frequency (VFD) motor drives, and AC and DC power control applications.

CURRENT OPPORTUNITY

Job Title: Senior Design Engineer

Job Location: Austin, Texas

POSITION SUMMARY

This is an excellent opportunity for a highly creative gate driver design engineer to have a pioneering role in our development program. The Senior Design Engineer is responsible for the design, validation and continued advancement of the B-TRAN dual sided driver design. This position requires a hand-on individual with strong technical capabilities and problem-solving skills in semiconductor gate driver design to play a key role in the development, validation testing and commercialization the Company's low loss power switch technology. The right individual will be a self-starter with a robust power electronics and gate driver device design background, a strong team player and the ability to comfortably work in a start-up environment and interact with technology development and commercialization partners.

REF: Ideal Power. (2016). *White Paper: B-TRAN – Bi-Directional Bi-Polar Junction TRANSistor* [pdf]. http://www.idealpower.com/wp-content/uploads/2018/02/WHT-00002_RevC_BTRAN_April2016.pdf

CORE SKILLS AND EDUCATION

- Master's degree in power electronics or electrical engineering with at least 5 years of experience in power semiconductor gate driver design
- Working knowledge of hardware design and circuit analysis tools such as SPICE, DFMEA, Derating/stress Analysis and FPGA application and coding experience
- PCB design experience with good knowledge of component selection, design trade-offs for function, heat dissipation, EMC, isolation, cost control and manufacturability
- Thorough knowledge of power semiconductor topologies with emphasis on MOSFETs and bipolar devices such as IGBTs and BJTs and the state of the art of WBG gate driver development
- General applications knowledge of semiconductor markets such as EV, VFDs, industrial applications (circuit breakers, traction drives), renewable energy, UPS systems a plus
- Familiarity with automotive international standards desirable

ESSENTIAL DUTIES AND RESPONSIBILITIES

- Lead gate driver product development for our bi-directional double-sided power semiconductor device including developing design requirements, product specifications, circuit analysis, circuit simulations, prototype builds and validation test plans
- Collaborate with development partners and device engineers to implement gate drive development requirements based on market requirements and semiconductor characteristics.
- Active participant and contributor in determining technology and product roadmaps and specifying development milestones
- Work with a sense of urgency to manage design and development activities to meet program budgets and timelines
- Actively communicate with external suppliers, universities, research institutes and partners, keep current on cutting-edge technology and future trending technology
- Develop and publish technical articles, whitepapers and other external-facing product presentations for customer and partner use