

## IDEAL POWER INC.

Ideal Power (NASDAQ: IPWR) is the developer and innovative provider of its broadly patented bidirectional semiconductor power switch, creating highly efficient and ecofriendly energy control solutions for electric vehicle, electric vehicle charging, renewable energy, energy storage, UPS/data center, solid-state circuit breaker and other industrial and military applications. The Company is focused on its patented Bidirectional, Bipolar Junction Transistor (B-TRAN®) semiconductor technology. B-TRAN® is a unique double-sided bidirectional AC switch that delivers substantial performance improvements over today's conventional power semiconductors. Ideal Power's B-TRAN® can reduce conduction and switching losses, complexity of thermal management and operating cost in AC power switching and control circuitry. For more information, visit the Company's website at [www.IdealPower.com](http://www.IdealPower.com), on [LinkedIn](#), on [Twitter](#), and on [Facebook](#).

## CURRENT OPPORTUNITY

**Position Title:** Manager of Device Engineering  
**Department:** Engineering  
**Job Location:** Austin, TX  
**Reports To:** Chief Technology Officer

## POSITION SUMMARY

This is an excellent opportunity for a highly creative power semiconductor engineer/solid state physicist to have a pioneering role in our development and commercialization programs. This role is ideal for a future focused, hands-on engineer who thrives in a fast-paced environment and is looking to make a significant technical impact in the power semiconductor industry. The successful candidate will play a pivotal role in the commercialization of a new low-loss, bidirectional power semiconductor architecture including product design, optimization, fabrication, testing, manufacturing scale-up, reliability, and long-term technology planning.

## ESSENTIAL DUTIES AND RESPONSIBILITIES

- Work closely with third party wafer fabricators to identify, evaluate, and implement process improvements
- Lead device design to incorporate performance improvements identified from simulations and device testing
- Conduct semiconductor simulations using commonly available tools such as Silvaco or Synopsis TCAD
- Oversee mask layouts and best design practices

- Provide overall project management for prototype and volume contracted semiconductor fabrication development efforts
- Coordinate front end processing of development lots (generation of split plans, trial routes, etc.)
- Perform and/or coordinate electrical characterization of test structures
- Conduct and/or coordinate physical analysis of device and functional test results
- Analyze device data and test structures to optimize device design
- Identify potential performance, manufacturing, testing, and reliability concerns and opportunities for improvement
- Actively participate and contribute to determining near-term and long-term technology and product roadmaps and specifying development milestones and prioritizing development activities

## **CORE SKILLS, EXPERIENCE AND EDUCATION**

- Master or PhD degree in Electrical Engineering or solid-state physics
- 5 – 10 years of experience in power semiconductor technology development
- Thorough knowledge of power semiconductor topologies with emphasis on MOSFETs and bipolar devices such as IGBTs and BJTs.
- Deep understanding of Si and SiC device physics, fundamental behavior and manufacturing processes
- Demonstrated ability to perform the responsibilities identified above
- Strong conceptual thinking skills, quantitative and qualitative analytical and problem-solving skills
- Strong working knowledge of advanced wafer fabrication techniques and processes
- Hands-on experience with laboratory equipment and characterization of semiconductors and their applications
- General familiarity with power device packaging, best practices and manufacturability
- General applications knowledge of semiconductor markets such as EV, VFDs, industrial applications (circuit breakers, traction drives), renewable energy and UPS systems a plus
- Good knowledge of basic power conversion topologies, such as, buck, boost and inverter circuit topologies a plus