Pulse Power Design Engineer

Sydor Technologies LLC — Location: Rochester, New York

COMPANY OVERVIEW

Sydor Technologies (www.sydortechnologies.com) is a global leader providing comprehensive, customized solutions for the most complex measurement challenges in the defense, energy, security, and research industries. We pride ourselves on being a trusted, collaborative partner for our customers while solving technical problems with innovative solutions. Sydor's US-based operations specialize in high-speed imaging systems and diagnostics. The company's UK operations specialize in ballistic and impact testing systems, as well as scoring systems. The company operates in 33 countries around the world with its global headquarters located in Rochester, NY.

Sydor Technologies is a high growth small business, and has been featured as one of the fastest growing companies in the Rochester NY Top 100 and in the top 25% of Inc. Magazine's 5000 fastest growing companies nationwide. Our success is a testament to our employees and their commitment to customer focus, team work and high performance. Our employees are some of the best and the brightest in the industry and are the company's greatest asset.

POSITION SUMMARY

Sydor Technologies has an immediate need for a Pulsed Power Design Engineer. This is more than an engineering design position but rather a career defining opportunity to become a world leading subject-matter-expert in the design, development and deployment of mission-critical pulsed power solutions supporting national laboratories and research facilities throughout the world.

The successful candidate will contribute their expertise to develop the electronics needed in our pulser product line. This includes solid state high voltage pulsers, arbitrary waveform generators, fast electronics, and ultra-fast optical and x-ray framing cameras.

The position is well suited for those who have a special interest in areas of power analog circuit design, RF power transmission, and high-speed electronics with a desire to join an elite team. Many of the solutions we work on are used in bleeding edge research for future applications such as fusion energy, high power laser optics, and ultra-fast imaging beyond the visible spectrum. An engineer for this position will be expected to deep dive into existing design theory through circuit simulation, construction and debugging to build up the skills needed to solve new and challenging problems. This individual will work with and learn from senior engineers, researchers and academics in the pulse power field and grow into a subject matter expert role within this industry.

SYDOR TECHNOLOGIES

JOB REQUIREMENTS

- Take the lead role in the architecture and design of high voltage (up to 50 kV) and high speed (200 ps) pulse generators. These devices are often designed to order, the ability to leverage previous designs as well as create original circuitry is a requirement.
- Work with Sydor Technologies engineers, scientists, and production staff during development to define the product requirements, optimize the designs to the customer's needs and contribute to the construction and validation of the design.
- Hands on work involving drawing creation, product testing and validation testing.
- Contribute to technical calls with customers to define requirements, deliver project updates and provide technical support.
- Provide periodic project updates to the Sydor Technologies pulser team.

POSITION QUALIFICATION

- Target education and years of experience in Electrical Engineering or a related discipline focused on the design of power systems, RF circuits, high speed analog design or related activities:
    - Bachelors with 5 years.
    - Masters with 3 years.
    - PhD with 1 year.
- Design and test experience with discrete power components such as bipolar transistors, MOSFETs and IGBTs.
- Knowledge of high speed and high voltage circuit design, switching converters or relevant experience.
- RF or high-speed PCB layout experience a plus.
- Experience with circuit simulation highly desired.
- Product design exposure, notably in the areas of RF shielding, thermal management, and validation / verification activities.
- Exposure to research environments, such as Inertial Confinement Fusion, atmospheric plasma science, high energy physics and light source injection.
- Excellent written and verbal communication skills.
- Strong organizational skills and ability to work independently.
- Ability to occasional travel, approximately 10%.

LOCATION

- In-office position at our Fairport New York facility