



Rantec Power Systems Inc.
Los Osos, California

Job Description

Title: PCB Design Engineer

Date: August 2024

Department: Engineering

FLSA Status: Exempt

Reports to: Mechanical Engineering Manager

Scope

Takes a lead role in developing internal design guidelines for printed wiring board (PWB) designs. Performs a full range of design tasks to produce PWBs for Rantec's power supply products. Applies a thorough material science knowledge of the interactions and characteristics of materials used in PWB manufacturing and the impact of material choices on design decisions. Interface with PWB manufacturers to ensure Rantec's designs are compatible with the manufacturing processes of the PWB. Produce the schematic, design the component layout of the circuit board, and create documentation to support manufacturing.

Essential Duties and Responsibilities

- Design printed circuit boards. Develop internal design guidelines for PWB design issues. Work from original engineering concept and preliminary sketches to produce schematics and design board layouts for PWBs. Perform design activities and produce data files, Gerber, ODB++, and fabrication drawings necessary to order boards and stencils from suppliers and produce assemblies in our manufacturing operation.
- Support goals of designing for manufacturability. Apply knowledge of Quad data processes to support surface-mount technology (SMT) manufacturing. Maintain familiarity with current manufacturing methods and industry design trends. Ensure that drawing standards and notes for PWBs have a common interpretation between PWB vendor and Rantec. Work with design team to support manufacturability.
- Manage electronic libraries of schematic symbols and component/pad footprints and component models for the design group to ensure accuracy and consistency of design in accordance with IPC standards. Develop internal standards for compiling and maintaining the library.
- Stencils and circuit boards. Prepare fabrication drawings, manufacturing data and Gerber data necessary for procurement of stencils and circuit boards from suppliers.
- Develop manufacturing documentation. Produce Quad files, assembly drawings, parts lists, and bills of materials.
- Write Engineering Change Notices. Maintain integrity of design process and configuration control by incorporating design changes through an established ECN process. Incorporate changes into engineering and manufacturing documentation as appropriate.
- Support design activities of manufacturing and test for test fixtures, ATE systems, mounting boards, etc., based on engineering and manufacturing input.
- Support product realization – participate in design reviews, scheduling meetings and other engineering and manufacturing work groups as requested to provide design input as needed.
- Ability to work flexible hours and/or different shifts, if needed.
- Ability to work in a safe professional manner adhering to all regulatory requirements including OSHA, EPA, State and Federal Regulations.
- As the Company's success relies on the productivity of our team and adherence to customer product schedules, an essential function of this position is the ability to arrive to work on-time, and work each day, as scheduled.
- Perform other duties as assigned

Qualification Requirements:

To perform this job successfully, an individual must be able to perform each essential duty satisfactorily. The requirements listed below are representative of the knowledge, skill, and/or ability required. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

This position requires access to our export-controlled commodities, technical data, technology and services. These items are restricted under the International Traffic in Arms Regulations (ITAR) to U.S. Citizens, Lawful Permanent Residents of the U.S. and properly licensed foreign persons. Therefore, employment is contingent on compliance with ITAR regulations and successfully obtaining and maintaining the necessary export authorization license from the U.S. Department of Commerce's Bureau of Industry and Security, U.S. Department of State's Office of Defense Trade Controls, or other applicable government agency.

Education and Experience

- BS degree in electrical engineering is desirable.
- 5 years general background in printed circuit board design/layout, surface-mount technology and power supply experience highly preferred.
- Familiarity with industry standards such as IPC and IEEE relating to PWB design.
- Computer skills in CAD and PWB layout programs including, Altium Designer, *Microstation* from Bentley Systems, *Expedition PCB* and *Design Capture Release* from Mentor Graphics Corp.
- Thorough knowledge and understanding of the theory and applications of components and PWBs.
- Thorough knowledge of PWB fabrication, material choices and processing.
- Excellent communication and organizational skills.
- Excellent investigative and problem-solving skills for addressing design issues and challenges.

Physical Requirements

The physical demands described here are representative of those that must successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

- While performing the duties of this job, the employee is required to remain in a stationary position consistently and move about the inside of the facility to review and monitor progress of parts through production floor.
- Operates a computer and other office productivity machinery, such as; calculator, copy machine, printers, etc.
- Frequently lifting and handling items less than 10 lbs with occasional lifting up to 40 lbs.
- Occasionally ascending or descending, stairs, and the like to meetings and to access various facility locations.

Rantec is proud to be an Equal Opportunity Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, disability, age, or status as a protected veteran. Rantec will consider reasonable accommodation to its policies for employees and applicants due to sincerely held religious belief.