



Job Description for Senior Mechanical Engineer

Department: **Engineering**

Is Managed By: **Manager of Engineering**

Job Title: Senior Mechanical Engineer

The Senior Mechanical Engineer is responsible for supporting and creating mechanical designs, drawings and some PCB designs in support of new product development and product improvements. The candidate will be required to architect innovative Power Electronic Packaging Designs for the aerospace industry. The candidate should be an expert in thermal and stress simulation tools to validate designs. Furthermore, the candidate will be expected to lead design programs and mentor Junior Mechanical Engineers.

Key Responsibilities:

In this role the incumbent's responsibilities will include, but not be limited to:

- 1 Mechanical design and electronics packaging of switch mode power supplies, inverters, battery backup power, frequency converters and voltage regulators.
- 2 Work with Electrical and Electro-Mechanical Engineers to make critical part placement on PCB assemblies.
- 3 Design mechanical packaging utilizing fundamental engineering design principles.
- 4 Create manufacturing drawings and wire lists / diagrams according to ANSI drafting standards.
- 5 Performs design verification and tolerance checking.
- 6 Run analysis (thermal and stress) to validate design.
- 7 Create required outline / top assembly drawings for both production and sales proposals.
- 8 Create detail drawings for use by outside vendors to make per print fabricated parts.
- 9 Manage environmental testing for design qualification in accordance with DO-160/MIL-STD-810.
- 10 Prepare for and participate in internal design reviews, PDRs, and CDRs.
- 11 Support production teams with assembly process.
- 12 Consult with production engineering in the design of tooling/fixtures required for assembly.
- 13 Generation, revision, and maintenance of engineering drawings and BOMs.
- 14 Consult with ILS (configuration) department to develop assembly drawings compatible with Component Maintenance Manuals.
- 15 Assist manufacturing engineers with the transition of projects from engineering to manufacturing.
- 16 Participate in efforts to validate alternate parts.
- 17 Author ECNs (engineering change orders) to help drive product updates.



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Requirements:

The successful candidate will have a background which includes the following demonstrable experience, skills and education:

- 1 Education: B.S.M.E (required) M.S.M.E (preferred)
- 2 Work Experience: Minimum 10 years design.
- 3 Experience with SOLIDWORKS CAD Tool Package.
- 4 Must be able to use Thermal and Stress Simulation tools (SOLIDWORKS Simulation, SOLIDWORKS Flow, ANSYS, FlowTherm, etc.)
- 5 Highly motivated self-starter with a desire to grow and improve.
- 6 Comfortable with giving and receiving constructive criticism.
- 7 Design and manage all mechanical aspects of power electronics packaging with emphasis on thermal and weight optimization.
- 8 Excellent writing and documentation skills.
- 9 Strong communication skills.

Authorities:

Ensure compliance with applicable processes and procedures during the course of daily job function.

Physical Demands:

While performing the duties of this job, the employee is occasionally required to stand, walk, sit, use hands to finger, reach with arms and hands, climb stairs, stoop, kneel, crouch, talk or hear. The employee must occasionally lift and/or move up to 30 lbs.

Work Environment:

While performing the duties of this job, the employee is exposed to weather conditions prevalent at the time and an air-conditioned and heated office. The noise level is occasionally high.

Disclaimer:

The above information on this description has been designed to indicate the general nature and level of work performance by employees within this classification. It is not designed to contain or be interpreted as a comprehensive inventory of all duties, responsibilities and qualifications required of employees assigned to this job.



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