



The design center DMOS GmbH in Dresden develops customer specific mixed signal integrated circuits for smart power applications, mainly used in the automotive industry. Our ASICs and ASSPs are also used in smart home appliances or the "industry 4.0". The company owns a building, with excellent work and development conditions close to Dresden Main Station.

The DMOS GmbH is a subsidiary of the Elmos Semiconductor SE.

Internship at the DMOS GmbH

Analysis and Mathematical-Physical Modeling of Power Dissipation and Current Consumption of a Motor Control IC

Motor control ICs developed by DMOS GmbH utilize switched subsystems - such as DC/DC converters or charge pumps - to precisely provide voltages and drive strengths. Due to the non-linear behavior of these switched systems, determining the power dissipation and current consumption of the ICs is non-trivial and currently only occurs during laboratory evaluation.

During this internship the following tasks are to be solved:

The objective of this work is to develop a mathematical-physical model to determine the power dissipation and current consumption of DMOS motor control ICs as a function of their operating points.

- **System Analysis:** Onboarding and technical deep-dive into a DMOS GmbH motor control IC system
- **Characterization:** Performing lab measurements to quantify the IC's power dissipation and current consumption under variable operating conditions
- **Modeling:** Developing a mathematical-physical model for the analytical determination of power dissipation and current consumption
- **Validation:** Assessing the accuracy of the model predictions by benchmarking them against real measurement results

Our requirements:

- Completed undergraduate studies or a bachelor's degree in electrical engineering or a comparable field
- Specialization during undergraduate studies in microelectronics, information technology, power electronics, or a comparable field

This is what you will benefit of:

- equitably remuneration
- Interesting and challenging tasks in an international environment
- Competent co-workers
- Flexible working hours, company events and social offers

dmos²
member of the elmos group

Interested? Apply for it!

Send us your application as PDF file by mail.

We are looking forward to get to know you in person!

Contact:

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