

Internship proposal M/F (6 months)

Electric and thermal evaluation of different embedded die geometries (RPE082019)

Supervisor

Mitsubishi Electric R&D Centre Europe: Rémi Perrin, Researcher r.perrin@fr.mercede.mee.com

Background

MITSUBISHI ELECTRIC R&D CENTRE EUROPE (MERCE) is the European R&D centre from the Corporate R&D organisation of MITSUBISHI ELECTRIC. The aim of our centre is to provide advanced R&D support to the Japanese R&D centres and to the business units of MITSUBISHI ELECTRIC CORPORATION.

Situated at the heart of Europe's leading R&D community, MERCE includes two entities: MERCE-France and MERCE-UK, and conducts R&D into next generation communication systems and technologies related to Energy and Environment. MERCE is reinforcing its activities with regards to high density and integrated power converters. MERCE is evaluating different ways of integrating power semiconductors to keep reducing volume and increasing power density. PCB technology offers high flexibility low cost and large scale production which make this technology attractive for integration application. This internship will take place in that research field.

Internship description

The objective of this internship is to determine and characterize the impact of different PCB embedded die geometries on electrical and thermal capabilities. Some block functions have already been developed by MERCE team members and the intern will find support in our team to succeed.

Internship organisation

The internship will take place at MERCE, located in Rennes and in close collaboration with a MERCE researcher as Internship supervisor, and will entail the following steps:

- Survey on embedded die technologies and power electronic integration;
- 3D and 2D FEM modelling;
- Prepare thermal resistance test bench;
- Prepare the samples for evaluation;
- Project report and presentation;

Prerequisites

- Student with electrical engineering background with interest in research and power electronics;
- A basic knowledge on FEM modelling and power semiconductors
- Strong interest in experimentation, and familiar with electrical engineering lab equipment;
- Autonomous ;

- Team player;
- English: spoken / written.

Duration: 6 months

Internship starts: as soon as possible (can be flexible, depending on the school)

Contact: Magali BRANCHEREAU (jobs@fr.merce.mee.com)

Thank you to provide us an application letter and your CV mentioning the reference of the internship *RPE082019* (both in Pdf versions).

The signature of an Internship Agreement with your school is mandatory.