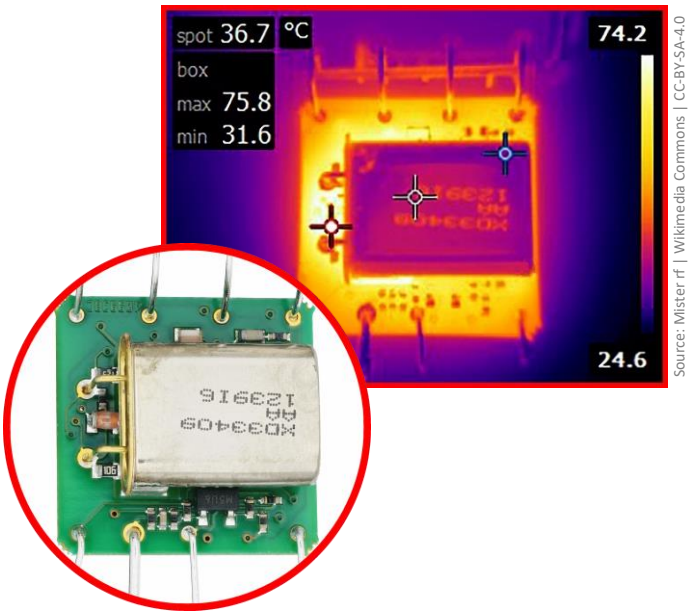
SEC TECH-CLASS
March 12 to 14, 2024

THE ESSENTIALS OF THERMAL FOR ELECTRONICS



DETAILS

- From Tuesday March 12, 2024 at 8:30 a.m.
- Until Thursday March 14, 2024 at 12:00 p.m.
- Location: Ateliers Industriels CFF, Quai des Ateliers 1, 1400 YVERDON-LES-BAINS
- Minimum number of registrations: 05
- Maximum number of registrations: 12
- Language: French
- Registration closure: February 25, 2024

EDUCATIONAL GOALS

- Acquire precise knowledge of the physical phenomena involved in heat transfer within electronic devices
- Know the different technical heat removal processes in these devices and know how to choose them
- Know how to correctly size the thermal process(es) implemented in the designs of electronic or electrical equipment through simulation

TARGET AUDIENCE

- Electronic and mechanical technicians and engineers

PREREQUISITE

- Mathematics basics baccalaureate level, use of a spreadsheet
- Some theoretical notions require a mathematical level of second year university to be fully assimilated
- General knowledge of electronics, no initial thermal knowledge is necessary

REGISTRATION FEES

- Non-member of the **SEC**: CHF 2'000.- / person
- **SEC BLUE** member: CHF 1'000.- / person
- **SEC SILVER** or **SEC GOLD** member: CHF 500.- / person
- **SEC SPONSOR** member: Free
- Payment term: in advance

TRAINER

- Philippe GUILLEMET, Director of Thermodel-rd, thermal expert in a design office specializing in electronics, former teacher-researcher at the University of Nantes

DESCRIPTION

1. **Modes of heat transfer**
   - Transfer by conduction
   - Transfer by convection
   - Transfer by radiation
2. **Heat removal devices**
   - Thermal of interfaces, films and pastes
   - Conventional cooling methods
   - Sophisticated cooling methods
   - Critical and comparative analysis of methods, tips for use, pitfalls to avoid
3. **Thermal of the PCB**
   - Thermal of tracks on PCB
   - Thermal of components on PCB
4. **Methods for calculating and simulating heat transfers**
   - Thermal sizing method
   - Thermal analysis of a device and simplification
   - Elementary analytical calculation of sizing
   - Critical analysis of the result and the search for optimization
   - Application exercises
   - Simulation methodology
5. **Measurement of thermal and fluid quantities**
   - Temperature measurement
   - Other thermophysical measurements
6. **Forms and digital data**
   - Calculation tools
   - Data tables
7. **Practical case studies**
   - Free discussion around the different situations proposed by the trainees

ONLINE REGISTRATION

By following THIS LINK

Or by scanning the QR-code:

The **SEC** s an initiative of CapQua Sàrl, the FSRM and the GESO supported by the canton of Neuchâtel and the SECO under the NPR.

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