R&D Electronics Newsletter (2014 Issue 11)

Welcome to our 11th issue of newsletter! We hope all of you had great summer holidays!

As **the exclusive Sales-Channel of TECHSEM**, which is a well-known Chinese developer and manufacturer of **diode / thyristor modules and capsules** with more than 48 years experience, **R&D Electronics** always strives to offer the best quality and price to our customers.

In this issue we are very pleased to introduce the TECHSEM calculation and simulation tool for dissipation, temperatures and optimal choice of power electronic components. This tool is now online available: www.rd-ebusiness.com/en/service/technicalsupport. With the help of this tool, the performance differences of the available devices under application-oriented conditions, such as voltage level, switching frequency or cooling conditions, can be clearly demonstrated. This enables the developers to make the right decision for the choice of the power semiconductors. Please check it out!

All of our newsletters are archived in our online-shop. More information is available under: www.rd-ebusiness.com

Yours faithfully
R&D Electronics Team

TECHSEM Simulation Tool:

As an additional service to aid customers with product selection and dissipation and temperature calculations, TECHSEM and R&D Electronics has introduced the extensive free software program to its homepage to enable customers to perform numerous simulations with power semiconductors under a wide range of operating conditions. This tool is suitable for the following purposes:

- Selecting power semiconductors when designing new converters;
- Specifying the necessary cooling measures;
- Calculating efficiency rates;
- Calculating maximum temperatures and thermal cycles for module life time calculations;
- Comparing products with different semiconductor technologies;
- Selecting the optimum price/performance/size ratio by comparing existing degrees of freedom in the system design (switching frequency, cooling measures, overload capability);
- Risk assessments as regards variation in both components and electric circuit parameters.

The program offers the user a "step by step" process to aid him in the semiconductor configuration and design process. The process steps involved are shown as following:

1. 1. Selection of a circuit topology

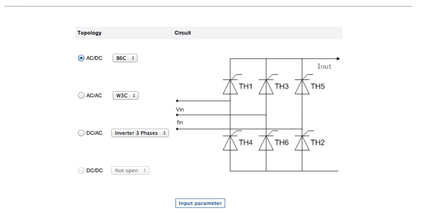

Fig 1: Selection of Circuit Topology

The user can choose between different topologies, such as rectifier, AC controller, Inverter and DC/DC converter, to find the circuit most suited to his requirements. Diagrams showing the circuit topology facilitate selection.

2. Input of circuit parameter

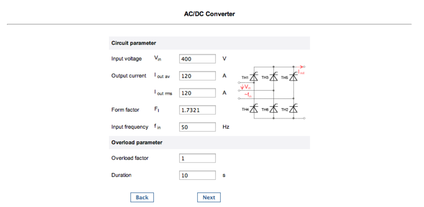

Fig 2: Input of circuit parameter

In the next step, the electric parameters for the circuit, such as current, voltage, frequency and overload conditions can be entered.

3. Device selection

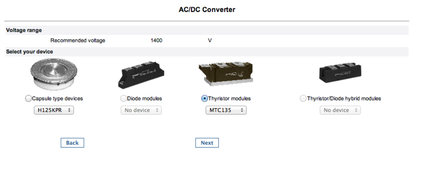

Fig 3: Device Selection

In this step a suitable component can be selected supporting by case type, device type and voltage filter.

4. 4. Specification of cooling conditions

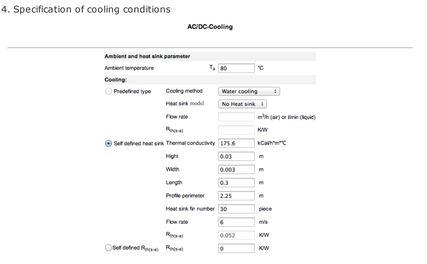

Fig 4: Cooling Conditions and Temperatures

The cooling conditions and the ambient temperature can be specified according to the real application conditions.

5. Simulation results

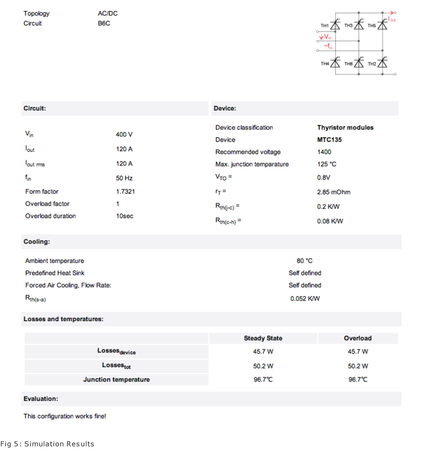

Fig 5: Simulation Results

The losses and chip temperatures occurring under the specified conditions in the chosen component are then calculated. If changes have to be made, the user can easily return to the parameter field, make the desired changes and re-calculate on this basis.

In case of any questions about the simulation tool, please contact info@rd-ebusiness.com. We will be very happy to support you!

Free Samples

You want to test our products? No problem. We provide now for certain types of products with limited quantities as free samples at your disposal. For the available products, you only need to pay for shipping costs from Hong Kong to your delivery address. Do not hesitate to register as customer in our shop and contact us for free samples of your choice: www.rd-ebusiness.com.