



# STPOWER Studio

## Dynamic electro-thermal simulator for STPOWER devices



### Analyze the performance of your next power design with much less time and effort

The STPOWER Studio is an online electro-thermal simulation tool for a growing number of STPOWER devices, and is now integrated into the eDesignSuite tool.

The software provides comprehensive power and thermal analysis. It predicts device performance to shorten the design cycle and save time and resources.

The tool also helps users select the best device to fit a specific application mission profile and to find the appropriate heat sink size.

#### KEY FEATURES

- Comprehensive power and thermal analysis
- Intuitive and user-friendly GUI
- Very fast computational calculation
- Product selection by family
- Selection of simulation times with very long mission profile duration
- Heat sink estimation (Rth) with several thermal setup
- User-defined heat sink parameters
- Several PWM modulation techniques
- Self-heating algorithm
- Additional graphs for power loss analysis vs current load and switching frequency
- Output data for each power device

- Exportable report and data table files
- Projects stored in user area
- Web connectivity to product resources
- Multilanguage (English, Chinese, Japanese)
- Mini site for user manual (English)

#### KEY BENEFITS

- Selection of proper device fitting the application mission profile
- Easier, faster and cheaper design
- Deep analysis of power loss and device temperatures
- Exploration of non-testable parameters
- Very accurate temperature-dependent output results

## Overview

STPOWER Studio (STSW-POWERSTUDIO) is based on a very precise built-in electrical and thermal model for each device considers self-heating effects to generate a very accurate estimation of the power loss as well as junction and case temperatures.

The software can simulate a very long mission profile consisting of many simulation steps up to thermal steady state. Several thermal set-up input conditions can be simulated, such as:

- fixed case temperature (with heat sink), estimating the junction temperature and the heat sink Rth
- fixed heat sink thermal resistance (Rth), estimating the case (or heat sink) and junction temperature
- fixed heat sink thermal impedance (Foster's model of the Zth), estimating the case and junction temperatures based on the thermal inertia of the system.

Simulation results are displayed on tables and dedicated scope views as a function of time, current load, and switching frequency. The simulation setup can be saved to a local PC or a dedicated user area on the server (for registered users) in a project file. Furthermore, the simulation results can be exported as a data table to a local PC. An output report is generated providing a summary of all information and results for easier legibility and archiving. STPOWER Studio also facilitates connectivity with st.com for dedicated documentation and resources.

## User interface



## FIND OUT MORE



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