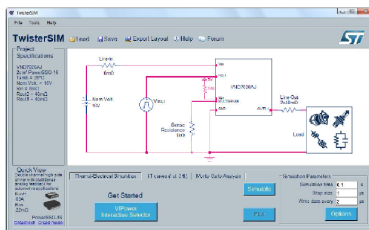
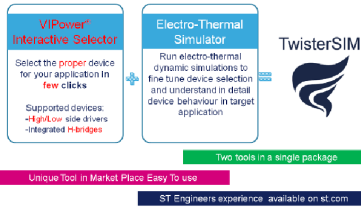


Dynamic electro-thermal simulator for VIPower products



Product status link

[TwisterSIM](#)

Features

- Device pre-selection using simple high level compatibility criteria
- Device selection fine-tuning with PCB layout specification
- Supply voltage and input signal source selection
- Load type selection
- Wire harness selection
- Ambient temperature selection
- Simulation accuracy and time selection
- Built-in VIPower technology tutorial
- Built-in user manual
- Free evaluation version
- Free full version (requires user activation code)

Description

TwisterSIM is a unique electro-thermal simulator that helps shorten the design solution cycle by enabling, in a few clicks, complex engineering evaluations with accurate simulations like load-compatibility, wiring harness optimization, fault condition impact analysis, diagnostic behavior analysis and dynamic thermal performance.

A built-in interactive selector provides a short list of suitable devices based on first level system requirements. It assists you in detailing your actual system configuration with layout, load and driving profile customization to build an accurate model of the final application.

Simulation results, including junction and case thermal profiles, load current and diagnostic behavior are shown on dedicated scopes views or exported in a number of different commonly used formats.

TwisterSIM supports a large selection of low/high-side driver/switches and H-bridges for motor control.

A trial version, to explore the main functionalities of TwisterSIM, is available for download at www.st.com/twistersim and it also contains, in the main toolbar, the instructions to request an activation code (free of charge but subject to STMicroelectronics approval) for the full version.

An online forum provides additional support to TwisterSIM users.

Access to the forum is available at <http://www.st.com/twistersim-forum>.



1 System requirements

- Windows 7 (or newer)
- .NET Framework 2.0
- Microsoft Visual C++ 2005/2008 redistributable

2 Interactive selector

Providing application conditions and loads specifications, TwisterSIM displays the list of recommend VIPower products including their thermal behavior.

Figure 1. Interactive selector

VIPower™ Interactive Selector
Going thru a quick, simple and interactive questionnaire in less than 10 clicks the tool identifies the best VIPower™ product fitting customer application

Guided Application Data Collection

➔

Thermal Analysis

➔

Electrical Analysis
(Load Inrush, Motor Stall, Demagnetization...)

➔

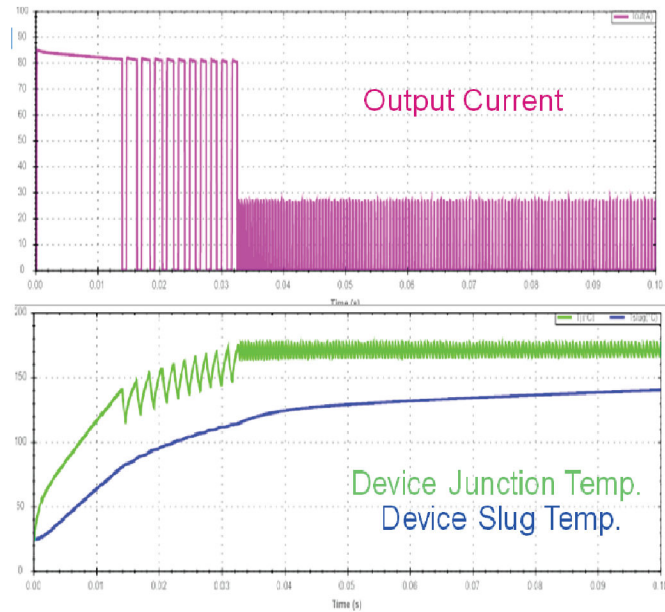
Recommended VIPower Products

Devices	Tech.	Package	Ron typ. (mΩ)	IlimH typ. (A)
VND9012AJ	M0-9	PowerSSO-16	12	68
VND9008AJ	M0-9	PowerSSO-16	9.4	74.5
VND7012AY	M0-7	PowerSSO-36	12	75
VND7004AY	M0-7	PowerSSO-36	4	100
VND5E012AY-E	M0-5E	PowerSSO-36	12	74
VND5E006ASP-E	M0-5E	PowerSO-16	5	100
VND5E004AE	M0-5E	PowerGFN24	4	90

3 Electro-thermal simulation

For the chosen device you can run electro-thermal dynamic simulations and fine tune device identification by an in-depth analysis of its behaviour in the target application through graphical representation of the electrical and thermal data. Simulation results can be saved and exported for further analysis.

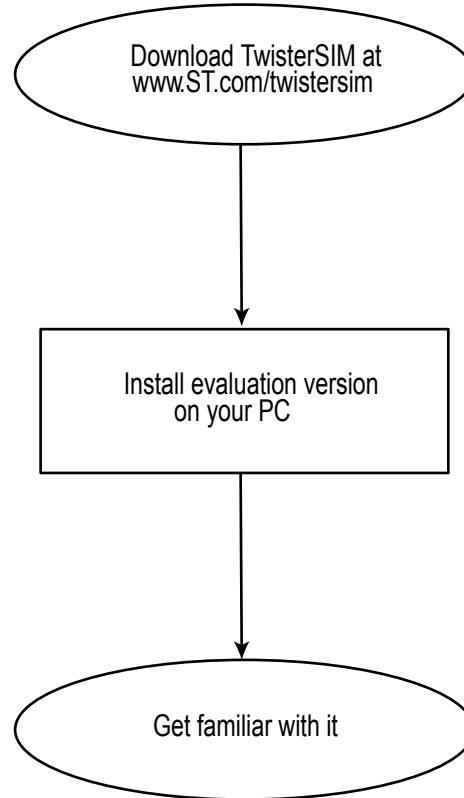
Figure 2. Simulation results



GAPG0503151139RI

4 TwisterSIM evaluation version download flow

Figure 3. TwisterSIM evaluation version download flow



GAPG1003151215R1

5 Full version request and activation flow

From TwisterSIM toolbar “Registration Info” you can easily require and receive by mail the activation code to get the tool full version.

Figure 4. TwisterSIM full version activation request

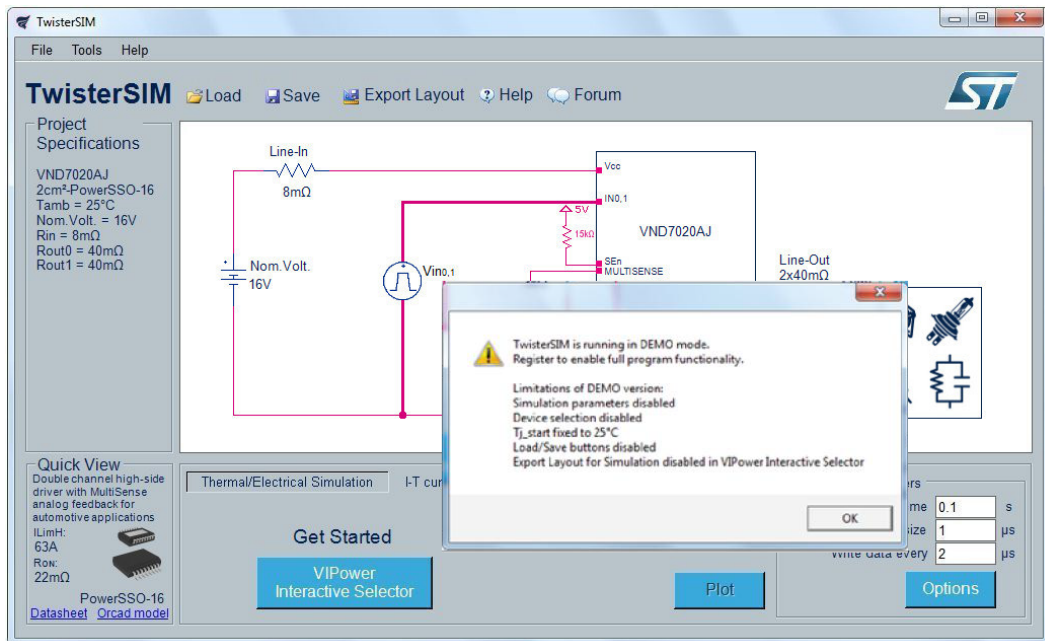
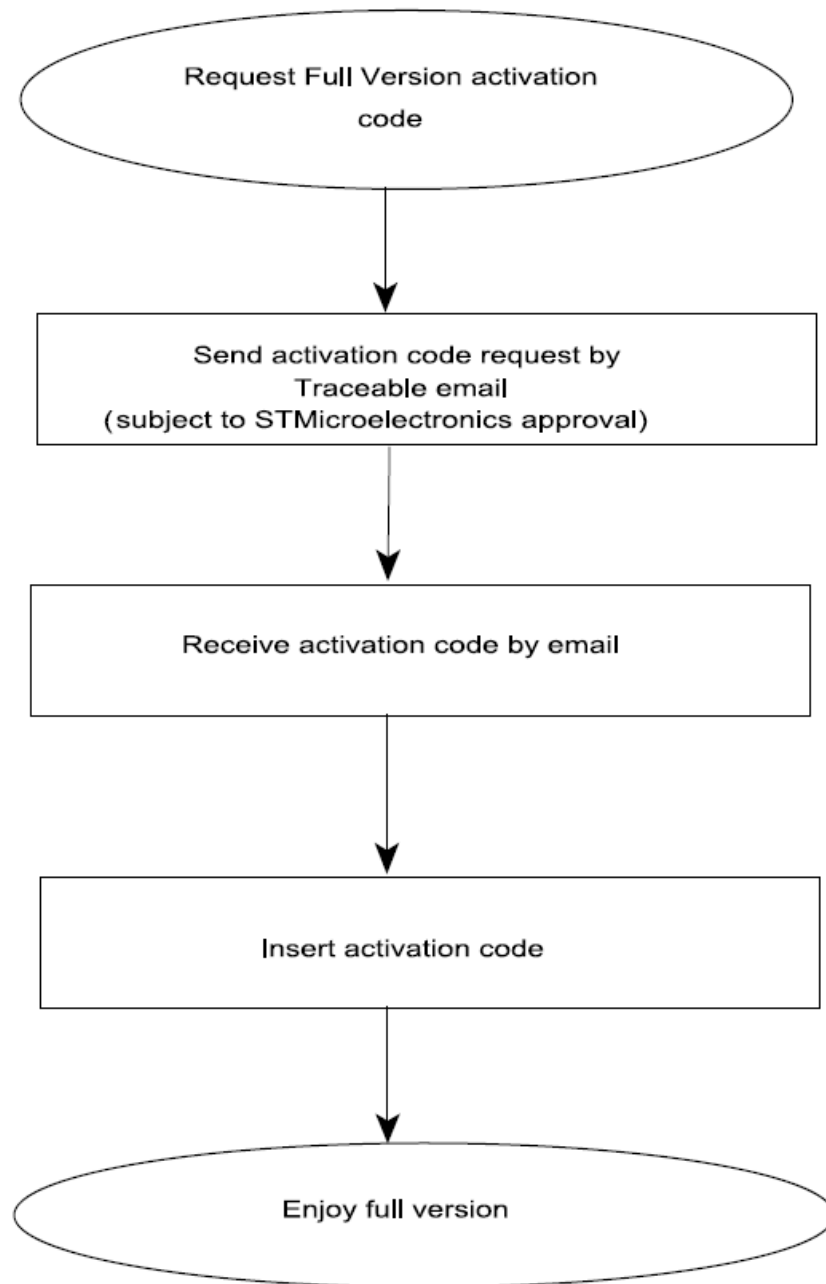


Figure 5. TwisterSIM registration code



Figure 6. TwisterSIM full version activation flow



Revision history

Table 1. Revision history

Date	Revision	Changes
10-Nov-2014	1	Initial release.
19-Jan-2015	2	Updated Description and the image in the cover
13-Mar-2015	3	Updated figure in Cover page. Updated <i>Section "Description"</i> . Added <i>Section 2: "Interactive selector"</i> ; <i>Section 3: "Electro-thermal simulation"</i> ; <i>Section 4: "TwisterSIM evaluation version download flow"</i> ; <i>Section 5: "Full version request and activation flow"</i> .
16-Mar-2015	4	Changed the url www.st.com/twisterforum in www.st.com/twistersim-forum in <i>Section "Description"</i> .
29-Apr-2015	5	Updated <i>Section "Description"</i> .
01-Sep-2023	6	Updated figure and description in cover page. Updated Figure 1. Interactive selector , Figure 4. TwisterSIM full version activation request . Minor text changes.

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