

Step-by-Step Guide to Import MS Excel Data into Mathcad®

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Application Note

About this document

Scope and purpose

This document serves as a step-by-step guide to import data from an MS Excel spreadsheet into Mathcad®.

Intended audience

This document is intended to accompany the Application Note “Detailed MOSFET Behavioral Analysis using Parameters Extracted from Models”.

As described and exemplified in said Application Note it can be quite useful to transfer data from a CSV (Comma Separated Values) or similar file/format into Mathcad® or similar math manipulation tool for further processing.

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1 Importing data from MS Excel into Mathcad® step-by-step

The starting point is an MS Excel spreadsheet containing relevant data:

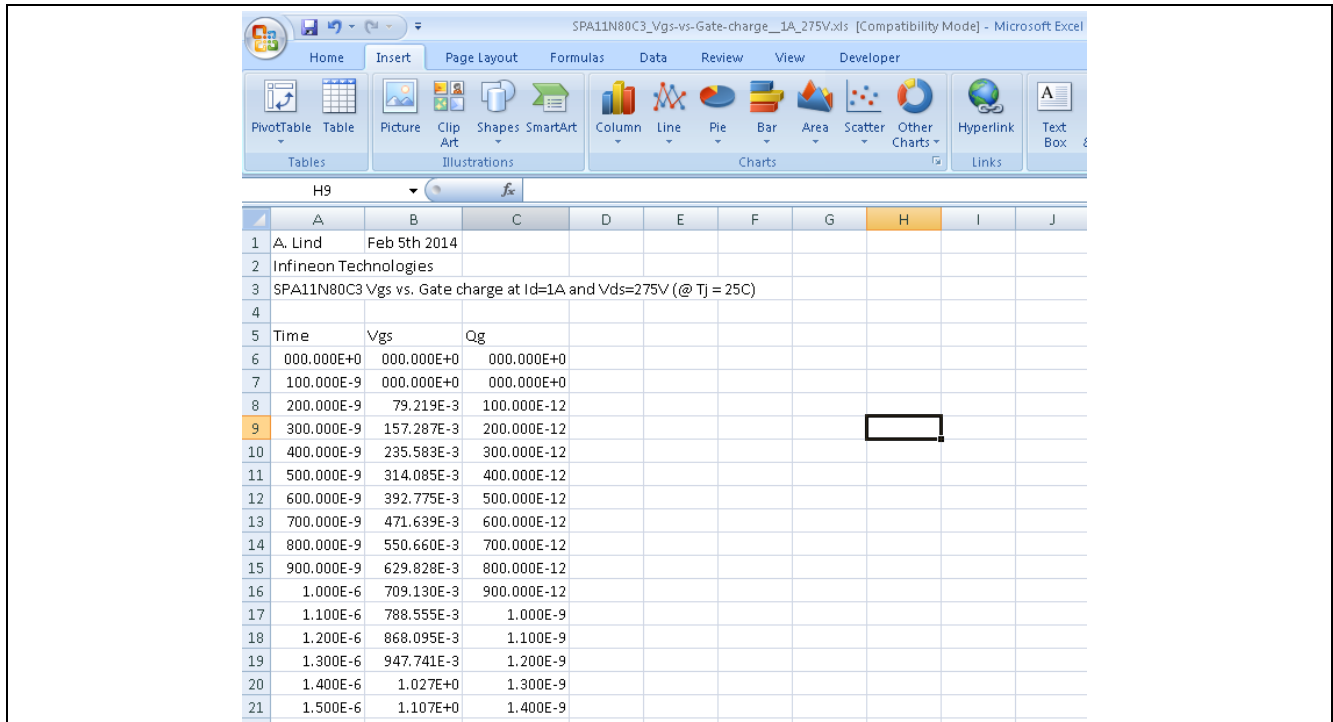


Figure 1 Example Excel sheet containing data extracted from simulation test bench

- **Step 1**
 - Save the Excel file with a relevant file name in the same folder location as you desire to place your Mathcad® work file:

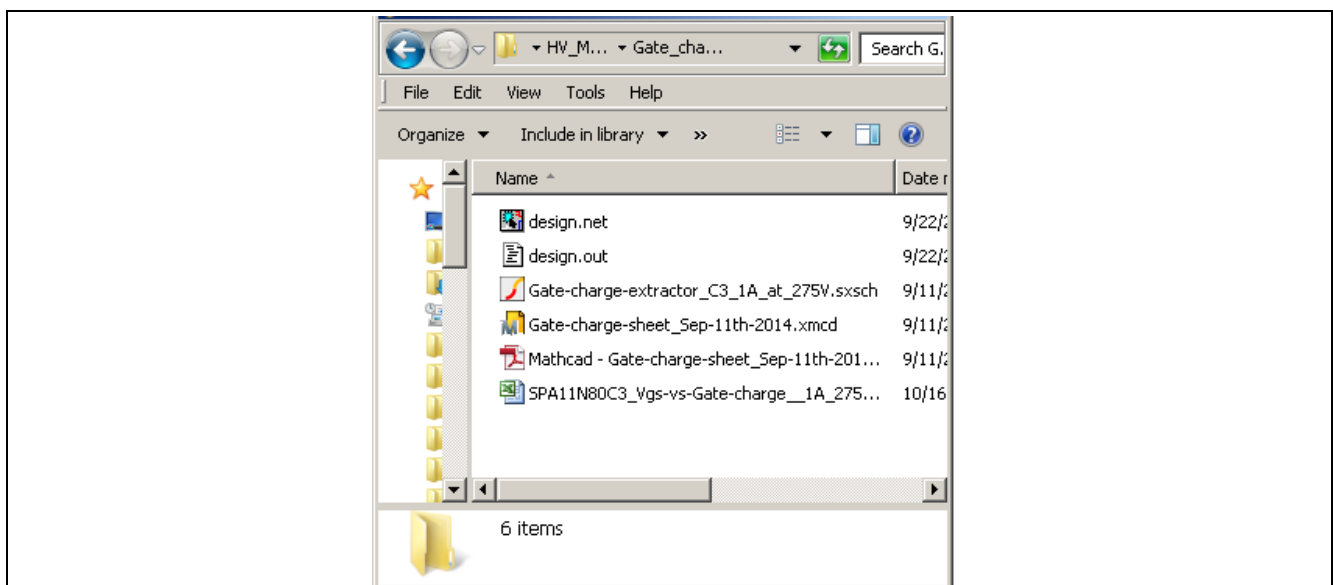


Figure 2 Example folder content with Mathcad® worksheet intended to make use of the data

Importing data from MS Excel into Mathcad® step-by-step

Placing the files in the same folder will enable the Mathcad® file to use the contents of the Excel file even if relocated, shared (e.g. over email), folder(s) is renamed etc. so long as the two files remain co-located in the same folder.

• Step 2:

- Open a (blank) Mathcad® worksheet and save the file to the same folder location as the one selected for the Excel file of interest:

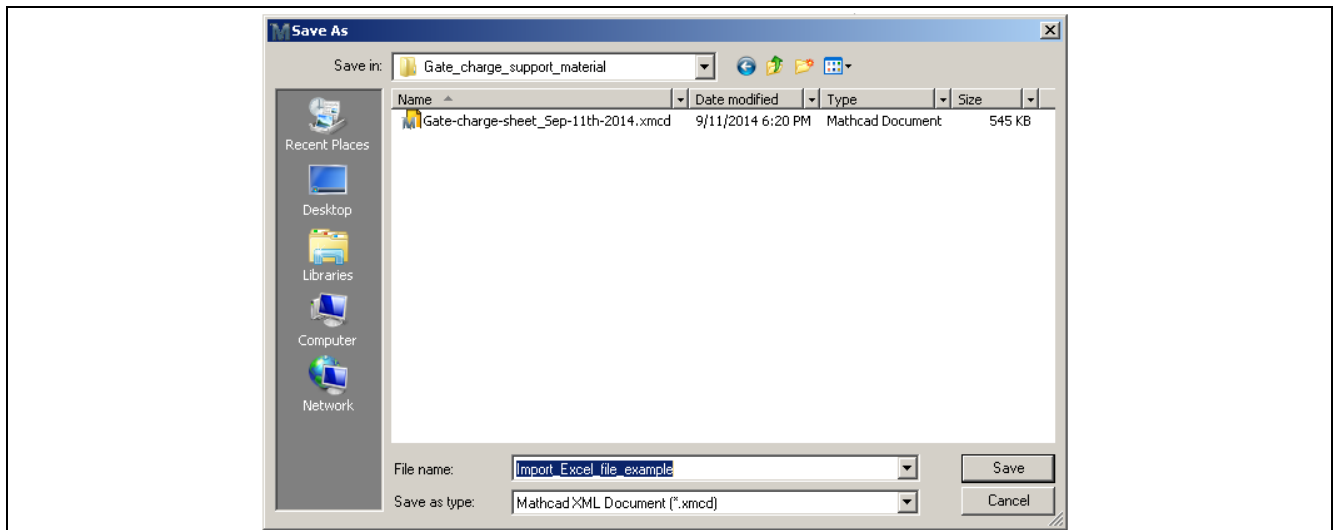


Figure 3 Creating a new Mathcad® worksheet in the same folder location as excel sheet

The file name “Import_Excel_file_example.xmcd” is used here only as an example. Any file name will do.

• Step 3:

- Click anywhere in the Mathcad® sheet where you desire to place the imported data. Click “Insert” → “Data” → “Data Import Wizard...”

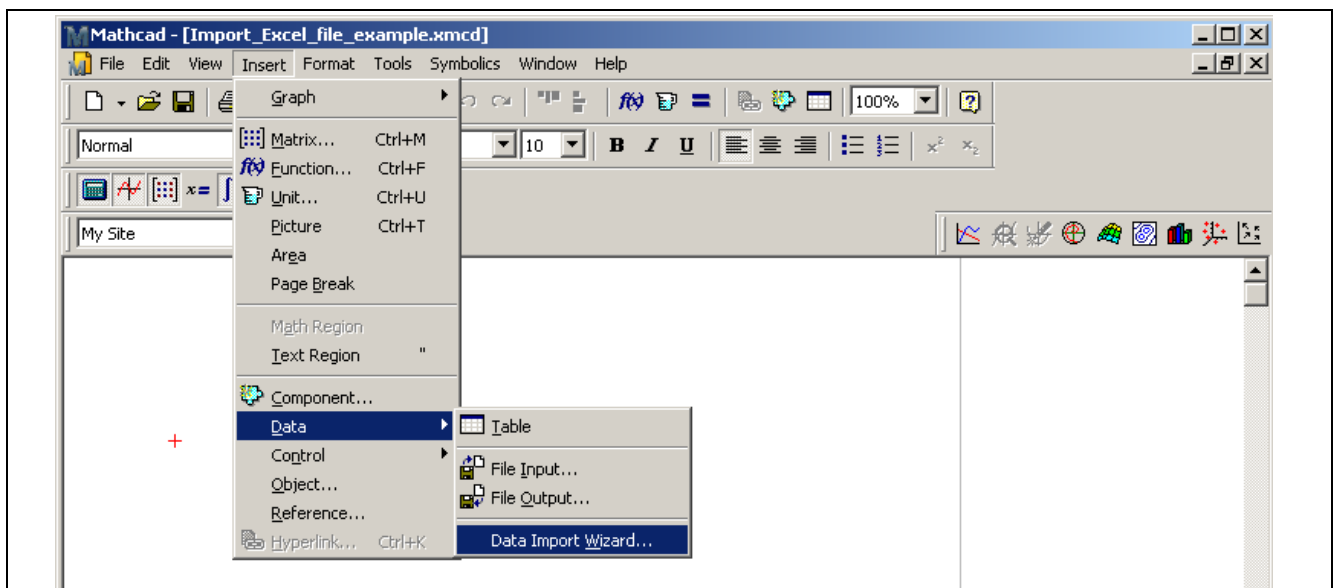


Figure 4 File menu selection tree to invoke the Data Import Wizard

The Data Import Wizard will open to guide you through the rest of the process:

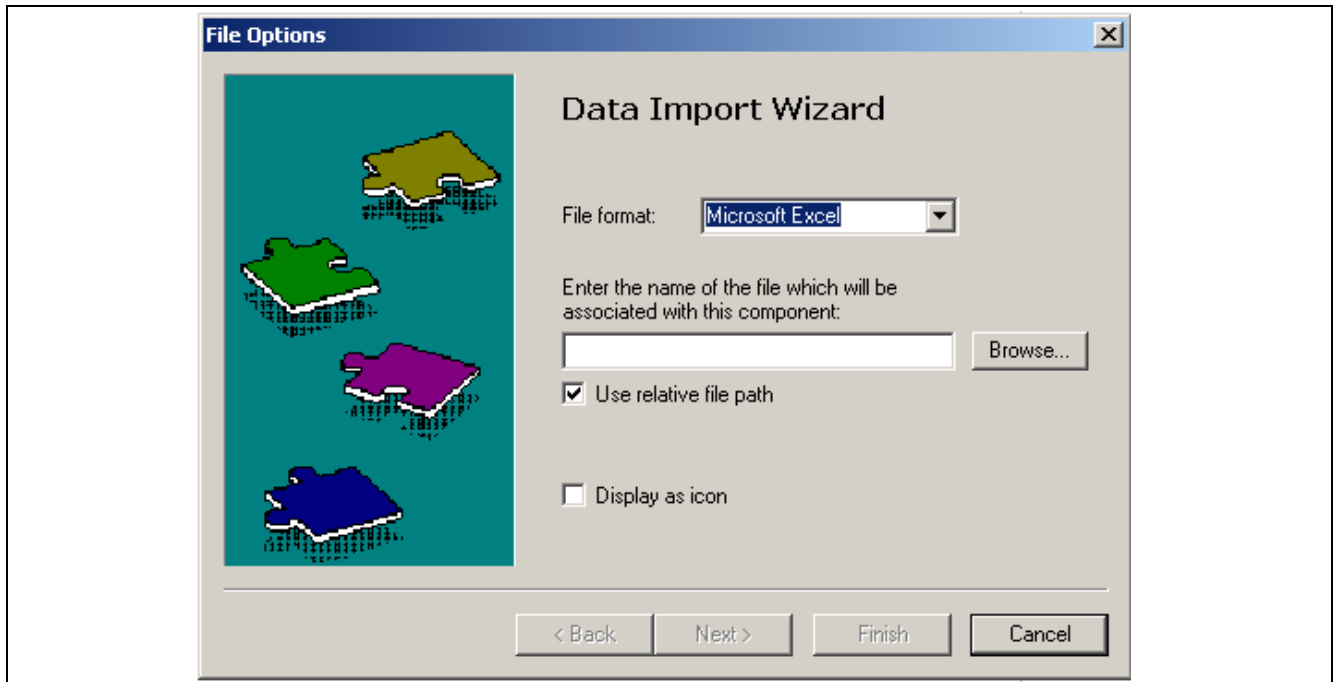


Figure 5 Data Import Wizard initial dialog box appearance and selections

Select “Microsoft Excel” as the file format and make sure “Use relative file path” is checked (As discussed above this will make relocation/rename/sharing easier).

- **Step 4:**
 - Click “Browse...” to search for (and select) the Excel file of interest

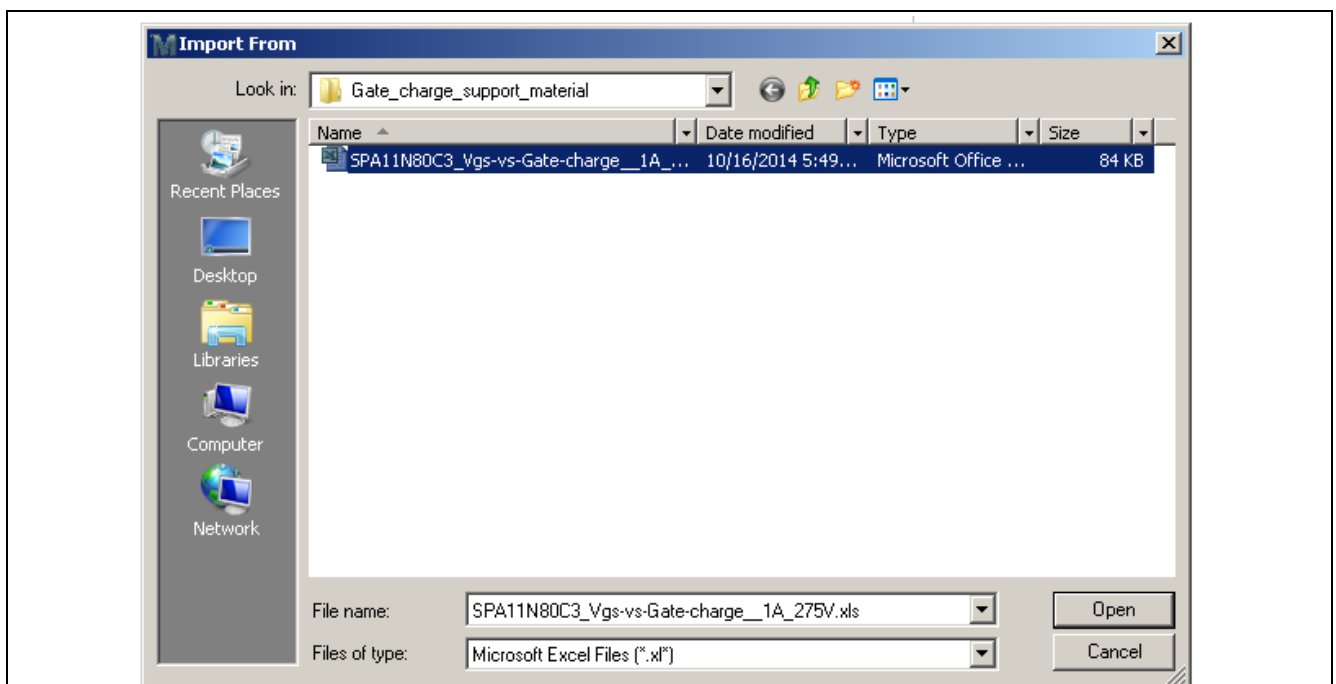


Figure 6 Pick the excel file containing the relevant data from the same folder as worksheet

After clicking “Next >” the contents of the Excel file is revealed. Select the data of interest to import:

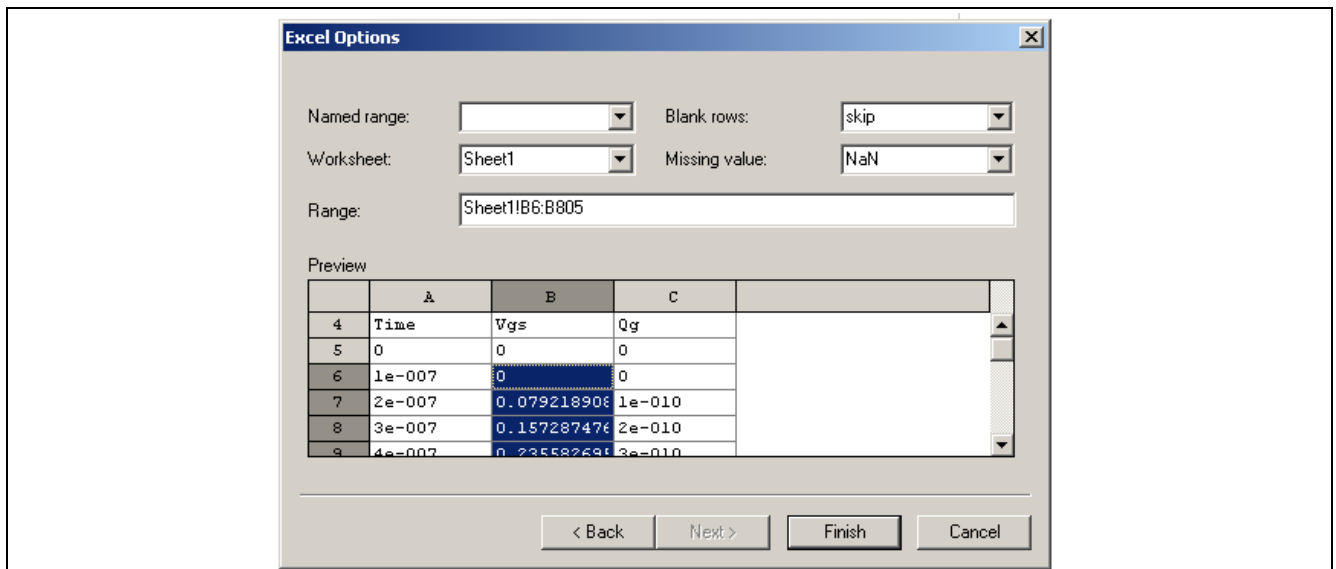


Figure 7 Contents of excel file with option to select data range of interest

In this example, we are interested in plotting V_{GS} as a function of Q_G . V_{GS} is imported, and we know vector position 0 (first value = 0 V) corresponds to a Q_G of 0 (C). Second position (position 1) has a value of ~79 mV and corresponds to V_{GS} at a Q_G of 0.1 (nC) etc.

- **Step 6:**
 - The imported data vector must be assigned a variable(vector) name in Mathcad®:

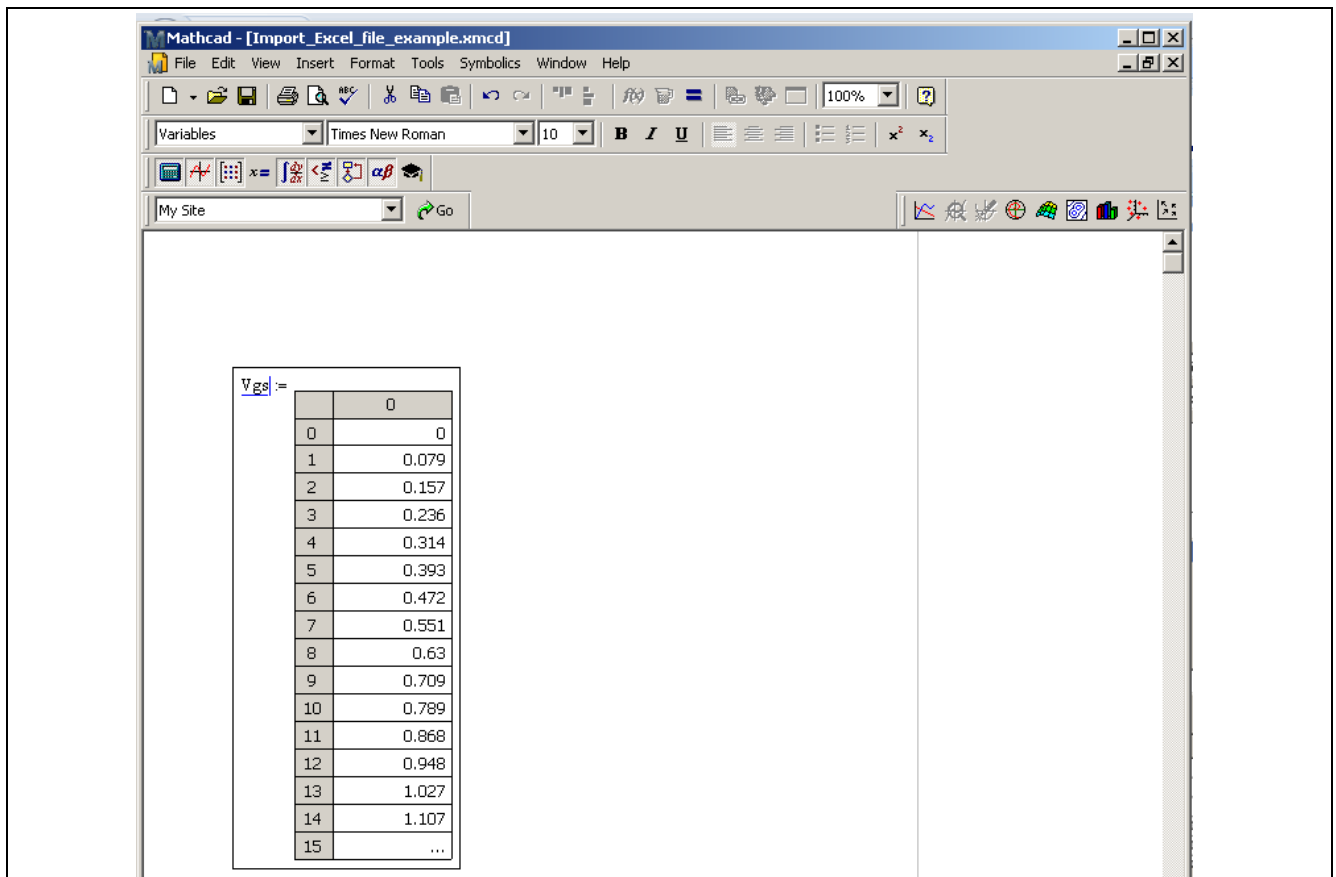


Figure 8 Assigning an appropriate variable reference in Mathcad®

Importing data from MS Excel into Mathcad® step-by-step

We can now use the variable to plot the gate-charge diagram of the MOSFET:

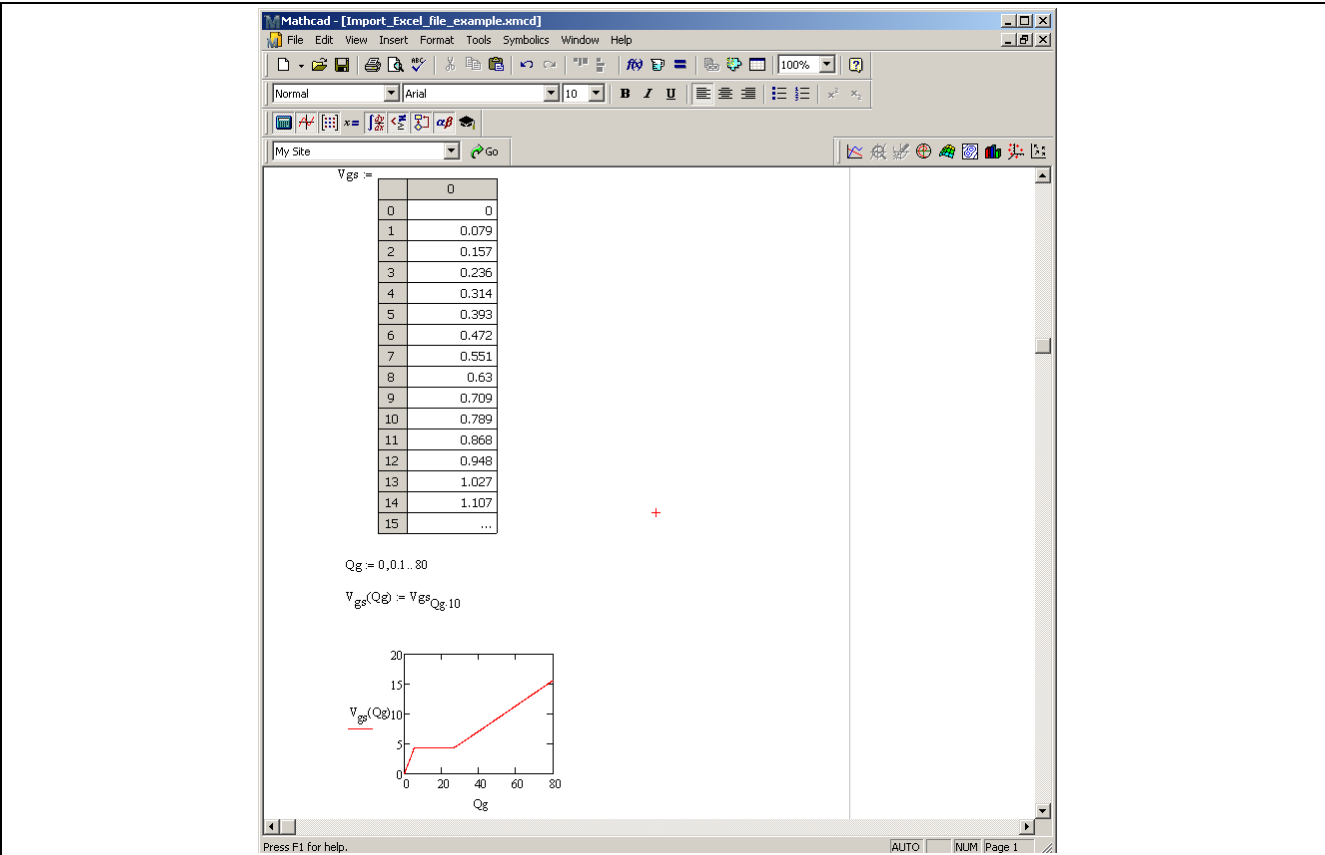


Figure 9 Example of usage of simulation model extracted data in Mathcad environment

Revision History

Major changes since the last revision

Page or Reference	Description of change
--	First Release

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