

TDK Component Library for Zuken CR-5000 Lightning

TDK Corporation

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< Preface >

"TDK Component Library for Zuken CR-5000 Lightning" is a simulation library for Zuken CR-5000 Lightning, and contains simulation models of TDK electronic components. This library contains models of common-mode filters. Using this library, the actual property of electronic components can be considered in circuit simulation.

Attention regarding this library, how to install and use the library, and comparison results between equivalent circuit models and measured data are written in the following. Please read before using this library.

< Applicable condition >

The parameters in this library are obtained under the condition of 25°C, no DC bias, and small signal operation. Proper result might not be obtained if your condition is different from the above one.

< Attention >

NOTE THAT THE DATA CONTAINED IN THIS Library IS BEING PROVIDED SOLELY FOR INFORMATIONAL PURPOSES. IN NO WAY SHALL THIS DATA BE CONSTRUED AS A WARRANTY BY TDK OF ANY PRODUCT CHARACTERISTICS AND/OR SPECIFICATIONS. WITHOUT LIMITING THE FOREGOING, TDK MAKES NO WARRANTIES OF ANY KIND, EXPRESS OR IMPLIED, RELATING TO THIS DATA, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Please refer to TDK's catalog or specifications for actual product characteristics. Note that any simulation results obtained through use of this data will not reflect the effects of room temperature or other environmental conditions. Accordingly, actual use of TDK's products is recommended as the only accurate means of conducting verification testing.

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The data of this library is the one as of Oct., 2008. The content of this library is subject to changed without notice.

< Feature of this library >

- The actual property of components can be taken into your circuit simulation because equivalent circuit model that considers inner structure of a part and material property is used.
- Artwork data (recommended pcb pattern) for CR-5000 Board Designer are included
- Symbol data for Design Gateway and CR-5000 System Designer are included.

< Supported Lightning revisions >

This library can be used with CR-5000 Lightning revision 11 or latter revisions. However, this library might not be used depending on a simulation environment. Please acknowledge it beforehand.

< Contents in this document >

This document is described assuming the following environment.

OS: Windows XP

CR-5000 Lightning: Revision 11

On different OS or ADS versions, screen display and/or operation procedure may not correspond to the contents of this document. Please acknowledge it beforehand.

< Inquiries about Zuken CR-5000 Lightning >

For inquiries about Zuken CR-5000 Lightning please contact:

Zuken Inc. : <http://www.zuken.com/>

< Files included in this library >

This library includes the following files.

- TDK_CMF_v10.ixf equivalent circuit model
- TDK_CMF.ftp foot print data
- TDK_CMF_2Line.smb symbol data for common-mode filters with 2 lines.
- TDK_CMF_4Line.smb symbol data for common-mode filters with 4 lines.

< foot print, symbol file, and Pin Count >

Artwork data(recommended land pattern) and symbol data for circuit CAD are included in this library. Please refer to the following table for relation between these data and TDK products. Information about Pin Count of each model is also listed in the table.

series	foot print data	file for symbol	Pin Count
ACM2012 series	ACM2012	TDK_CMF_2Line.smb	4
ACM2012D/H series(†)	ACM2012D/H		
ACM3225 series	ACM3225		
ACM4532 series	ACM4532		
ACT45B series	ACT45B		
TCM1005 series	TCM1005		
TCM1210 series	TCM1210	TDK_CMF_4Line.smb	8
TCM1608 series	TCM1608		
TCM2010 series	TCM2010	TDK_CMF_2Line.smb	4
ZJYS51 series	ZJYS51		
ZJYS81 series	ZJYS81		

(†)simulation models of ACM2012D/H series are not included in this library.

How to install the library

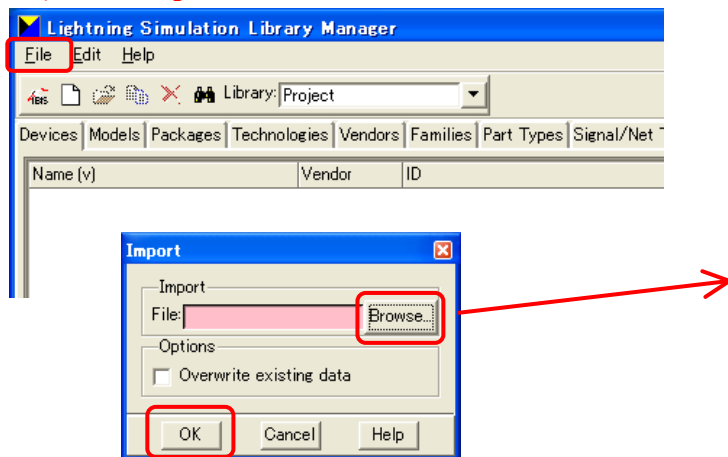
< Unzip the install file >

- 1) Save the zip-formatted install file (TDK_library_for_lightning_v10.zip) in an arbitrary directory.
- 2) Unzip the file.

< Import the ixf file >

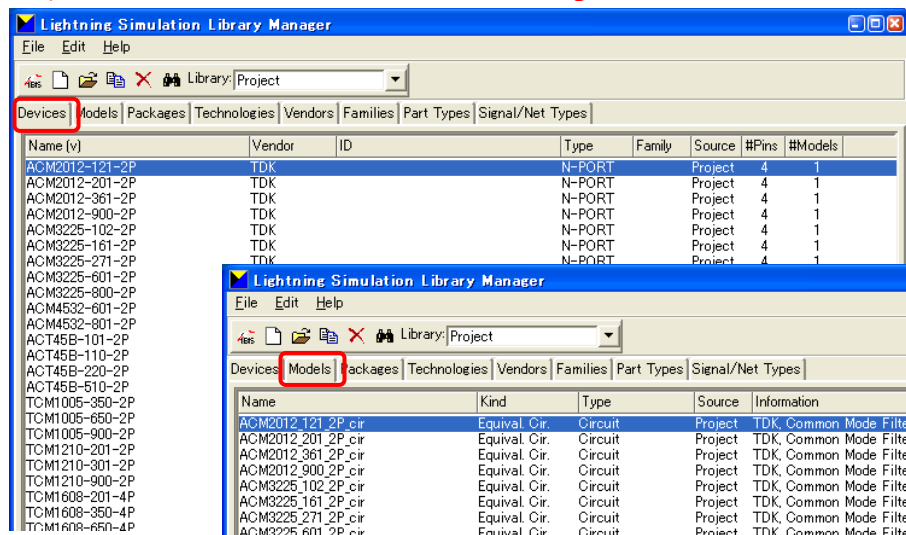
- 1) Open an Lightning Simulation Library Manager window. Select Import... from File menu, then Import window opens.
- 2) Click Browse... button and select the unzipped ixf file. Click OK.
- 3) Simulation models and devices are imported.

1) File>Import...



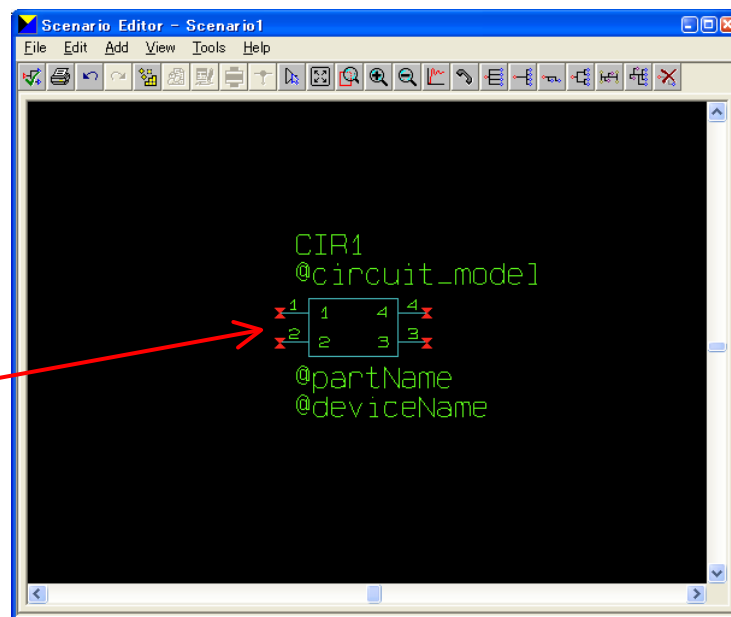
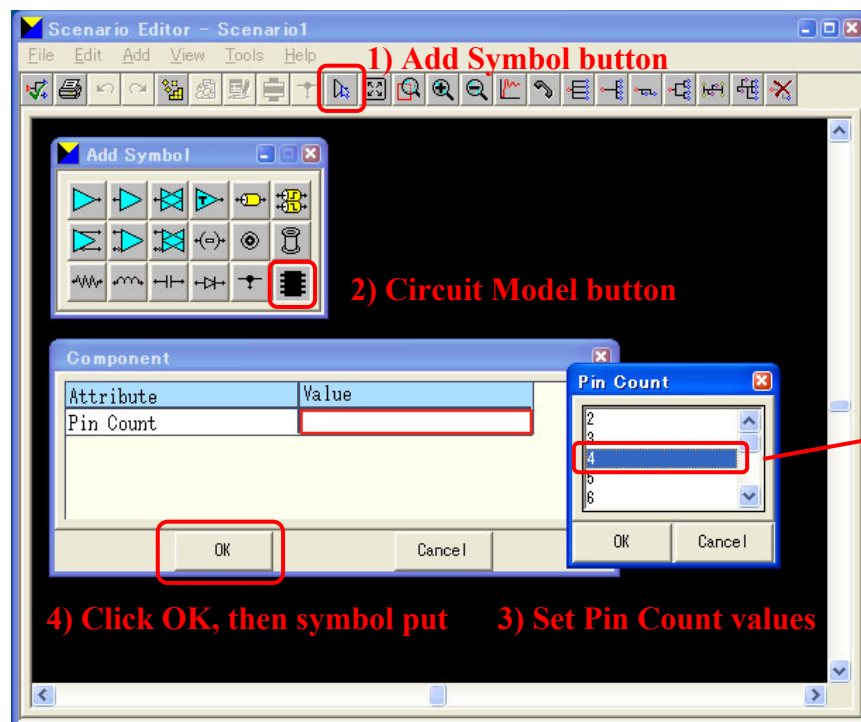
2) Click Browse and select ixf file.

3) Simulation modes and devices are imported.



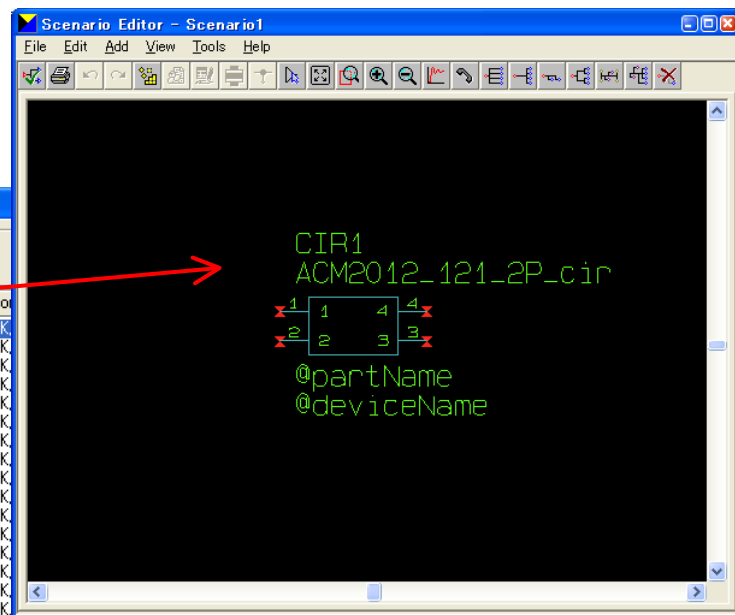
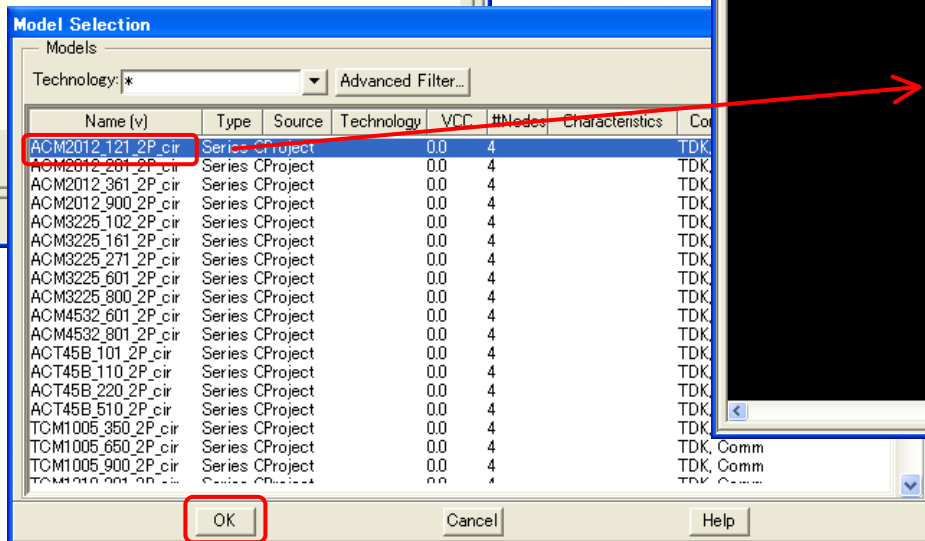
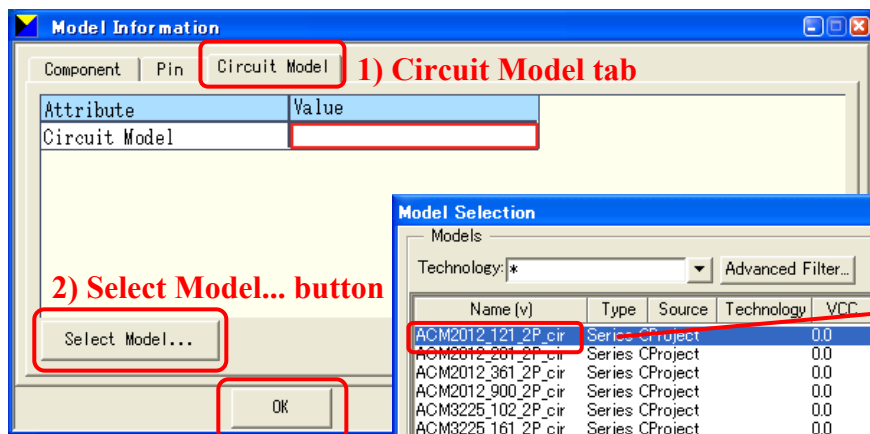
< Putting a symbol >

- 1) Click Add Symbol button.
- 2) Click Circuit Model button.
- 3) Set Pin Count value in the Component window.
- 4) Click OK button in the Component window and put a symbol in a Scenario window.



< Assigning a simulation model >

- 1) Double-click the put symbol. Open a Circuit Model tab in the Model Information window.
- 2) Click Circuit Model... button, then Model Select window opens.
- 3) Select a model due to simulation and click OK button.
- 4) Click OK button in the Model Information window, then the simulation model is assigned to the symbol.



< Pin Names >

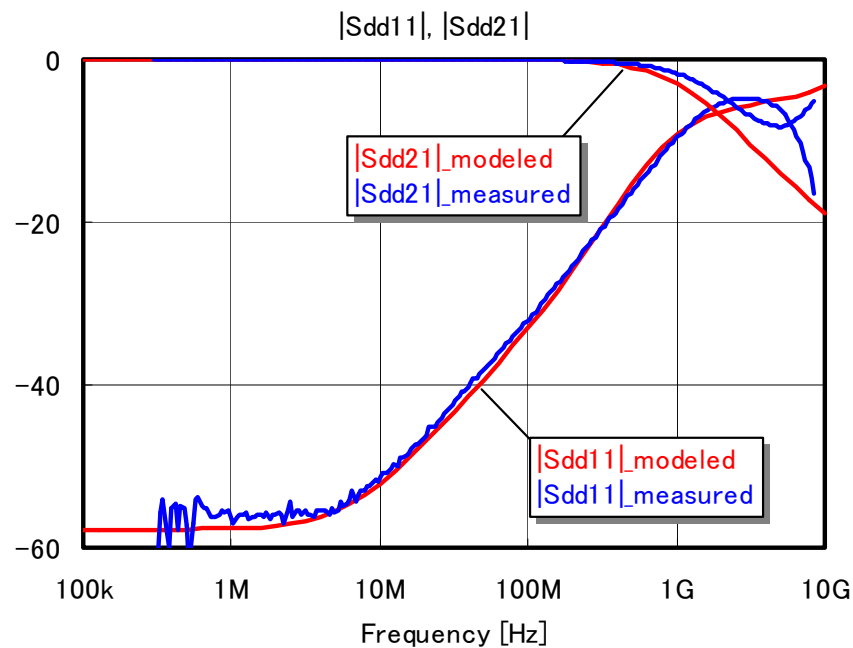
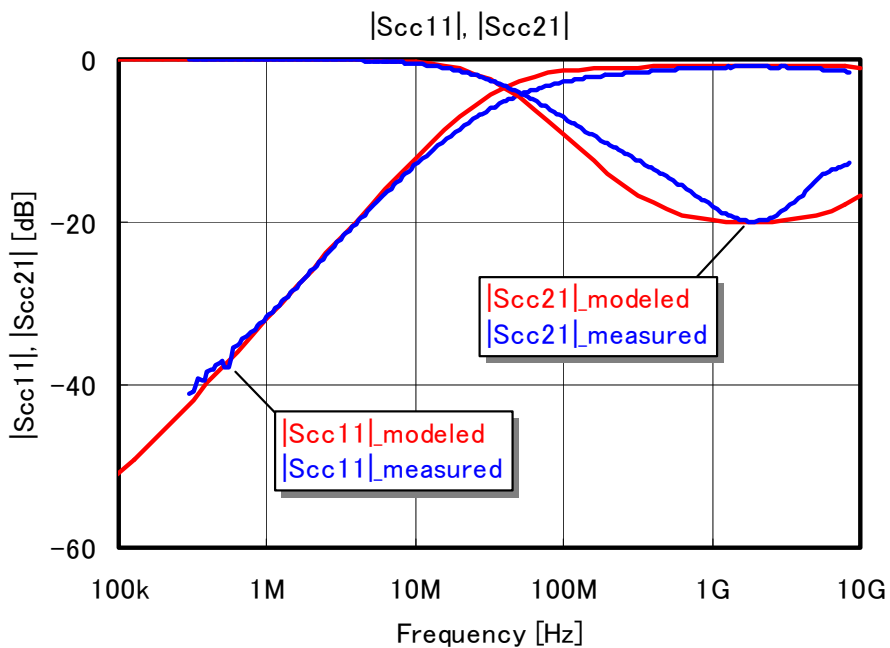
Relation of pin names between simulation modes and Scenario symbol is listed below.

	simulation model	Scenario symbol
2-line	<p>A schematic diagram of a transformer with two primary windings and two secondary windings. The primary windings are connected to pins 1 and 2 on the left, and the secondary windings are connected to pins 4 and 3 on the right. The transformer is enclosed in a dashed rectangular box.</p>	<p>A black rectangular symbol representing the transformer. It has four pins: pin 1 (top-left), pin 2 (bottom-left), pin 4 (top-right), and pin 3 (bottom-right). Each pin is labeled with its number in green. Small red 'x' marks are at the ends of the pins.</p>
4-line	<p>A schematic diagram of a transformer with four primary windings and four secondary windings. The primary windings are connected to pins 1, 2, 3, and 4 on the left, and the secondary windings are connected to pins 8, 7, 6, and 5 on the right. The transformer is enclosed in a dashed rectangular box.</p>	<p>A black rectangular symbol representing the transformer. It has eight pins: pins 1, 2, 3, and 4 on the left; and pins 8, 7, 6, and 5 on the right. Each pin is labeled with its number in green. Small red 'x' marks are at the ends of the pins.</p>

< Comparison between equivalent circuit models and measured data >

Comparison between the equivalent circuit models and measured data are shown in the following. Since the equivalent circuit models well match to measured results as shown in the following pages, simulation result that matches to actual property can be obtained.

Common-Mode Filter "ACM2012-900-2P"



END