

Attracting Tomorrow



TDK Component Library for ANSYS® Designer®

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Caution

- **Applicable condition**

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

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About this library

- **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) of parts are included
- Easy operation like standard ANSYS components.
- The DC superimposition characteristics of power-use inductors and the DC bias characteristics of high dielectric constant type ceramic chip capacitors can be simulated.

- **Supported ANSYS versions**

This library can be used with ANSYS Electronics Desktop R17.0 or latter versions. 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 10
- ANSYS: 2020 R1

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

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About the model included in the library

- **Abstract of the model, and model for each product**

4 types of model are included in this library. The followings describes the abstract of each model type, and the model used in each product.

model type	frequency model	DC superimposition model	DC bias model	voltage-current model
modeled property	•frequency characteristics	•frequency characteristics •DC current dependence of inductance	•frequency characteristics •DC voltage dependence of capacitance	•frequency characteristics •voltage-current property of impedance

product/type		model type
multilayer ceramic chip capacitor	temperature compensation type	frequency model
	high dielectric type	DC bias model
inductors	for high frequency circuit	frequency model
	for standard circuit	DC superimposition model /frequency model(*)
	for decoupling circuit	
	for power circuit	DC superimposition model
chip beads		frequency model
3-terminal filters		
common mode filters		
varistors		voltage-current model
chip protectors		
pulse transformers		frequency model

*Model type depends on the product. Please refer the product list for detailed information.

How to setup

- **Library install folder**

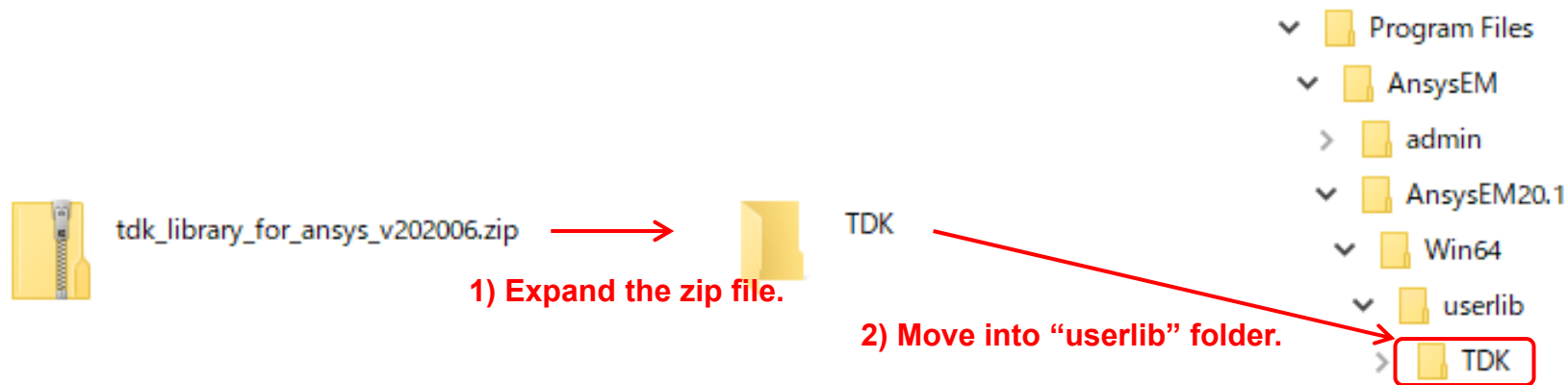
Install folder of this library is “userlib” folder in the install folder of ANSYS Designer.
 (e.g. C:¥Program Files¥AnsysEM¥AnsysEM20.1¥Win64¥userlib.)

- **Uninstall the previous version**

If previous versions of the library is installed, uninstall it from the library install folder.

- **Install the library**

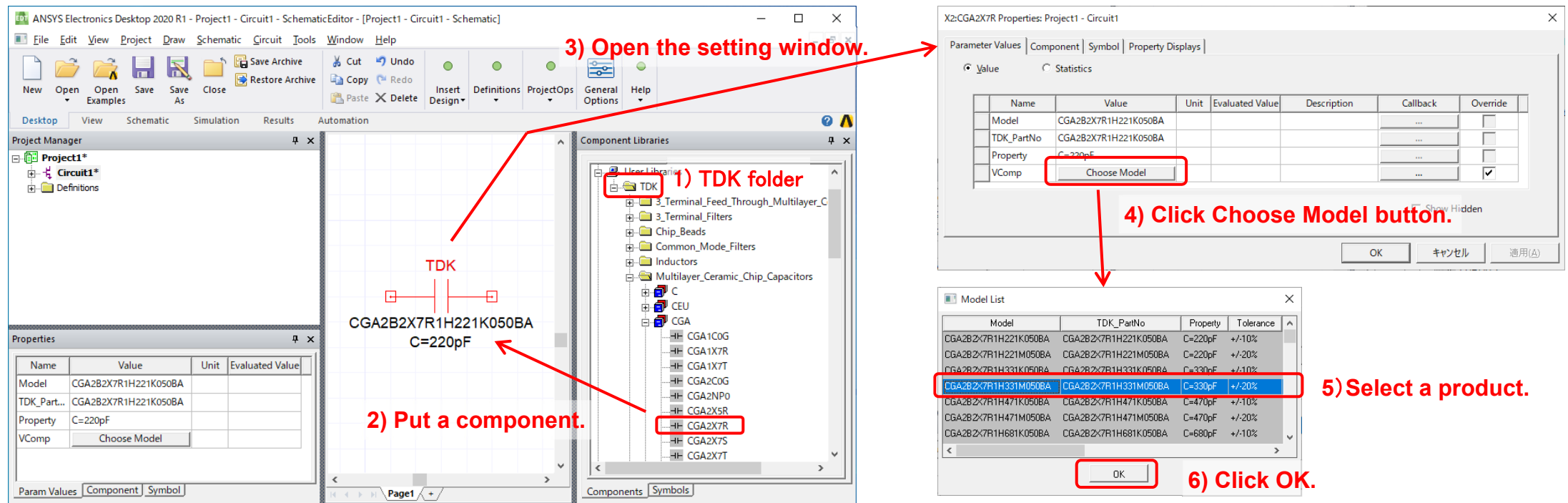
- 1) Expand the zip file.
- 2) Move the expanded “TDK” folder into the library install folder.



How to use the library

- **Putting a component and selecting a part**

- 1) After installing the library, TDK folder will be added in the Components tab of the Components Libraries.
- 2) Drag and drop a component and put a symbol onto the schematic window.
- 3) Double-click the symbol of the component and open the properties window.
- 4) Click Choose Model button in the properties window and open the Model List window.
- 5) Select a product in the Model List window.



3) Open the setting window.

1) TDK folder

2) Put a component.

4) Click Choose Model button.

5) Select a product.

6) Click OK.

Name	Value	Unit	Evaluated Value	Description	Callback	Override
Model	CGA2B2X7R1H221K050BA				...	<input type="checkbox"/>
TDK_PartNo	CGA2B2X7R1H221K050BA				...	<input type="checkbox"/>
Property	C=220pF				...	<input type="checkbox"/>
VComp	Choose Model				...	<input checked="" type="checkbox"/>

Model	TDK_PartNo	Property	Tolerance
CGA2B2X7R1H221K050BA	CGA2B2X7R1H221K050BA	C=220pF	+/-10%
CGA2B2X7R1H221M050BA	CGA2B2X7R1H221M050BA	C=220pF	+/-20%
CGA2B2X7R1H331K050BA	CGA2B2X7R1H331K050BA	C=330pF	+/-10%
CGA2B2X7R1H331M050BA	CGA2B2X7R1H331M050BA	C=330pF	+/-20%
CGA2B2X7R1H471K050BA	CGA2B2X7R1H471K050BA	C=470pF	+/-10%
CGA2B2X7R1H471M050BA	CGA2B2X7R1H471M050BA	C=470pF	+/-20%
CGA2B2X7R1H681K050BA	CGA2B2X7R1H681K050BA	C=680pF	+/-10%

