

# **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	<ul> <li>frequency characteristics</li> </ul>	<ul> <li>frequency characteristics</li> <li>DC current dependence of inductance</li> </ul>	<ul> <li>frequency characteristics</li> <li>DC voltage dependence of capacitance</li> </ul>	<ul> <li>frequency characteristics</li> <li>voltage-current property of impedance</li> </ul>

рі	roduct/type	model type	
multilayer ceramic	temperature compensation type	frequency model	
chip capacitor	high dielectric type	DC bias model	
·	for high frequency circuit	frequency model	
	for standard circuit	DC superimposition model /frequency model(*)	
Inductors	for decoupling circuit		
	for power circuit	DC superimposition model	
	chip beads	frequency model	
3-t	erminal filters		
comm	non mode filters		
	varistors	voltage-current model	
ch	ip protectors		
puls	e transformers	frequency model	



# 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.



