SAMSUNG ELECTRO-MECHANICS

Design Tool Guide

(Component Library, Version 7.0)

Samsung Electro-Mechanics

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- System Requirements

The information below is provided as an overview of the supported browsers and operation systems.

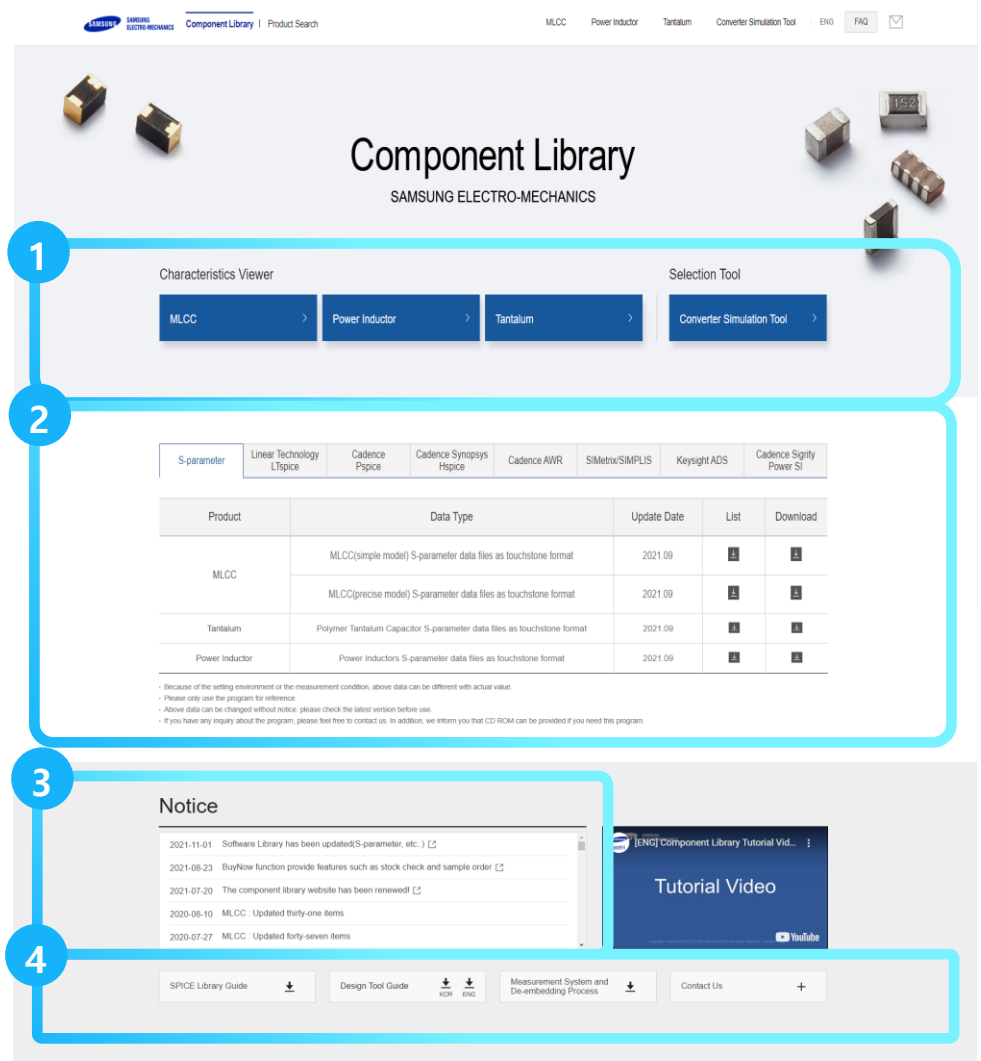
OS : Windows 10 or higher or Windows Server 2016 or higher
RAM : 2GB
Disk space : 1GB

- Contact Us

If you have any question, contact us via the URL below.

All | FAQ | SAMSUNG ELECTRO-MECHANICS (samsungsem.com)

Inquiry | SAMSUNG ELECTRO-MECHANICS (samsungsem.com)



1. All Categories

Shows all categories of the menu.
Please click the menu title to get access to the page.

2. Software Library

Available for download S-Parameters, other software libraries, and user guide documents.

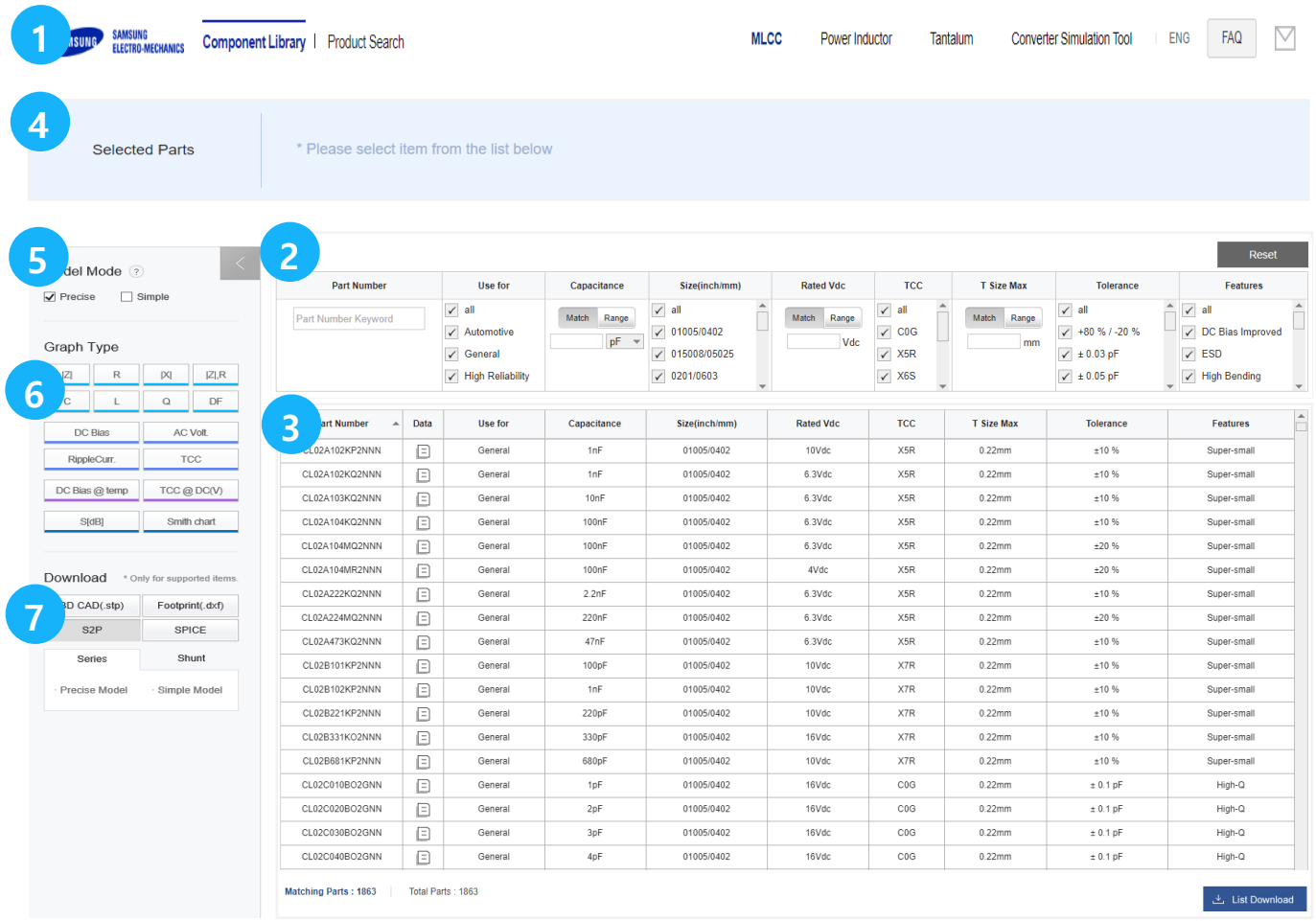
2. Notice

Listing of newly updated notices within a year on the left side.
Available to view detail contents of the selected notice on the right side.

3. Download & Link

User guide documents and access to related sites are supported.

3-1. Product Menu > Window layout



1. Top menu

Showing the page title.

2. Filter

Filtering products by selecting the filter options.

3. Parts List (Filter Result)

Double-click the product on the “Parts List” to add it on the “Selected Parts” for simulation.

4. Selected Parts

Select products for simulation in this area.

5. Model mode

Setting up the Model Mode for simulation.

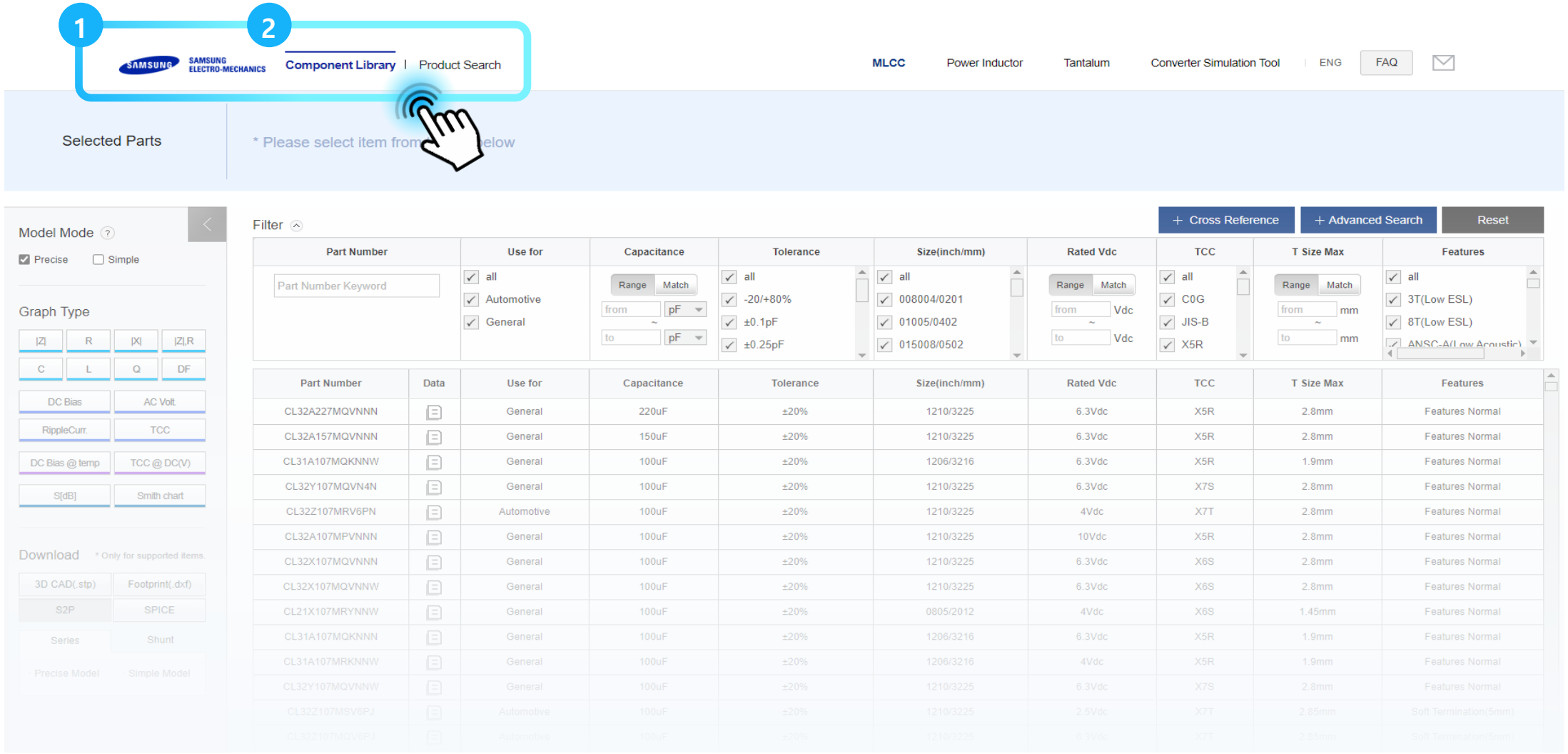
6. Graph

Drawing a graph by clicking each graph button.

7. Download

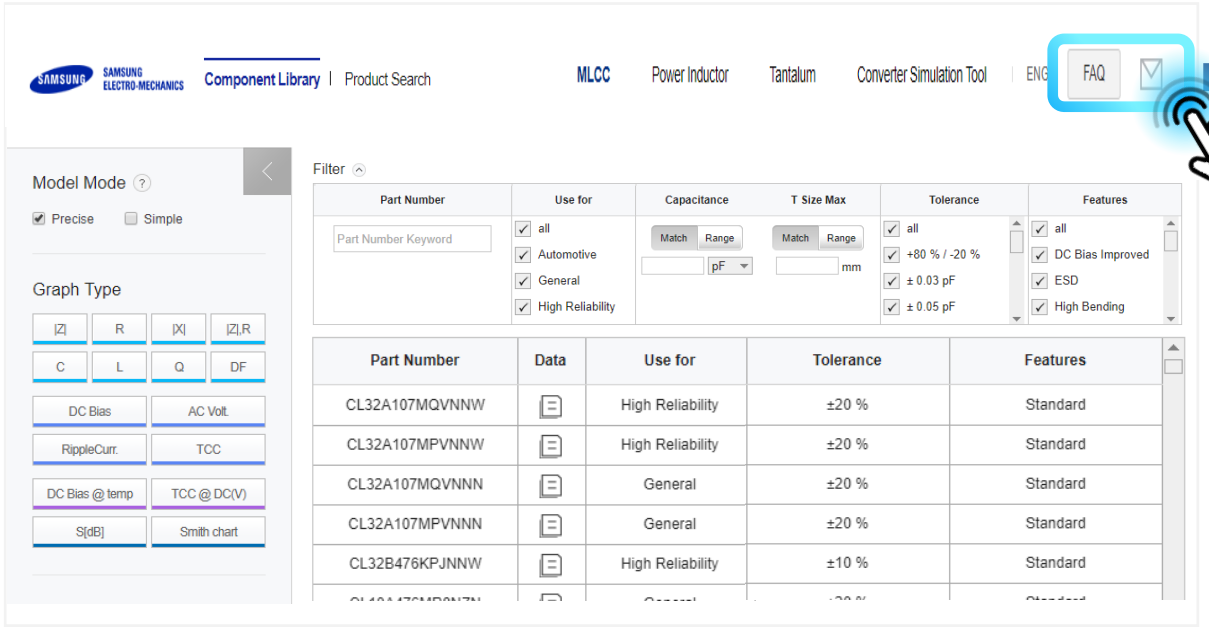
Downloading a file to use for simulation.

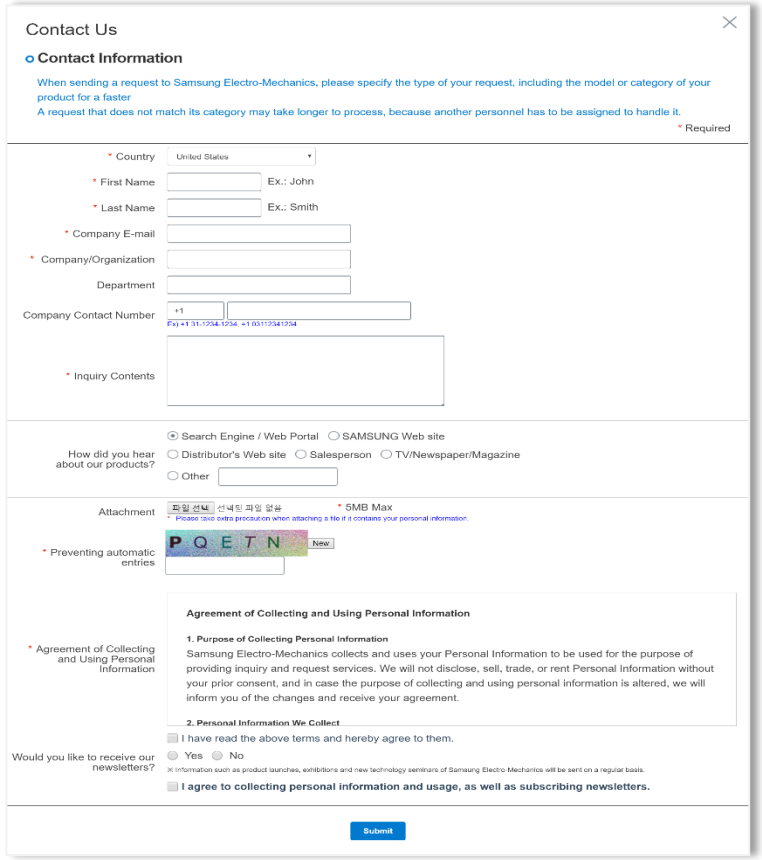
Directing to Samsung Electro-Mechanics official website and the main page of Product Search, Component Library website



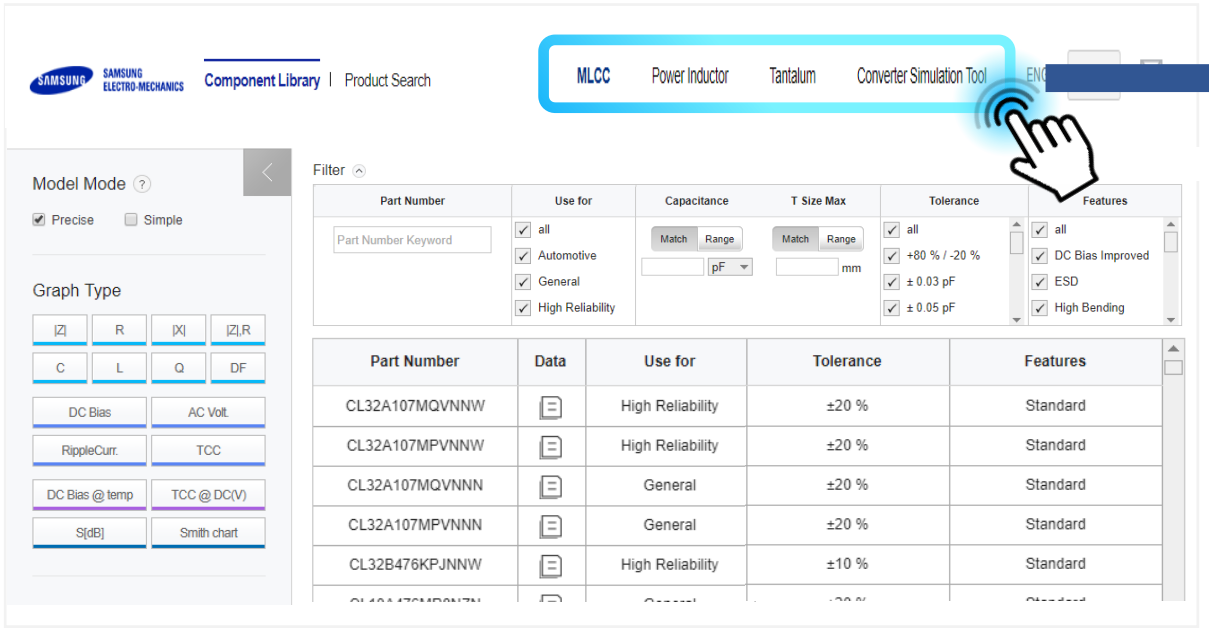
3-2. Product Menu > Top menu

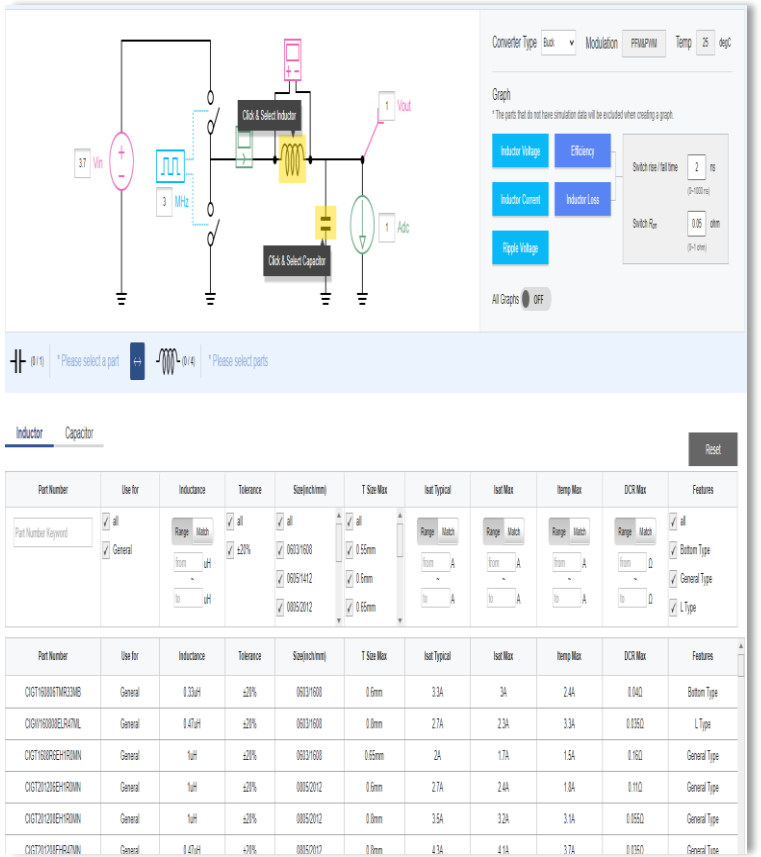
Clicking the Inquiry button on the top menu to contact us quickly.



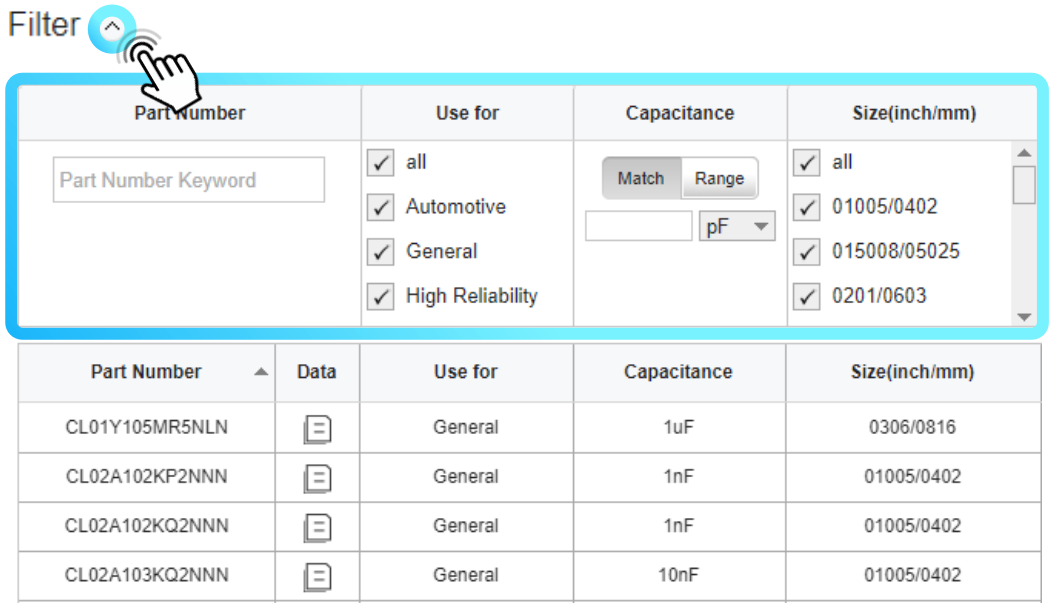


Available to direct to other pages by clicking the menu title.

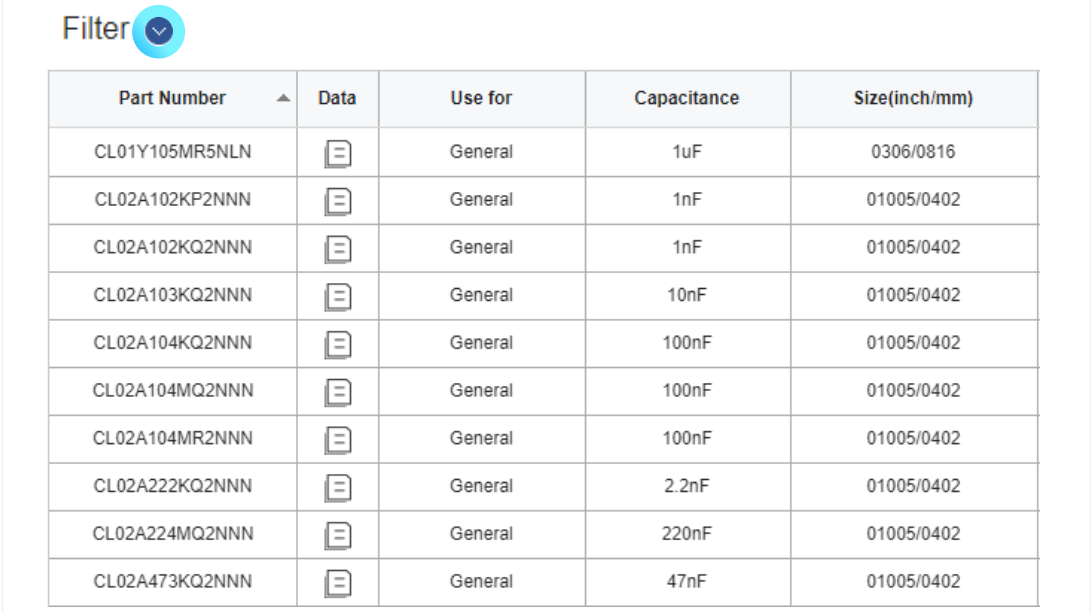




Available to hide or show the filter area.

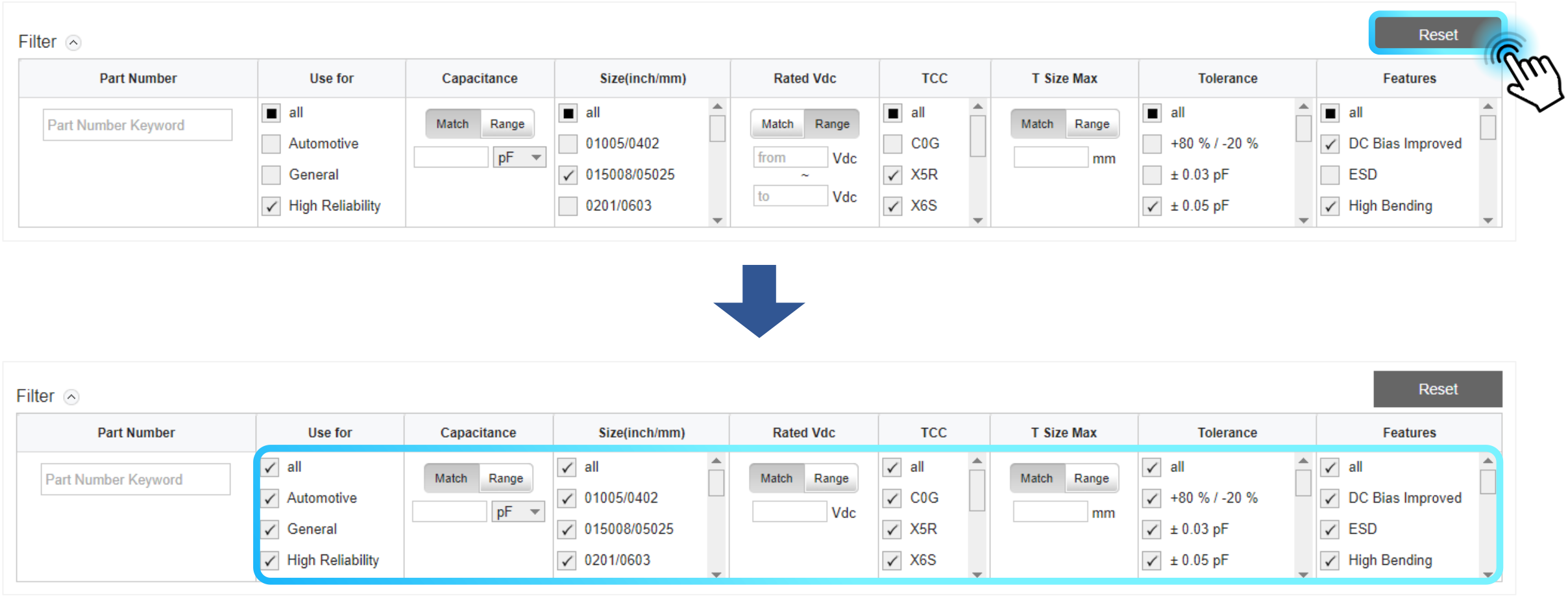


Part Number	Data	Use for	Capacitance	Size(inch/mm)
CL01Y105MR5NLN		General	1uF	0306/0816
CL02A102KP2NNN		General	1nF	01005/0402
CL02A102KQ2NNN		General	1nF	01005/0402
CL02A103KQ2NNN		General	10nF	01005/0402



Part Number	Data	Use for	Capacitance	Size(inch/mm)
CL01Y105MR5NLN		General	1uF	0306/0816
CL02A102KP2NNN		General	1nF	01005/0402
CL02A102KQ2NNN		General	1nF	01005/0402
CL02A103KQ2NNN		General	10nF	01005/0402
CL02A104KQ2NNN		General	100nF	01005/0402
CL02A104MQ2NNN		General	100nF	01005/0402
CL02A104MR2NNN		General	100nF	01005/0402
CL02A222KQ2NNN		General	2.2nF	01005/0402
CL02A224MQ2NNN		General	220nF	01005/0402
CL02A473KQ2NNN		General	47nF	01005/0402

Initialize all set conditions by clicking the reset button.



Search products by typing in part number. (Partial matching is supported)

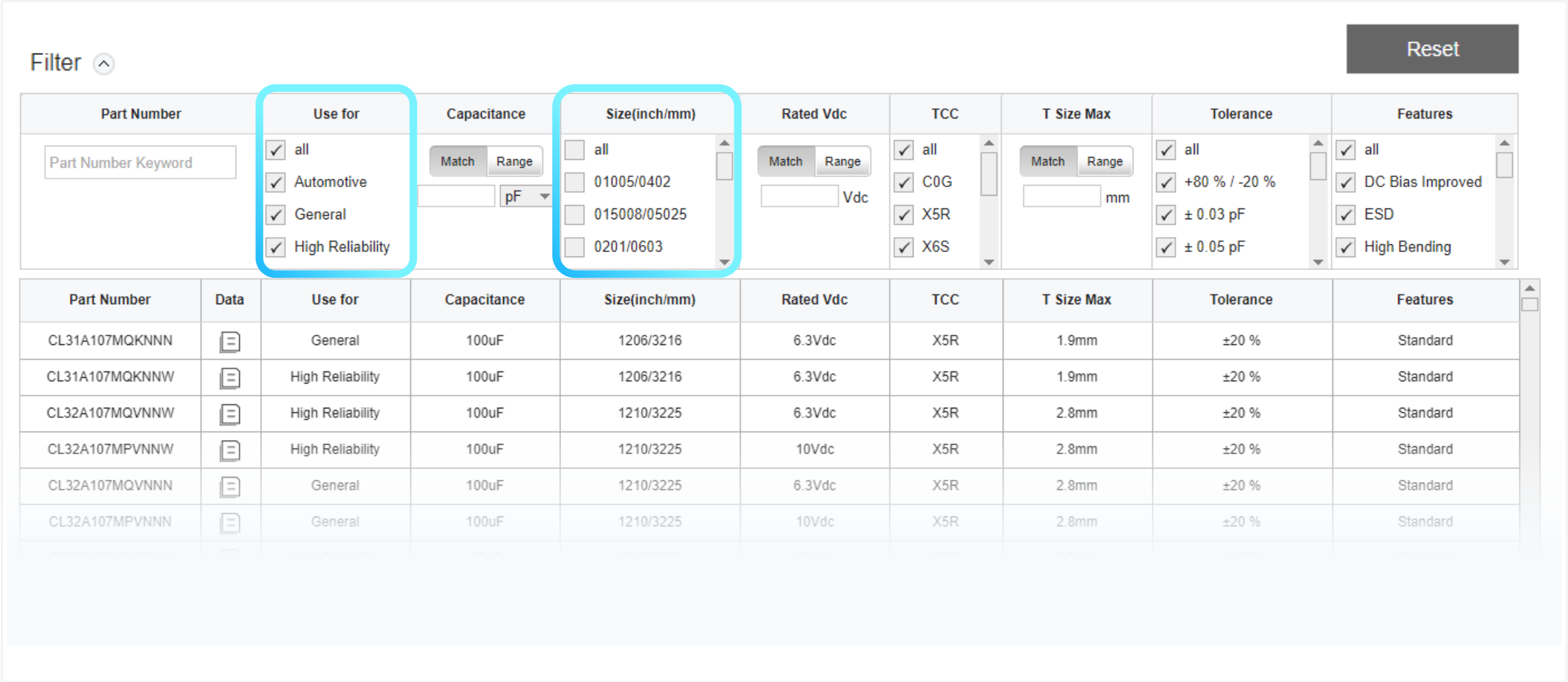
Filter

Reset

Part Number	Use for	Capacitance	Size(inch/mm)	Rated Vdc	TCC	T Size Max	Tolerance	Features
CL31B22	all Automotive General High Reliability	Match Range pF	all 01005/0402 015008/05025 0201/0603	Match Range Vdc	all C0G X5R X6S	Match Range mm	all +80 % / -20 % ± 0.03 pF ± 0.05 pF	all DC Bias Improved ESD High Bending

Part Number	Data	Use for	Capacitance	Size(inch/mm)	Rated Vdc	TCC	T Size Max	Tolerance	Features
CL31B222KGFNNN		General	2.2nF	1206/3216	500Vdc	X7R	1.4mm	±10 %	Med-High Volt
CL31B224JBFNNN		General	220nF	1206/3216	50Vdc	X7R	1.4mm	±5 %	Standard
CL31B224KBFNNN		General	220nF	1206/3216	50Vdc	X7R	1.4mm	±10 %	Standard
CL31B224KBFNNW		High Reliability	220nF	1206/3216	50Vdc	X7R	1.4mm	±10 %	Standard
CL31B224MBFNNN		General	220nF	1206/3216	50Vdc	X7R	1.4mm	±20 %	Standard
CL31B224MBFNNW		High Reliability	220nF	1206/3216	50Vdc	X7R	1.4mm	±20 %	Standard
CL31B225KAHNNN		General	2.2uF	1206/3216	25Vdc	X7R	1.8mm	±10 %	Standard
CL31B225KAHNNW		High Reliability	2.2uF	1206/3216	25Vdc	X7R	1.8mm	±10 %	Standard
CL31B225KAHVPN		Automotive	2.2uF	1206/3216	25Vdc	X7R	1.8mm	±10 %	Standard
CL31B225KBHNNN		General	2.2uF	1206/3216	50Vdc	X7R	1.8mm	±10 %	Standard

Available to select/deselect all the options of each property at once by check on/off the “all” option.



Sorting products in ascending /descending order by using the hidden tool coming up when mouse over the column header on the "Parts List" area.

Part Number	Data	Use for	Capacitance	Size(inch/mm)	Rated Vdc	TCC	T Size Max	Tolerance	Features
CL31A107MQKNNN		Sort Ascending	100uF	1206/3216	6.3Vdc	X5R	1.9mm	±20 %	Standard
CL31A107MQKNNW		Sort Descending	100uF	1206/3216	6.3Vdc	X5R	1.9mm	±20 %	Standard
CL32A107MQVNNW		Remove Sort	100uF	1210/3225	6.3Vdc	X5R	2.8mm	±20 %	Standard
CL32A107MPVNNW		High Reliability	100uF	1210/3225	10Vdc	X5R	2.8mm	±20 %	Standard
CL32A107MQVNNN		General	100uF	1210/3225	6.3Vdc	X5R	2.8mm	±20 %	Standard

Part Number	Data	Use for	Capacitance	Size(inch/mm)	Rated Vdc	TCC	T Size Max	Tolerance	Features
CL01Y105MR5NLN		General	1uF	0306/0816	4Vdc	X7S	0.55mm	±20 %	Low ESL(LICC)
CL02A102KP2NNN		General	1nF	01005/0402	10Vdc	X5R	0.22mm	±10 %	Super-small
CL02A102KQ2NNN		General	1nF	01005/0402	6.3Vdc	X5R	0.22mm	±10 %	Super-small
CL02A103KQ2NNN		General	10nF	01005/0402	6.3Vdc	X5R	0.22mm	±10 %	Super-small
CL02A104KQ2NNN		General	100nF	01005/0402	6.3Vdc	X5R	0.22mm	±10 %	Super-small

Directing to the datasheet of each product by clicking a datasheet icon on the data column.
Available to download datasheet page in PDF format.

Part Number	Data	Use for
CL31A107MQKNNN		General
CL31A107MQKNNW		gh Reliability
CL32A107MQVNNW		High Reliability
CL32A107MPVNNW		High Reliability
CL32A107MQVNNN		General
CL32A107MPVNNN		General
CL32B476KPJNNW		High Reliability
CL10A476MR8NZN		General
CL21A476MQ7LRN		General
CL21A476MQCLRN		General
CL21A476MQYNNN		General
CL21A476MQYNNW		High Reliability
CL21A476MRYNNN		General

PDF Download | Contact Us

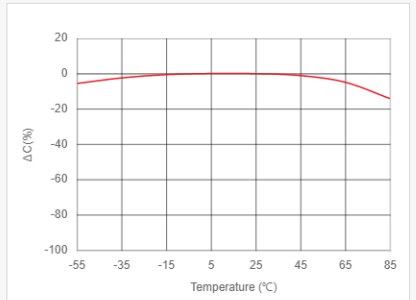
SAMSUNG ELECTRO-MECHANICS MLCC (Multi Layer Ceramic Capacitor)

CL31A107MQKNNN

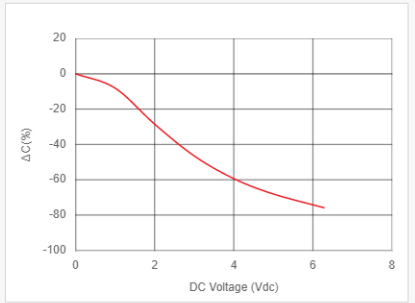
Specifications

Property	Nominal Capacitance	Capacitance Tolerance	Rated Vdc	TCC	Size	Length	Width	Thickness
Value	100.0uF	±20 %	6.3Vdc	X5R	1206(unit:inch), 3216(unit:mm)	3.20 ± 0.30 mm	1.60 ± 0.30 mm	1.60 ± 0.30 mm

Data Graph



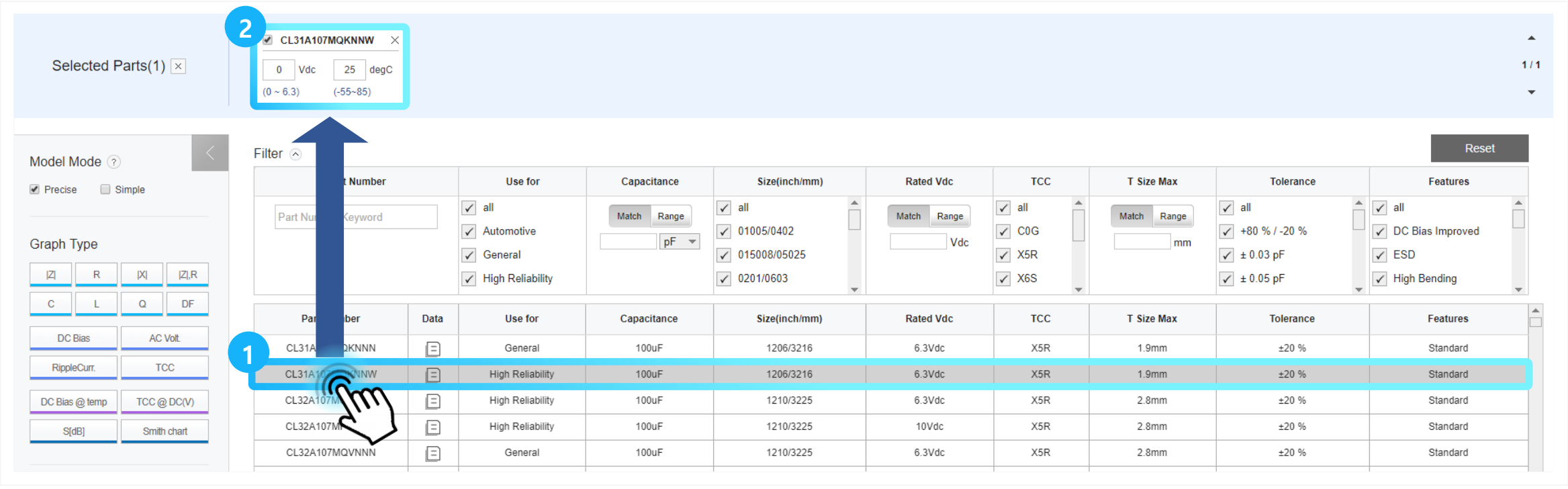
Temperature Characteristics of Capacitance(TCC)
LCR meter, 0.12kHz, 0.5Vrms



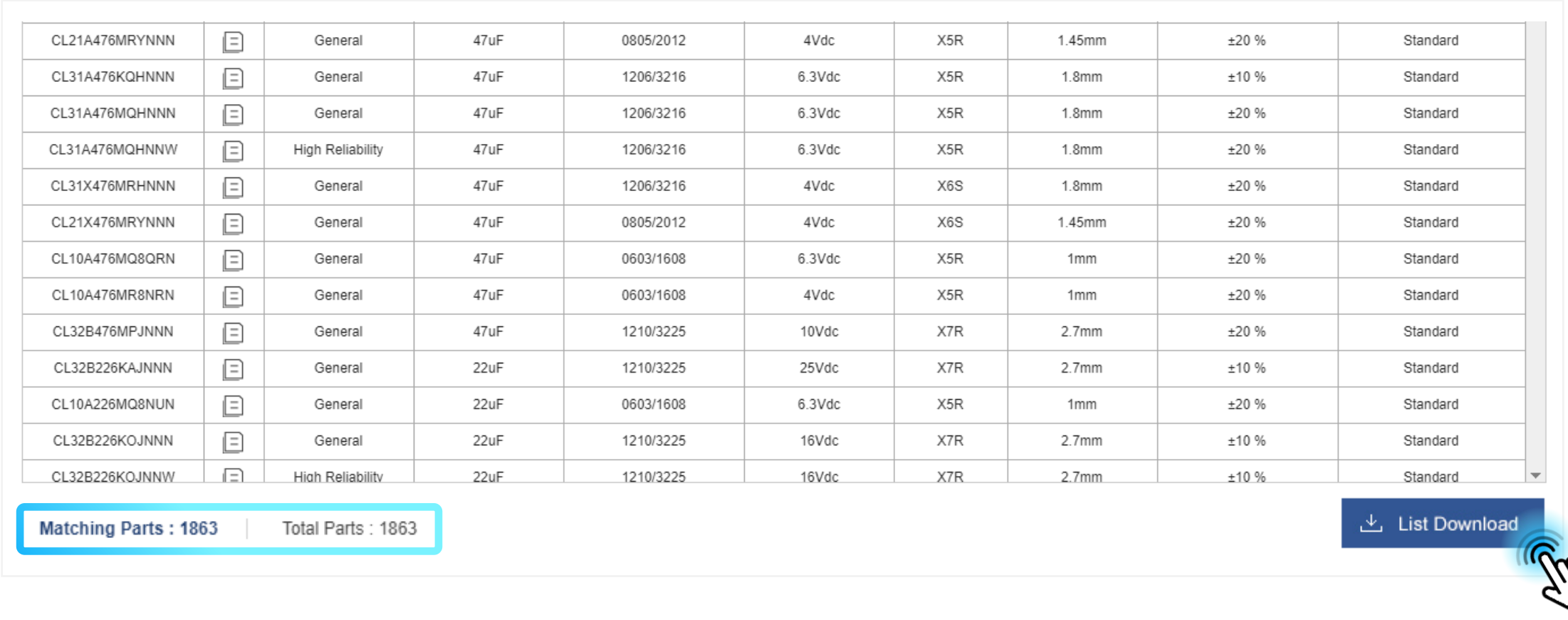
DC Bias Characteristics
LCR meter, 0.12kHz, 0.5Vrms

[Datasheet Page]

A double-clicked product on the "Parts List" area would be placed at the front of the "Selected Parts" area and all the others would be deselected at the same time.



Showing the number of matching parts on the lower-left side of the “Parts List” area.
Available to save the matching parts list data in Excel format by clicking “List download” button on the lower-left.

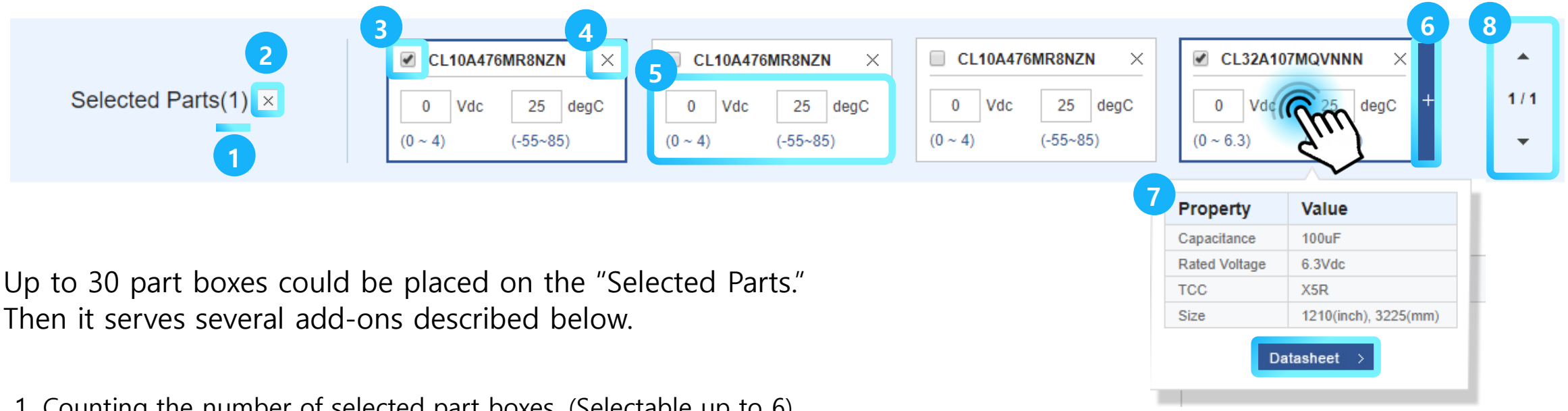


CL21A476MRYNNN		General	47uF	0805/2012	4Vdc	X5R	1.45mm	±20 %	Standard
CL31A476KQHNNN		General	47uF	1206/3216	6.3Vdc	X5R	1.8mm	±10 %	Standard
CL31A476MQHNNN		General	47uF	1206/3216	6.3Vdc	X5R	1.8mm	±20 %	Standard
CL31A476MQHNNW		High Reliability	47uF	1206/3216	6.3Vdc	X5R	1.8mm	±20 %	Standard
CL31X476MRHNNN		General	47uF	1206/3216	4Vdc	X6S	1.8mm	±20 %	Standard
CL21X476MRYNNN		General	47uF	0805/2012	4Vdc	X6S	1.45mm	±20 %	Standard
CL10A476MQ8QRN		General	47uF	0603/1608	6.3Vdc	X5R	1mm	±20 %	Standard
CL10A476MR8NRN		General	47uF	0603/1608	4Vdc	X5R	1mm	±20 %	Standard
CL32B476MPJNNN		General	47uF	1210/3225	10Vdc	X7R	2.7mm	±20 %	Standard
CL32B226KAJNNN		General	22uF	1210/3225	25Vdc	X7R	2.7mm	±10 %	Standard
CL10A226MQ8NUN		General	22uF	0603/1608	6.3Vdc	X5R	1mm	±20 %	Standard
CL32B226KOJNNN		General	22uF	1210/3225	16Vdc	X7R	2.7mm	±10 %	Standard
CL32B226KOJNNW		High Reliability	22uF	1210/3225	16Vdc	X7R	2.7mm	±10 %	Standard

Matching Parts : 1863 | Total Parts : 1863

List Download

3-5. Product Menu > Selected Parts

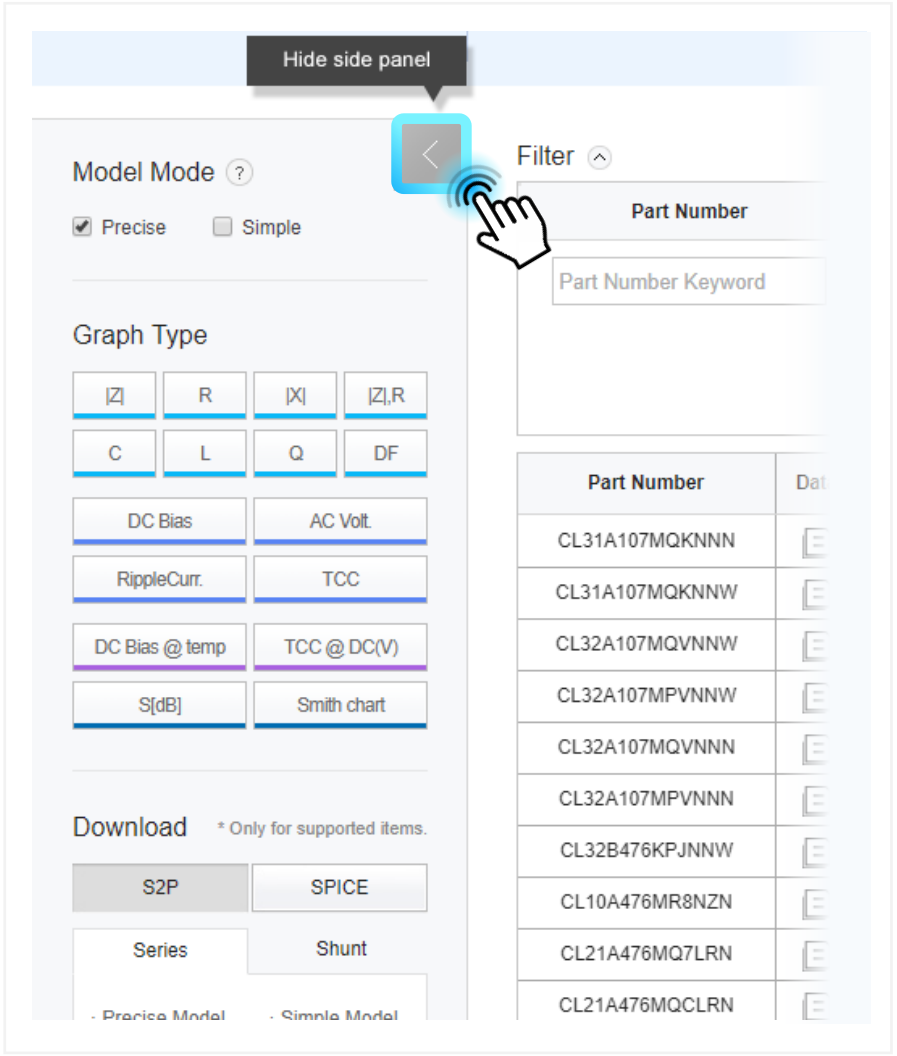


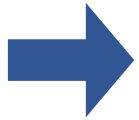
Up to 30 part boxes could be placed on the "Selected Parts."
Then it serves several add-ons described below.

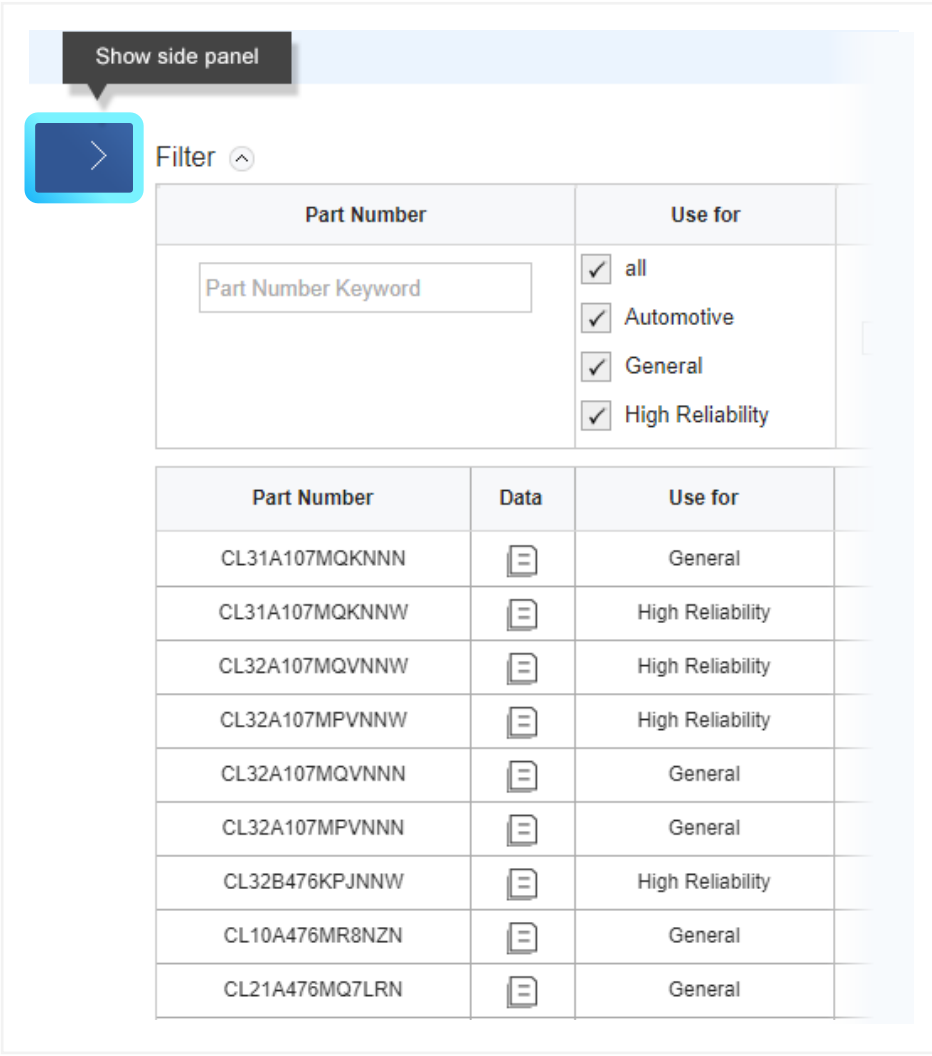
1. Counting the number of selected part boxes. (Selectable up to 6)
2. Deleting all the part boxed by clicking the button.
3. Available to select/deselect, and the border of selected part boxes would be blue-colored.
4. Deleting the part box by clicking the delete button.
5. Assignable the specific value for simulation (please refer to the available range of value served on the below of each field)
6. Available to copy the part box by clicking the + button appeared when you mouse over the box.
7. Available to confirm properties and to get access to datasheet easily when you mouse over the box.
8. Available to scroll up/down by this button and mouse scrolling.

*Drawing graphs or downloading data from the left side panel after setting up the simulation value of the selected part boxes.

Available to hide or show the side panel.

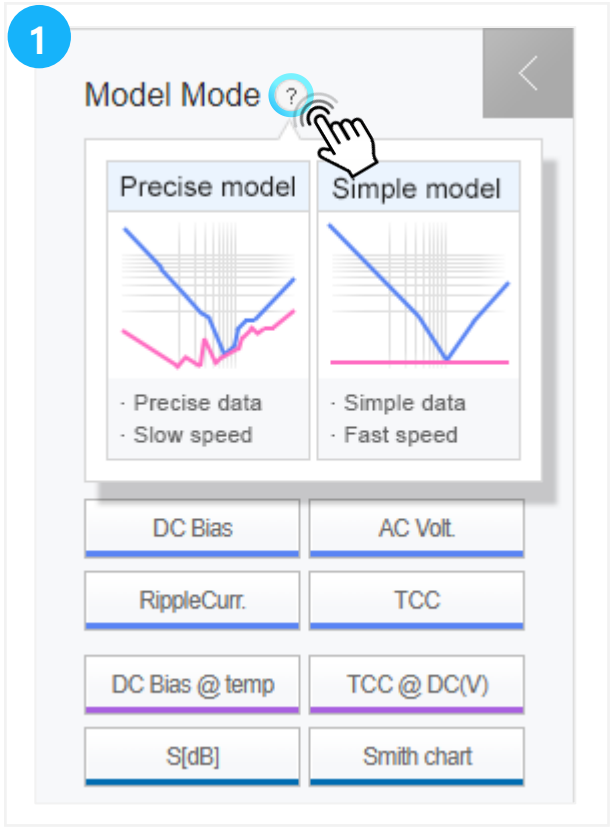


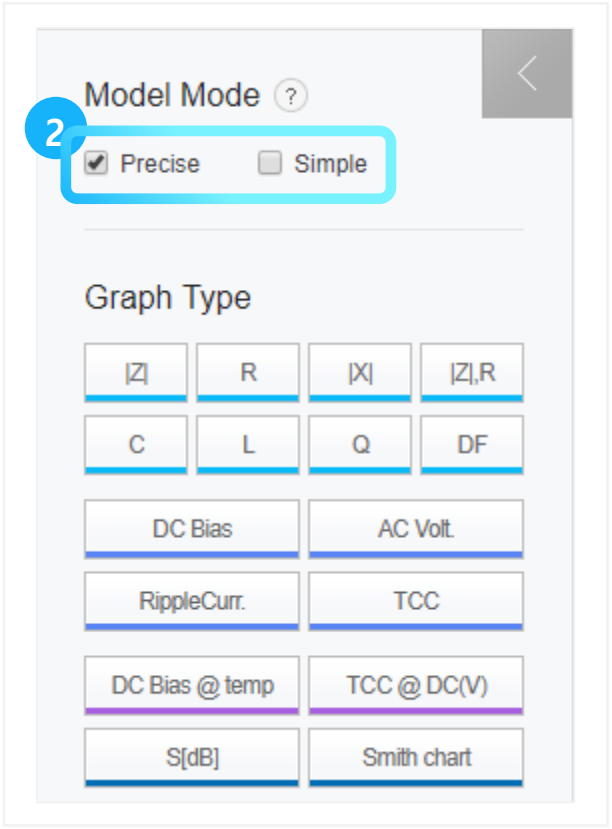




1. Showing a guide tooltip for the Model Mode when mouse over the question mark.

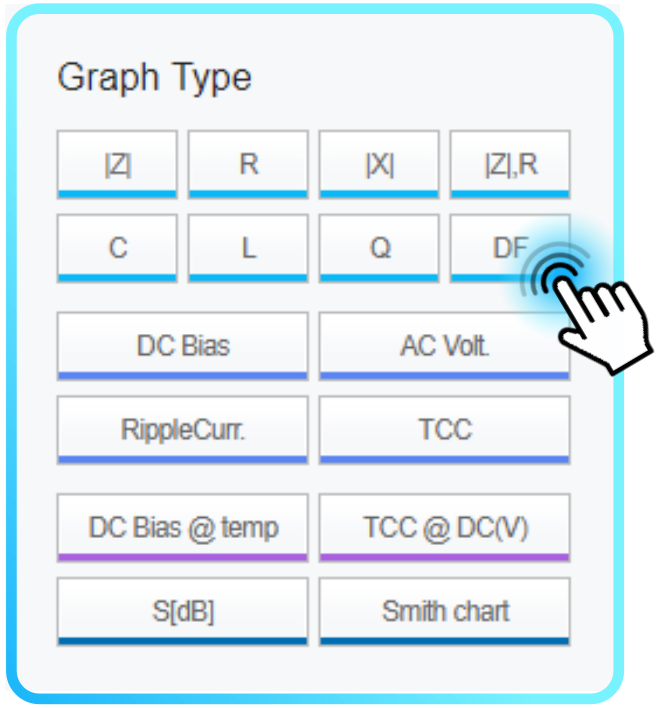
2. Single/multiple selections are available for the Model Mode option.

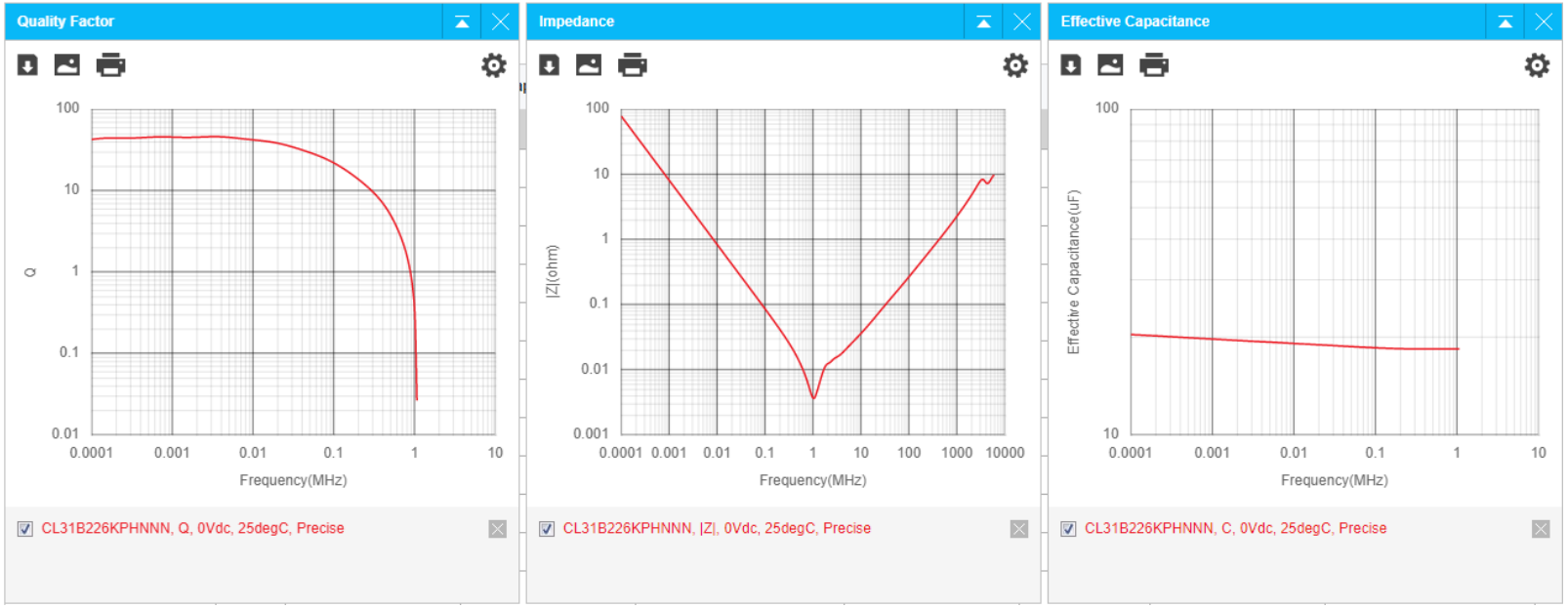




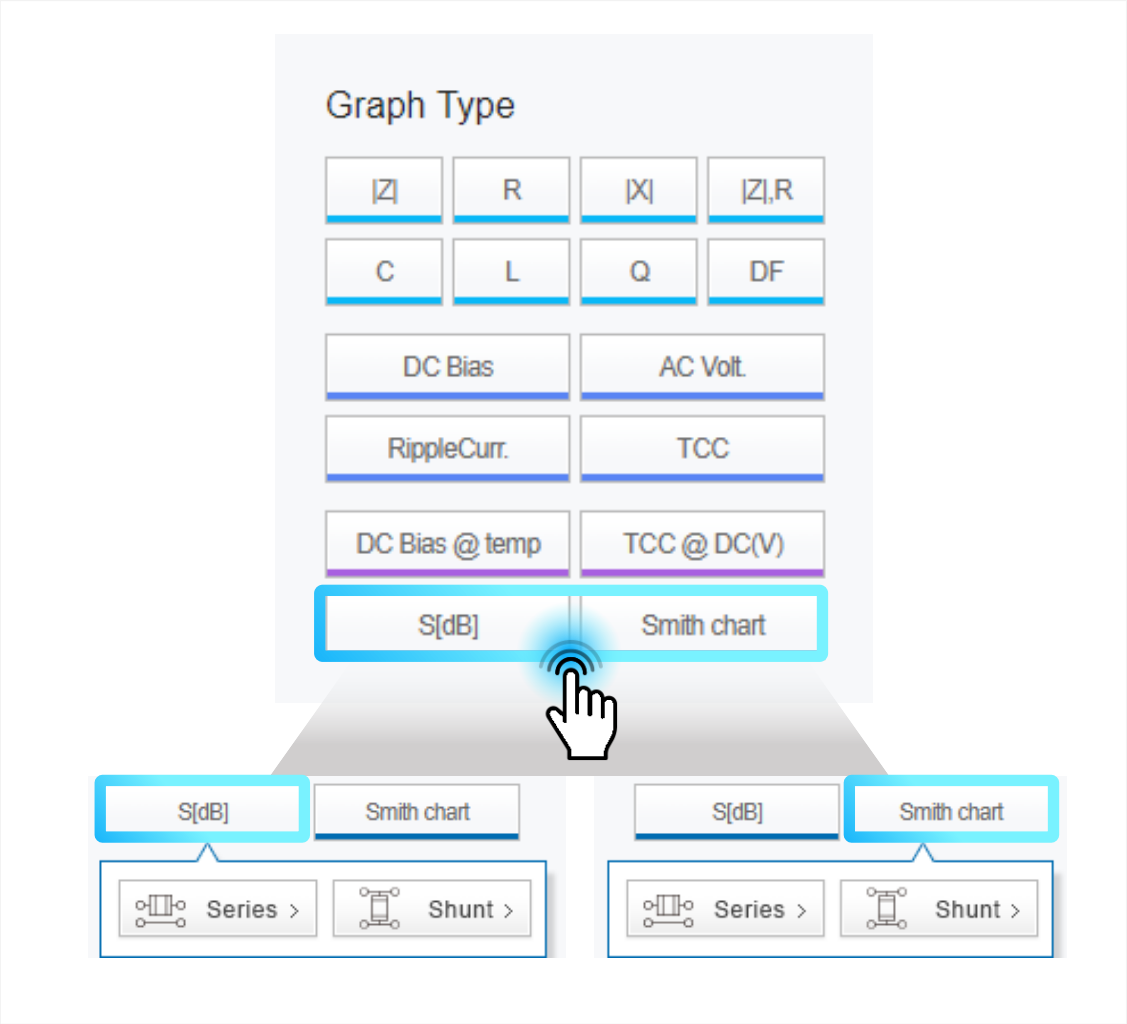
1. Draw graphs of the selected part box by clicking each graph button. (Supported graphs could differ by each product)

2. Graph windows pop up in order on the right side and it is possible to drag each graph window to where you want.

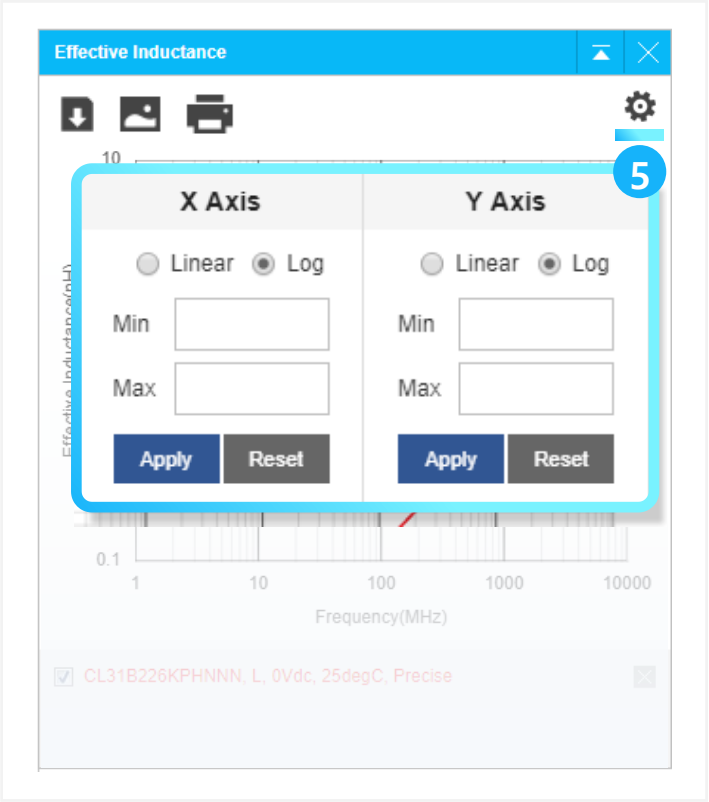




Available to select the S-parameter circuit for the graphs of “S[Db]” and “Smith chart” when mouse over each graph.



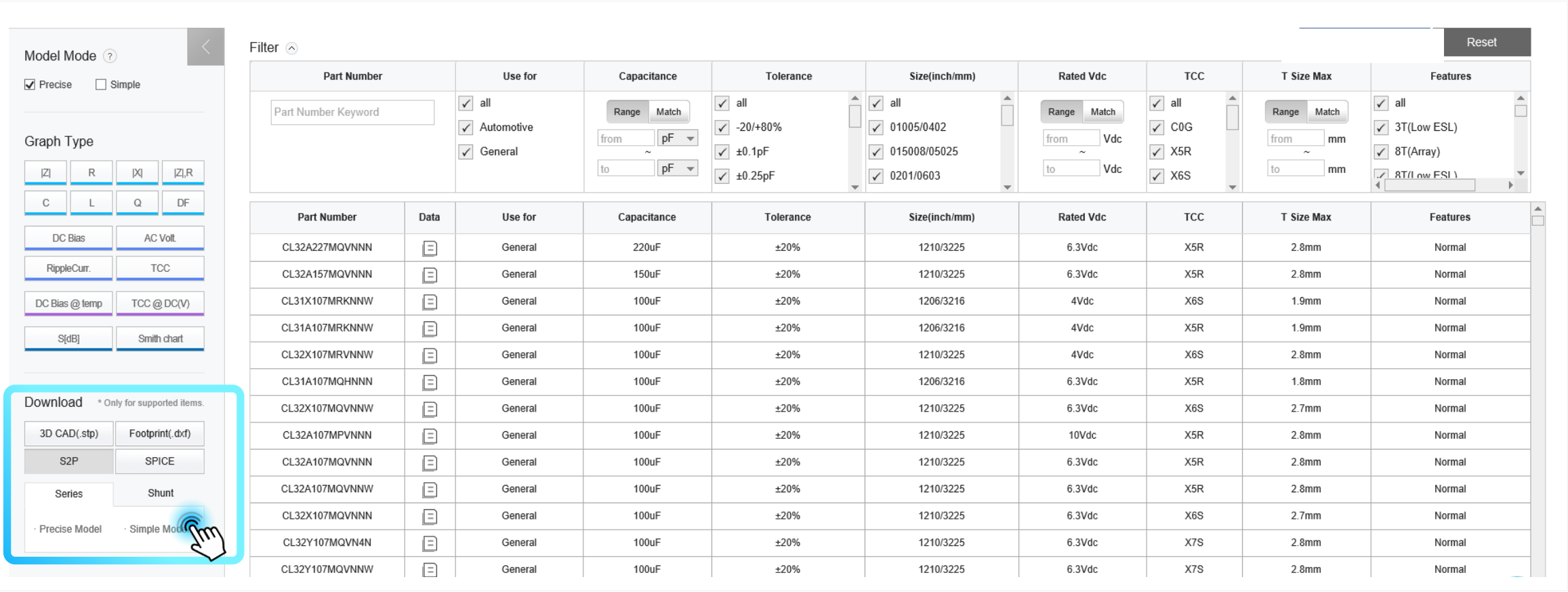
1. Save raw data of the graph.
2. Save the image file of the graph in PNG format.
3. Print of this graph.
4. Show or hide a graph with the 'select / deselect' option, and can delete it.
5. Set up the details related to the axis of the graph.



Download simulation file of the selected parts.

* 3D CAD(.stp) : Download the 3D CAD shape of the product. * Footprint(.dxf) : Download the recommended PAD size of the product.

Simulation file would be downloaded in a single zip file when multiple part boxes selected.



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