IMPORTANT FPX Guidelines

There are hundreds of footprints that have the same identical name with different tolerances and thermal pad sizes. The BGA, SM and TH FPX files are intended to be used as a library source for users to quickly locate the correct component package data row and copy/paste that row from BGA, SM or TH FPX into your personal library. When doing so, it's up to you the user to rename the footprint to avoid duplicate footprint names with tolerance and thermal pad differences.

The BGA, SM and TH FPX files is to be used as "reference only". PCB Libraries, Inc. is not responsible for component dimensional typographical errors or changes that may occur over time. It's up to each user to verify every component dimension with the corresponding mfr. datasheet to ensure that all of the dimensions match. If you find a dimension that is not correct, please report it immediately to support@pcblibraries.com and we'll fix the error immediately.

PCB Libraries Footprint Naming Convention Recommendations

Download the IPC-7351B Land Pattern Naming Convention here – http://www.pcblibraries.com

Download the IPC-7351C Land Pattern Naming Convention here – http://www.pcblibraries.com

PCB Libraries Footprint Naming Convention Recommendations

It's OK to have duplicate Footprint Names in a FPX file as long as every component dimension is identical. You can use the "**Tools > Find Duplicates > Footprint**" feature in the Library Editor to quickly locate duplicate Footprint Names.
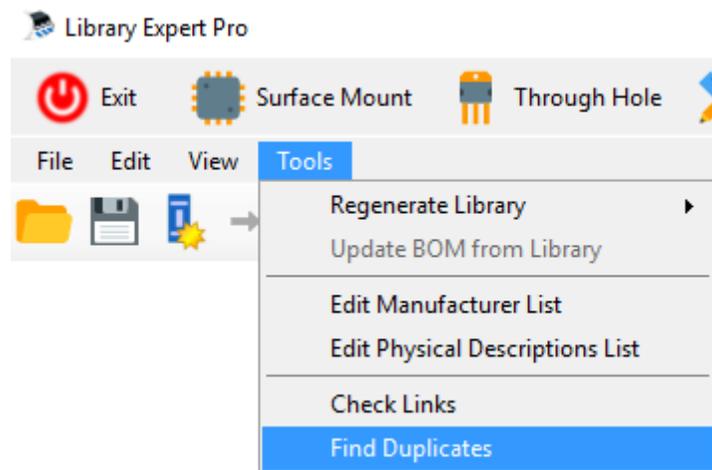
Then a window will open to allow you to select any Column Attribute in your FPX file.
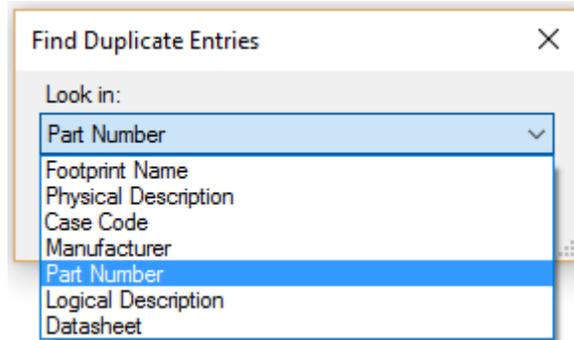
The Library Expert "Library Editor" will find duplicate Part Numbers. Component manufacturer's all have unique Part Numbers for their electronic devices. There should only be 1 unique Part Number in an FPX file. If you find duplicate Part Numbers, you should delete the duplicate.
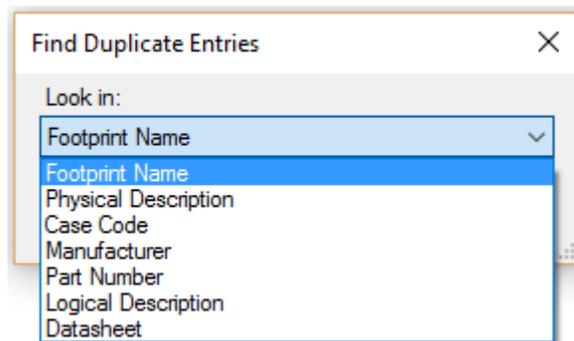
The Library Expert "Library Editor" will find duplicate Footprint Names and these are perfectly acceptable as long as the physical component dimensions are identical. A good example of duplicate names is when multiple component manufacturers create the same identical physical package and you want to keep track of all the different sources for any particular component. When using the "Batch Create" feature in the "Librarian" will only create 1 of each Footprint Name. And this is exactly what you want if you have identical package dimensions. However, if the Thermal Tab, Lead tolerance or BGA ball size is different but the Footprint Name is identical, then only the first Footprint in the column will be created and the other duplicates will be ignored (not created).

So you the user need to insure that if the Thermal Tab, Lead tolerance or BGA ball sizes are different between packages that produce the same Footprint Name, you must add modifiers to the end of the Footprint Name to discriminate between the package differences and create unique names to eliminate duplication.

When you run the "Find Duplicate Footprint Name" feature, the program will provide a Notepad list of the duplicate names. It will also highlight every duplicate in the Footprint column. You can scroll through the FPX database to find the duplicates or use the "Find" feature and copy/paste the Footprint Names in the Notepad file into the search window. Select and open each package in the calculator to ensure that all of the component dimensions match 100% and that the duplication is approved.

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Component Manufacturer Footprint Recommendations

There are many instances where PCB Libraries promotes the use of component manufacturer recommended footprint patterns. A good example of this is in the Corner Concave or Side Concave "Oscillator" component families. The Footprint Expert automates the creation and storage of mfr. recommended patterns.

Here is a line item in the FPX file – Selecting the gray box on the left of the footprint name will highlight row
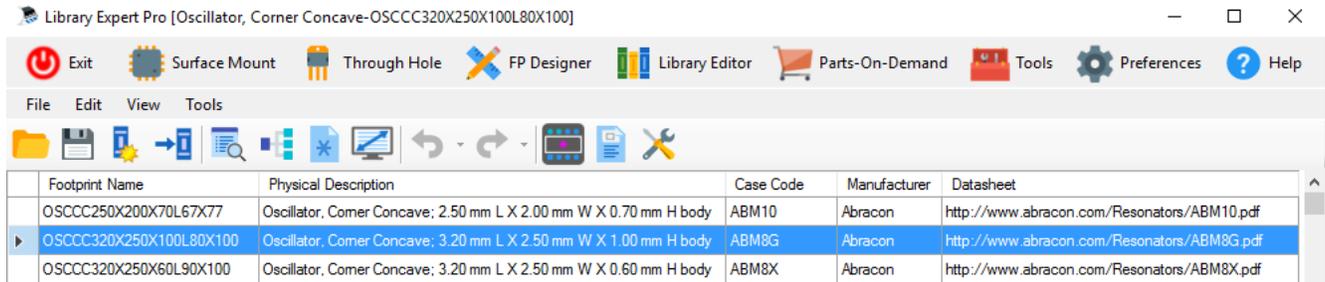
Here are the component dimensions for the OSCCC320X250X100L80X100 package –
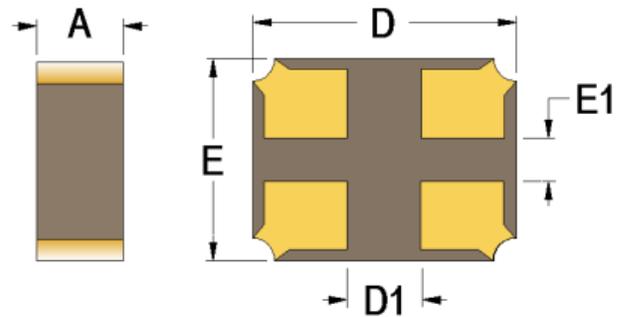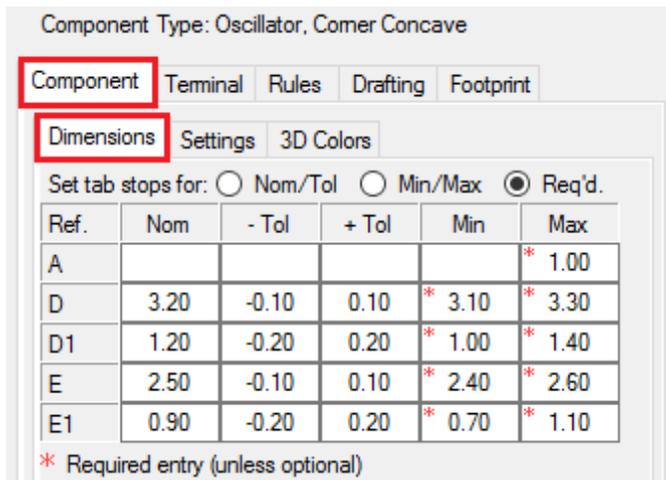
Here is the IPC-7351 calculated footprint, select the "Footprint" tab – Compared to the mfr. pattern (right)
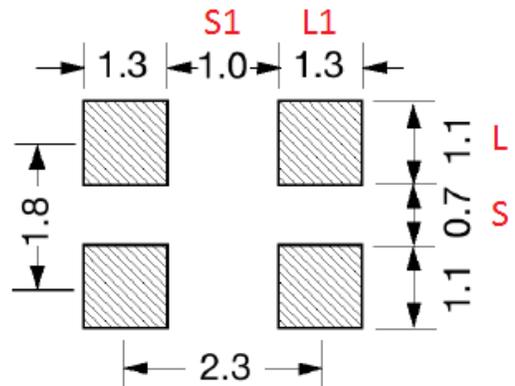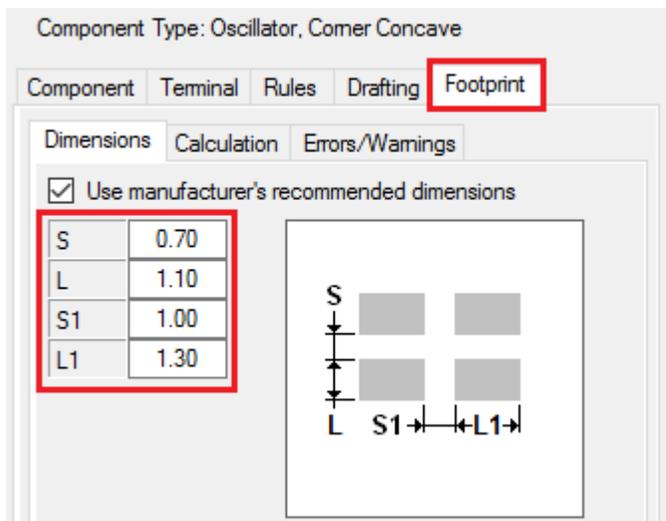
Suggested Footprint

As you can see, the mfr. suggested pattern pad sizes and spacing are different than the IPC-7351 calculated pattern. If you select the radio button "Use manufacturer's recommended dimensions" you will be able to edit the calculated values and replace them with the component mfr. dimensional values. After you enter the new values select the "OK" button and the mfr. dimensions will be applied to the footprint and the silkscreen and courtyard outlines will automatically adjust to accommodate the mfr. pad size and spacing. Also notice that the Dot in the upper left corner of the footprint viewing screen will turn "Yellow" and provide a "Warning".
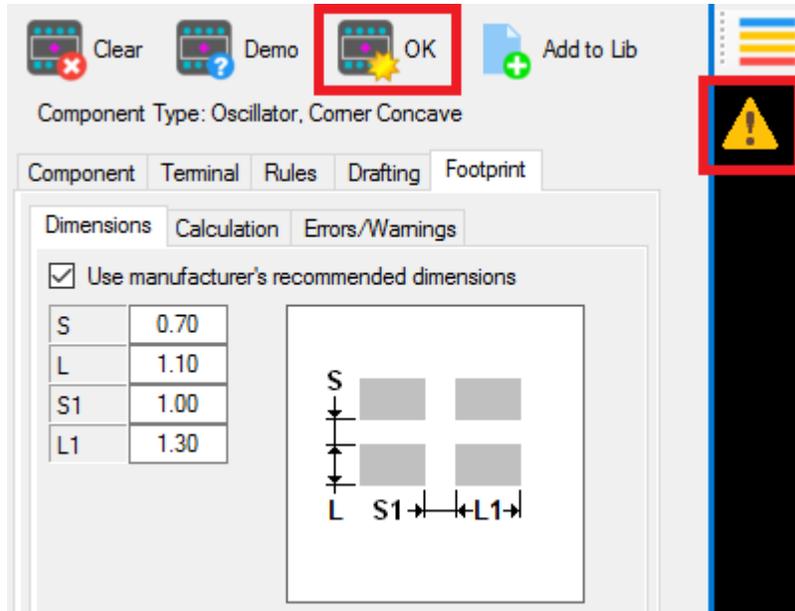
Select the Errors/Warnings tab and the Warnings message will appear –
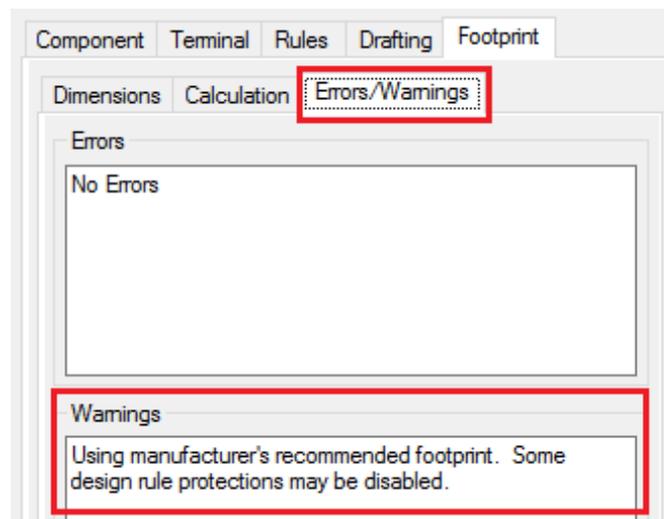
Selecting the Gray box to the left of the footprint name in the FPX library will highlight the entire row in Blue. Selecting the Import Footprint icon in the Library toolbar will auto-update the row and import the component mfr.'s recommended pattern pad size and spacing into the FPX file. Select "**Yes"** to "**Update Selected Item**".

When you "**Batch Create**" a FPX file, all parts with mfr. recommended pattern data will use the mfr. data.

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