

The `subcaptionlite` package

Subfigures and subtables without the caption package

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<https://github.com/munepi/subcaptionlite>

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1 Introduction

The `subcaption` package needs the `caption` package, which redefines `\@makecaption` of the class. Thus it cannot be used with a class that has its own design of captions: loading it changes the captions of the whole document.

The `subcaptionlite` package provides the `subfigure` and `subtable` environments, `\subcaption`, `\subcaptionbox` and `\subref` with the same syntax as `subcaption`, without touching `\@makecaption` of the class. Figure 1 and Table 1 are made with it.

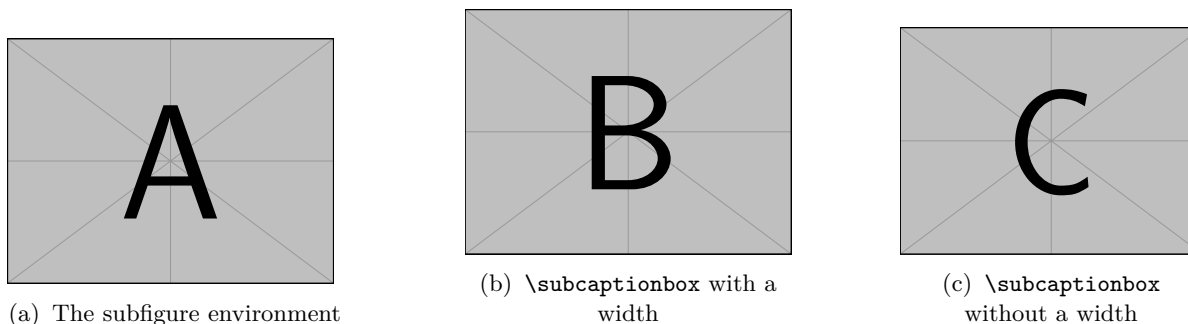


Figure 1: Three subfigures

Table 1: Two subtables

(a) The first	(b) The second
Item Value	Item Value
A 1	C 3
B 2	D 4

Supported formats/engines pdf $\LaTeX$, Xe $\LaTeX$, Lua $\LaTeX$ (with or without Lua $\TeX$ -ja), p $\LaTeX$ and up $\LaTeX$ (with dvipdfmx). The package requires $\LaTeX$ 2e 2020-10-01 or later and loads `etoolbox`.

2 Usage

`\usepackage{subcaptionlite}`

```

\begin{figure}
  \centering
  \begin{subfigure}{.3\linewidth}
    \centering\includegraphics[width=.9\linewidth]{example-image-a}
    \caption{The subfigure environment}\label{fig:example-a}
  \end{subfigure}\hfill
  \subcaptionbox{\cs{subcaptionbox} with a width\label{fig:example-b}}{%.3\linewidth}{\includegraphics[width=.9\linewidth]{example-image-b}}\hfill
  \subcaptionbox{\cs{subcaptionbox} without a width\label{fig:example-c}}{%.25\linewidth}{\includegraphics[width=.25\linewidth]{example-image-c}}
  \caption{Three subfigures}\label{fig:example}
\end{figure}

\begin{table}
  \centering
  \caption{Two subtables}\label{tab:example}
  \begin{subtable}[t]{.3\linewidth}
    \centering
    \caption{The first}\label{tab:example-a}
    \begin{tabular}{lr} ... \end{tabular}
  \end{subtable}\hspace{2em}
  \begin{subtable}[t]{.3\linewidth}
    \centering
    \caption{The second}\label{tab:example-b}
    \begin{tabular}{lr} ... \end{tabular}
  \end{subtable}
\end{table}

\begin{subfigure}[\langle pos \rangle]{\langle width \rangle}, \begin{subtable}[\langle pos \rangle]{\langle width \rangle} A minipage of  $\langle width \rangle$  ( $\langle pos \rangle$ ):
  b by default, as in subcaption), inside which \caption and \caption* mean \subcaption and
  \subcaption*. The subcaption is put where \caption is given: above the contents in Table 1,
  where [t] aligns the subtables at the top.

\subcaption{\langle text \rangle}, \subcaption*{\langle text \rangle} A numbered or unnumbered subcaption, e.g. in a minipage.
  It is centered and set in \small. It is numbered with the counter of the float it is in: subfigure
  in a figure, subtable in a table.

\subcaptionbox{\langle caption \rangle}[\langle width \rangle]{\langle contents \rangle} Puts  $\langle contents \rangle$  centered in a minipage of  $\langle width \rangle$ ,
  followed by \subcaption{\langle caption \rangle}. Without  $\langle width \rangle$ , the natural width of  $\langle contents \rangle$  is used;
  with  $\langle width \rangle$ , \linewidth in  $\langle contents \rangle$  is  $\langle width \rangle$ . If  $\langle contents \rangle$  is wider than  $\langle width \rangle$ , the minipage
  keeps  $\langle width \rangle$ . Boxes are aligned at the bottom, and the subcaption is always below the contents.

\subref{\langle label \rangle}, \subref*{\langle label \rangle} Only the label of the subfigure or subtable, e.g. “(a)” (\subref*:
  without a link with hyperref). After a numbered subcaption, \label{\langle label \rangle} also writes the label
  sub@{\langle label \rangle}, as the subcaption package does.

\captionsetup[\langle type \rangle]{\langle options \rangle} Accepted and ignored, so that the settings for the caption package
  can be left in the document.

```

Numbering and references The counter subfigure is reset by figure, and subtable by table. \thesubfigure is (\alph{subfigure}) and \p@subfigure is \thefigure (likewise for subtable), so that \ref gives “1(a)” and “1(b)”, and \Cref of cleveref gives “Figure 1(b)” and “Table 1(a)”. With hyperref, each subfigure and subtable has its own anchor (\theHsubfigure, \theHsubtable).

The \caption of the float may come after the subcaptions (as in Fig. 1) or before them (as in Table 1). When a subcaption comes first, it steps the counter of the float in advance and the \caption that follows

does not step it again, as the `subcaption` package does; without this, the subfigures would get the number of the previous figure. A float with subcaptions and no `\caption` is numbered as well.

3 Customization

The following macros can be redefined in the class or in a local style (`\makeatletter` is needed in the preamble of a document).

Macro	Default
<code>\subcaption@font</code>	<code>\small</code>
<code>\subcaption@sep</code>	the space between the label and the text: <code>\hspace{.5zw}</code> with pTeX, <code>.5\zw</code> with LuaTeX-jā (or a class that defines <code>\zw</code>), <code>.5em</code> otherwise
<code>\subcaption@skip</code>	the space between the subfigure and its subcaption: <code>\vskip.25\baselineskip</code>

The engine is checked when the subcaption is typeset, so LuaTeX-jā may be loaded after `subcaptionlite`. The labels themselves are `\thesubfigure` and `\thesubtable`. For example,

```
\makeatletter
\renewcommand*\subcaption@font{\footnotesize\sffamily}
\renewcommand*\subcaption@sep{\enspace}
\makeatother
\renewcommand\thesubfigure{\alph{subfigure}}}
```

4 Errors and limitations

`\subcaption` outside float `\subcaption` (or `\subcaptionbox`) is used outside a float.

Float type ‘*<type>*’ has no subcaptions `\subcaption` (or `\subcaptionbox`) is used in a float other than `figure` and `table`, e.g. one defined by `newfloat`.

After either error, the subcaption is typeset without a number.

- Subcaptions are for figures and tables only.
- `subcaptionlite` cannot be used together with the `caption` or `subcaption` package.

5 Tests

`make test` compiles the test files (but `test-errors.tex`) twice with pdfLaTeX, XeLaTeX, LuaLaTeX, pLaTeX and upLaTeX (+ dvipdfmx) and checks the log. The helpers in `test-common.tex` check the label that `\label` would write, the references, the counters, the widths of the boxes, the anchors of `hyperref`, and that `\@makecaption` of the class is unchanged; the log must have `SCL-RESULT OK` and no error or warning. For `test-errors.tex`, the log must have the expected error message.

Test	What it covers
<code>test-basic.tex</code>	<code>subfigure</code> , <code>subtable</code> , <code>\subcaption</code> , <code>\subcaptionbox</code> , the caption of the float below/above the subcaptions or none, <code>figure*</code> , <code>\ref</code> , <code>\subref</code> , the label separator
<code>test-hyperref.tex</code>	<code>test-basic.tex</code> with <code>hyperref</code> (loaded after and before the package) and <code>cleveref</code>
<code>test-japanese.tex</code>	Japanese classes (<code>ltjsarticle</code> , <code>jsarticle</code> , <code>ujarticle</code>), LuaTeX-jā loaded after the package
<code>test-errors.tex</code>	the error messages

6 History

v1.0 (2026/10/26) First public release. Support every engine; add the `subtable` environment, subcaptions in tables and `\subref`; the default position of `subfigure` is `b`, as in `subcaption`; fix the figure number when the caption of the figure comes before the subcaptions, and after a figure whose subfigures follow its caption.

7 License

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