ABSTRACT

METHOD TO FORM AN L-SHAPED SILICON NITRIDE SIDEWALL SPACER

A new method of forming silicon nitride sidewall spacers has been achieved. This method is used to fabricate tapered, L-shaped spacer profiles using a two-step etching process that can be performed insitu. In accordance with the objects of this invention, a new method of forming silicon nitride sidewall spacers has been achieved. An isolation region is provided overlying a semiconductor substrate. Conductive traces are provided overlying the insulator layer. A liner oxide layer is deposited overlying the conductive traces and the insulator layer. A silicon nitride layer is deposited overlying the liner oxide layer. The silicon nitride layer is anisotropically etched down to reduce the vertical thickness of the silicon nitride layer while not exposing the underlying liner oxide layer. The silicon nitride layer is etched through to form silicon nitride sidewall spacers adjacent to the conductive traces. This etching through results in a tapered, L-shaped sidewall profile, and the integrated circuit device is completed.

(FIGURE 6 IS SUGGESTED FOR PUBLICATION)