

A Photolithography Method Based on Bilayer Photoresist

ABSTRACT

5 The present invention pertains to a photolithography method based on
bilayer photoresist, the method comprising the following steps: (1) applying
one layer of positive photoresist on a substrate and drying, then applying one
layer of negative photoresist on the positive photoresist and drying; (2)
exposing the two layers of photoresist using a photolithography mask with
10 mask patterns or through focused direct write under a source of exposure, and
then drying; (3) developing, with developer for negative photoresist, the
negative photoresist; (4) controllably developing, with developer for positive
photoresist, the positive photoresist; (5) forming patterns on the material of the
substrate through material deposition technology or etching technology; (6)
15 removing the photoresist. Compared with existing single-exposure
photolithography technology, the method of the present invention is simple and
a line width smaller than that of the conventional technology can be achieved
by pattern contouring. The method can be widely used in semiconductor
process and has extensive values of research and application.

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<Fig. 1>