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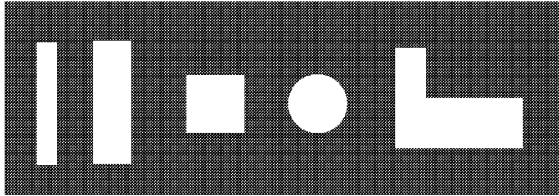
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(54) **Title:** PHOTOLITHOGRAPHY METHOD AND PHOTOLITHOGRAPHY SYSTEM

(54) 发明名称: 光刻方法及光刻系统

AA
曝光/掩膜图案



BB
得剥图案

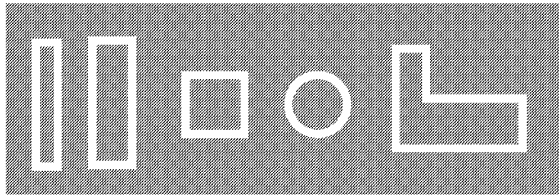


图4

AA Exposure/mask pattern
BB Obtain a pattern

(57) **Abstract:** The present invention relates to a photolithography method and a photolithography system. The method comprises the following steps: (1) forming a negative photoresist layer on a substrate material by means of using a negative photoresist, and forming a positive photoresist layer on the negative photoresist layer by means of using a positive photoresist; (2) patterning the negative photoresist layer and the positive photoresist layer, so as to respectively form a positive pattern region and a negative pattern region on the positive photoresist layer and the negative photoresist layer, wherein the positive pattern region is greater than the negative pattern region; (3) developing the positive adhesive layer by means of using a positive photoresist developing solution, so as to remove the positive photoresist from the positive pattern region; and (4) developing the negative photoresist layer by means of using a negative photoresist developing solution, so as to remove the negative photoresist in the vicinity of the negative pattern region, and then providing an exposure region related to the size of the positive pattern region and the negative pattern region, so as to expose the substrate

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根据细则4.17的声明:
— 关于申请人有权要求在先申请的优先权(细则4.17(iii))

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material. Compared with the existing photolithography technology, the photolithography method in the present invention is simpler, and realizes a smaller line width than the traditional technology by means of pattern contouring, and the method can be widely applied to a semiconductor process, and has wide research and application values.

(57) 摘要: 本发明涉及一种光刻方法及光刻系统, 该方法包括以下步骤: (1)在基底材料上利用负性光刻胶形成负胶层, 并利用正性光刻胶在负胶层上形成正胶层; (2)对负胶层和正胶层进行图形化, 从而在正胶层和负胶层上分别形成正图形区和负图形区, 其中, 正图形区大于负图形区; (3)用正胶显影液对正胶层进行显影, 以去除正图形区中的正性光刻胶; 以及(4)用负胶显影液对负胶层进行显影, 以去除位于负图形区附近的负性光刻胶, 进而提供与正图形区、负图形区的尺寸相关的暴露区, 以暴露基底材料。与现有的光刻技术相比, 本发明的光刻方法更简单, 通过图案轮廓化, 实现比传统技术更小的线宽, 该方法可广泛应用于半导体工艺, 并具有广泛研究和应用价值。