fabrication of integrated circuits from silicon wafers whereas micromachining is the production of three-dimensional structures, primarily from silicon wafers. This may be achieved by removal of material from the wafer or addition of material on or in the wafer. The attractions of microengineering may be summarized as batch fabrication of devices leading to reduced production costs, miniaturization resulting in materials savings, miniaturization resulting in faster response times and reduced device invasiveness. Wide varieties of techniques exist for the microengineering of wafers, and will be well known to the person skilled in the art. The techniques may be divided into those related to the removal of material and those pertaining to the deposition or addition of material to the wafer.

Examples of the former include:

[0052] Wet chemical etching (anisotropic and isotropic)

[0053] Electrochemical or photo assisted electrochemical etching

[0054] Dry plasma or reactive ion etching

[0055] Ion beam milling

[0056] Laser machining

[0057] Eximer laser machining

[0058] Whereas examples of the latter include:

[0059] Evaporation

[0060] Thick film deposition

[0061] Sputtering

[0062] Electroplating

[0063] Electroforming

[0064] Moulding

[0065] Chemical vapour deposition (CVD)

[0066] Epitaxy

[0067] These techniques can be combined with wafer bonding to produce complex three-dimensional, examples of which are the ion guides devices provided by the present invention.

[0068] Where the words "upper", "lower", "top", bottom, "interior", "exterior" and the like have been used, it will be understood that these are used to convey the mutual arrangement of the substrates and their supported features relative to one another and are not to be interpreted as limiting the invention to such a configuration where for example a surface designated a top surface is not above a surface designated a lower surface.

[0069] Furthermore, the words comprises/comprising when used in this specification are to specify the presence of stated features, integers, steps or components but does not preclude the presence or addition of one or more other features, integers, steps, components or groups thereof.

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