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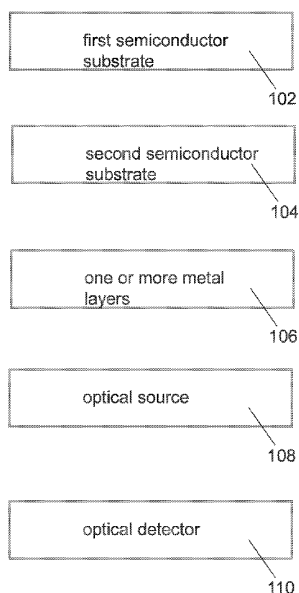
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- (54) **Title:** CHEMICAL SENSOR AND METHOD OF FORMING THE SAME

FIG. 1



(57) **Abstract:** Various embodiments may provide a chemical sensor. The chemical sensor may include a first semiconductor substrate. The chemical sensor may also include a second semiconductor substrate. The chemical sensor may further include one or more metal layers between the first semiconductor substrate and the second semiconductor substrate such that the first semiconductor substrate, the second semiconductor substrate and the one or more metal layers form a cell including a cavity, the cavity having a depth of any value equal to or less than 100 μm . The chemical sensor may also include an optical source. The chemical sensor may additionally include an optical detector such that light emitted by the optical source passes through the cell to the optical detector. The first semiconductor substrate, the second semiconductor substrate and the one or more metal layers may also define at least one inlet for fluid to flow into the cavity and at least one outlet for fluid to flow out of the cavity.

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