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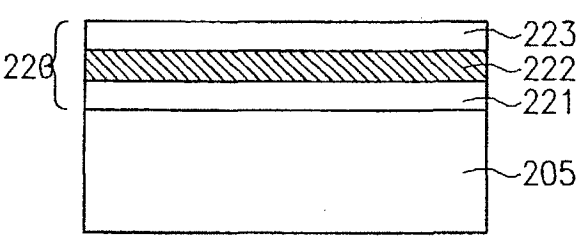
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(54) Title: METHOD FOR FORMING AN IMPROVED METAL SILICIDE CONTACT TO A SILICON-CONTAINING CONDUCTIVE REGION



(57) Abstract: A layer stack (220) comprising at least three material layers (221, 222, and 223) is provided on a silicon-containing conductive region to form a silicide portion (208) on and in the silicon-containing conductive region, wherein the layer (221) next to the silicon provides the metal atoms for the silicide reaction, the intermediate layer (222) is a metal-nitrogen-compound formed by supplying a nitrogen containing as during deposition, and for formation of the top layer (223), supply for said gas is discontinued. The method may be carried out as an *in situ* method, thereby significantly improving throughput and deposition tool performance compared to typical prior art processes, in which at least two deposition chambers have to be used