LASER ACTIVATION OF IMPLANTED CONTACT PLUG FOR MEMORY BITLINE FABRICATION

Abstract

An example method of forming a bitline contact region and bitline contact plug for a memory device using a laser irradiation activation process. An example embodiment comprises: providing a substrate having a logic region and a SONOS memory region. We form in the memory region, a memory transistor. We form an ILD dielectric layer over the substrate surface. We form a contact opening in the ILD dielectric layer over the memory Drain in the memory area. We etch an opening in the substrate in the drain region adjacent to the memory gate electrode. We perform a bitline contact plug implant to from a doped contact region . We activate the doped contact region to form an activated doped contact region using a laser irradiation process.

Figure 3