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(71) Applicant *(for all designated States except US)*: **MEMC ELECTRONIC MATERIALS, INC.** [US/US]; 501 Pearl Drive, St. Peters, Missouri 63376 (US).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: **RIES, Michael J.** [US/US]; c/o MEMC Electronic Materials, Inc., 501 Pearl Drive, St. Peters, Missouri 63376 (US). **STANDLEY, Robert W.** [US/US]; c/o MEMC Electronic Materials, Inc., 501 Pearl Drive, St. Peters, Missouri 63376 (US). **LIBBERT, Jeffrey L.** [US/US]; c/o MEMC Electronic Materials, Inc., 501 Pearl Drive, St. Peters, Missouri 63376 (US). **JONES, Andrew M.** [US/US]; c/o MEMC Electronic Materials, Inc., 501 Pearl Drive, St. Peters, Missouri 63376 (US). **WILSON, Gregory M.** [US/US]; c/o MEMC Electronic Materials, Inc., 501 Pearl Drive, St. Peters, Missouri 63376 (US).

(74) Agents: **MUNSELL, Michael G.** et al.; Armstrong Teasdale LLP, One Metropolitan Square, 26th Floor, St. Louis, Missouri 63102 (US).

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(54) Title: METHOD FOR PROCESSING A SILICON-ON-INSULATOR STRUCTURE

FIG. 1A

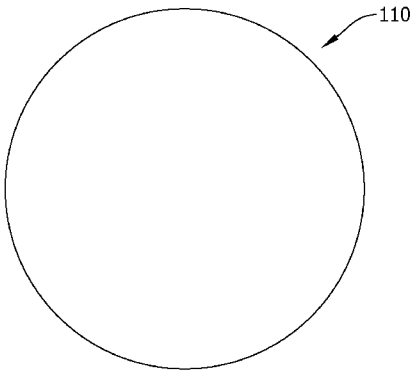
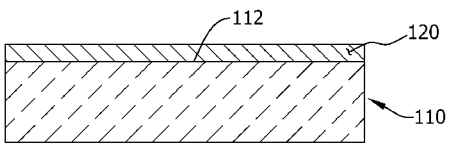


FIG. 1B



(57) Abstract: A method is disclosed for processing the cleaved surface of a silicon-on-insulator structure. The silicon-on-insulator structures comprises a handle wafer, a silicon layer, and a dielectric layer between the handle wafer and the silicon layer. The silicon layer has a cleaved surface defining an outer surface of the structure. The methods disclosed include an etching process to reduce the time and cost required to process the silicon-on-insulator structure to remove the surface damage and defects formed when a portion of the donor wafer is separated along a cleave plane from the silicon-on-insulator structure. The method includes, annealing the structure, etching the cleaved surface, and performing a non-contact smoothing process on the cleaved surface.

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