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(54) **Title:** PROCESS FOR FABRICATING A SUBSTRATE OF THE SILICON-ON-INSULATOR TYPE

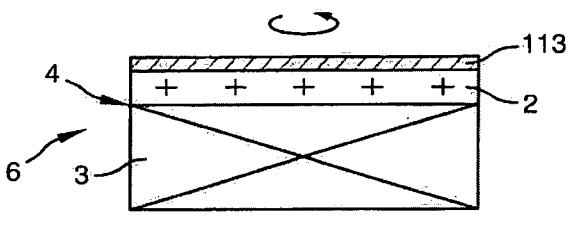


FIG. 3H

(57) **Abstract:** The invention relates to a process for fabricating a substrate (6) of the SOI (silicon on insulator) type, which comprises steps of bonding and transferring layers for obtaining a semifinished SOI substrate comprising a silicon substrate (3) covered with a silicon dioxide layer (2) and with a thick silicon layer having a thickness of greater than 150 ran. This process is noteworthy in that it comprises the following finishing steps: a) thinning of said thick silicon layer so as to obtain a thin silicon layer (112) having a smaller thickness than said thick layer but greater than 150 nm; b) long annealing in a gaseous atmosphere comprising hydrogen and/or argon; and c) thinning of said thin silicon layer (112), so as to obtain said SOI substrate (6) comprising said silicon substrate (3) covered with the silicon dioxide layer (2) and with an ultrathin silicon layer having a thickness of 150 nm or less.