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(71) Applicant (for all designated States except US):
S.O.I.TEC SILICON ON INSULATOR TECHNOLOGIES [FR/FR]; Chemin Des Franques, Parc Technologique des Fontaines, F-38190 Bernin (FR).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **NEYRET, Eric** [FR/FR]; 7 rue F. Gerin, F-38360 Sassenage (FR).
BOEDT, François [FR/FR]; 3 Allées des Frenes, F-38240 Meylan (FR).

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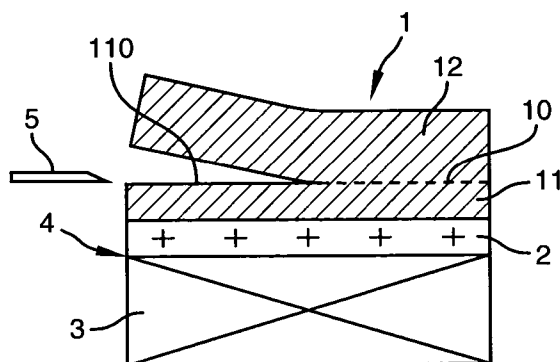
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(54) Title: PROCESS FOR FABRICATING A SUBSTRATE OF THE SILICON-ON-INSULATOR TYPE

FIG. 3D



(57) Abstract: The invention relates to a process for fabricating a substrate (6) of the SOI (silicon on insulator) type, comprising a thin silicon layer (11), the surface roughness of which is uniform, and a buried SiO₂ layer, the thickness of which is uniform. This process is noteworthy in that it comprises the following steps, consisting in: a) atomic or ionic species are co-implanted which in a silicon donor substrate (1), so as to form therein a weakened zone (10) which forms the boundary between said thin layer (11) and a remainder (12); b) this donor substrate (1) is bonded to a substrate (3) by molecular adhesion, a layer (2) of silicon oxide being interposed between the two; c) and/or said remainder (12) is detached along the weakened zone (10), mainly mechanically; and d) carrying out at least one finishing step on said thin silicon layer (11) by long thermal annealing, in a gaseous atmosphere of hydrogen and/or argon, at a temperature of at least 950°C but not exceeding 1100°C.