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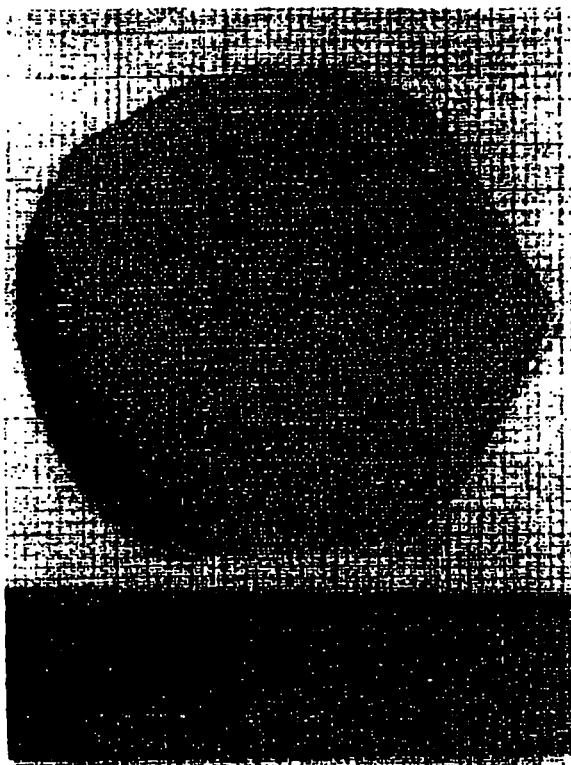
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(54) Title: III-V NITRIDE SUBSTRATE BOULE AND METHOD OF MAKING AND USING THE SAME



(57) Abstract: A boule formed by high rate vapor phase growth of Group III-V nitride boules (ingots) on native nitride seeds (Figure 1), from which wafers may be derived for fabrication of microelectronic structures (Figure 5). The boule is of microelectronic device quality, e.g., having a transverse dimension greater than 1 centimeter, a length greater than 1 millimeter, and a top surface defect density of less than 10^7 defects cm^{-2} . The Group III-V nitride boule may be formed by growing a Group III-V nitride material on a corresponding native Group III-V nitride seed crystal by vapor phase epitaxy at a growth rate above 20 micrometers per hour.

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