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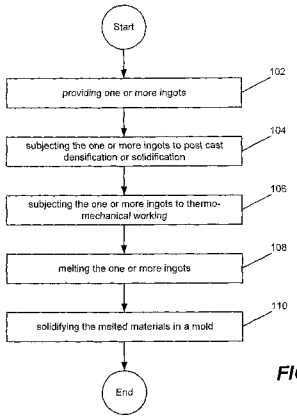


FIG. 1

(57) Abstract: In one example embodiment, a sputter target structure for depositing semiconducting chalcogenide films is described. The sputter target includes a target body comprising at least one chalcogenide alloy having a chalcogenide alloy purity of at least approximately 2N7, gaseous impurities less than 500 ppm for oxygen (O), nitrogen (N), and hydrogen (H) individually, and a carbon (C) impurity less than 500 ppm. In a particular embodiment, the chalcogens of the at least one chalcogenide alloy comprises at least 20 atomic percent of the target body composition, and the chalcogenide alloy has a density of at least 95 % of the theoretical density for the chalcogenide alloy.

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