atop the sacrificial substrate, forming a silicon film atop the doped silicon layer, forming ~~a plurality of interdigitated contacts on the silicon film, contacting each of the plurality of interdigitated contacts with a metal contact, and removing the sacrificial layer.~~an oxide layer on the silicon film; forming alternating P-type and N-type doped regions on the oxide layer; contacting each of the P-type and N-type doped regions with a metal contact; and removing the sacrificial layer and the silicon substrate.

**[0005]** Another method of fabricating a solar cell is disclosed. The method comprises the steps of forming a sacrificial layer on a top surface of a silicon substrate, processing the exposed surface of the sacrificial layer to form a textured surface, forming a heavily doped silicon layer atop the textured surface of the sacrificial layer~~substrate~~, forming a lesser doped silicon layer atop the heavily doped silicon layer, epitaxially growing a silicon film atop the lesser doped silicon layer, forming alternating P-type and N-type doped regions over the silicon film; contacting each of the P-type and N-type doped regions with a metal contact; bonding a back side of the solar cell to a carrier~~an interdigitated contact structure atop the silicon film, bonding the silicon film to a carrier~~, separating the heavily doped silicon layer from the silicon substrate by removing the sacrificial layer, debonding the silicon film from the carrier, and forming an anti-reflective coating over the heavily doped silicon layer.

**[0006]** Yet another method of fabricating a solar cell is disclosed. The method comprises forming a sacrificial layer on a silicon substrate, forming a doped silicon layer atop the sacrificial substrate, forming a silicon film atop the doped silicon layer, forming a plurality of interdigitated contacts on the silicon film, and separating the doped silicon layer from the silicon substrate.

**[0007]** This summary is provided to introduce a selection of concepts in a simplified form that are further described below in the detailed description. This summary is not intended to identify key features or essential features of the claimed subject matter, nor is it intended to be used as an aid in determining the scope of the claimed subject matter.

## BRIEF DESCRIPTION OF THE DRAWINGS

**[0008]** A more complete understanding of the subject matter may be derived by referring to the detailed description and claims when considered in conjunction with the following figures, wherein like reference numbers refer to similar elements throughout the figures.

**[0009]** FIG. 1 is a cross-sectional view of a thin silicon solar cell in accordance with an embodiment of the invention;

**[0010]** FIGS. 2-11 are cross-sectional representations of a solar cell being fabricated in accordance with an embodiment of the invention;