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(54) Title: AVALANCHE PHOTODIODE

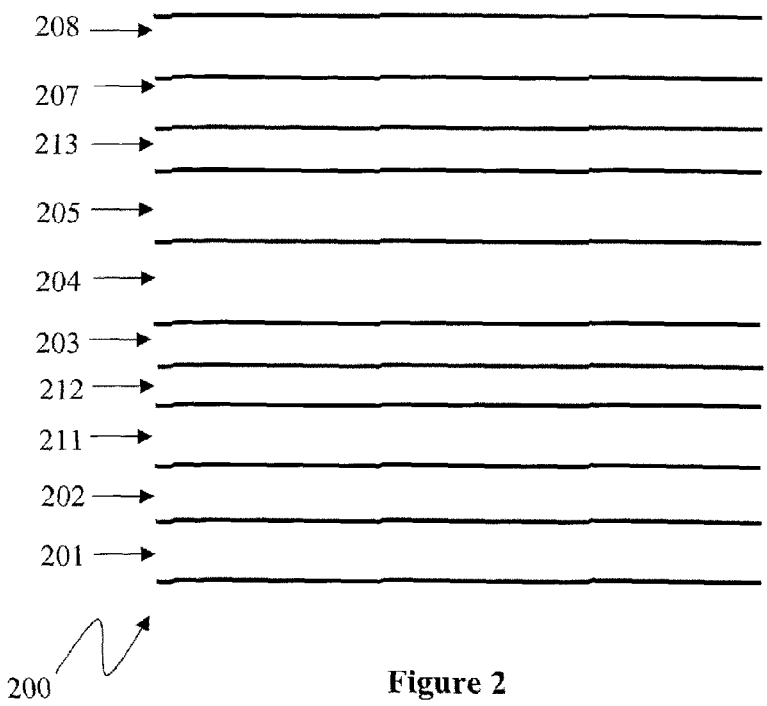

Figure 2

(57) Abstract: A single carrier avalanche photodiode (200) comprising a p-doped absorption layer (213), an unintentionally doped avalanche multiplication layer (203) and an n-doped collector layer (211) and a method of manufacturing said avalanche photodiode. The absorption layer is doped at a level that allows the photodiode to operate as a single carrier device. Therefore total delay time of the device is mainly dependent on electrons. The collector layer is in charge of reducing capacitance in the device. A built-in field layer (212) of n+ δ doped material may be provided between the two layers in order to improve the injection of electrons in the collector layer.

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