ABSTRACT

A semiconductor epitaxial substrate, characterized in that a crystal is formed by epitaxial growth on a gallium arsenide single crystal substrate whose crystallographic plane azimuth is slanted from that of one of {100} planes at an angle of not more than 1°, that at least part of the epitaxial crystal is an $In_xGa_{(1-x)}As$ crystal (wherein $0<x<1$), and that the epitaxial growth is carried out by chemical vapor deposition.

Since the $In_xGa_{(1-x)}As$ layer has reduced microscopic unevenness and reduced variation in thickness, the epitaxial substrate of the present invention can be used as a channel layer of a field effect transistor or as an active layer of a semiconductor laser to endow these devices with excellent characteristics.

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