

ABSTRACT OF THE DISCLOSURE

5 A compound semiconductor substrate and a compound semiconductor device with high quality is provided.
The compound semiconductor substrate includes a Si substrate with O concentration of $3 \times 10^{17}/\text{cm}^3$ or more and
10 $3 \times 10^{18}/\text{cm}^3$ or less, a SiC layer formed on the Si substrate, a first nitride semiconductor layer made of $\text{Al}_x\text{Ga}_{1-x}\text{N}$ ($0.1 \leq x \leq 1$), formed on the SiC layer and including an insulating or semi-insulating layer, a second nitride semiconductor layer formed on the first nitride semiconductor layer and containing a C-GaN layer, and an electronic traveling layer
10 formed on the second nitride semiconductor layer and comprising of $\text{Al}_z\text{Ga}_{1-z}\text{N}$ ($0 \leq z < 0.1$). The sum total thickness of the first nitride semiconductor layer, the second nitride semiconductor layer and the electronic traveling layer is 6 micrometers or more and 10 micrometers or less.

FIG. 1