Title of the Invention

BOTTOM GATE THIN FILM TRANSISTOR, METHOD OF PRODUCING THE TRANSISTOR, AND DISPLAY DEVICE

Abstract of the Disclosure

In the production of channel etch type bottom gate thin film transistors, etching damage in a channel etch step is prevented to improve the transistor performance. The channel etch is performed using non-ionic excited species, such as hydrogen radicals and fluorine radicals, generated by contact-decomposition reaction which utilizes a metal heated by electric resistance heating. Alternatively, in place of the channel etch, a portion of the source/drain semiconductor thin film immediately above the channel is nitrided by a non-ionic nitrogen-containing decomposition product that is produced by contacting molecules of a chemical substance containing nitrogen atoms with a metal heated by electric resistance heating to decompose the chemical molecules.

Fig. 1