HIGH GROWTH RATE PROCESS FOR CONFORMAL ALUMINUM NITRIDE

ABSTRACT

Methods of depositing conformal aluminum nitride films on semiconductor substrates are provided. Disclosed methods involve (a) exposing a substrate to an aluminum-containing precursor, (b) purging the aluminum-containing precursor for a duration insufficient to remove substantially all of the aluminum-containing precursor in gas phase, (c) exposing the substrate to a nitrogen-containing precursor to form aluminum nitride, (d) purging the nitrogen-containing precursor, and (e) repeating (a) through (d). Increased growth rate and 100% step coverage and conformality are attained.

Fig. 1