

Supplemental Document

The PEALD/MLD hybrid process method was configured as follows. The SiN_x film was fabricated through a PEALD process using TICS and N_2 Plasma. Subsequently, low-k SiCNO was fabricated through the MLD process linkage through surface oxidation of the Phl. organic precursor on the SiN_x surface. XPS has been used for analyzing SiCNO film composition.

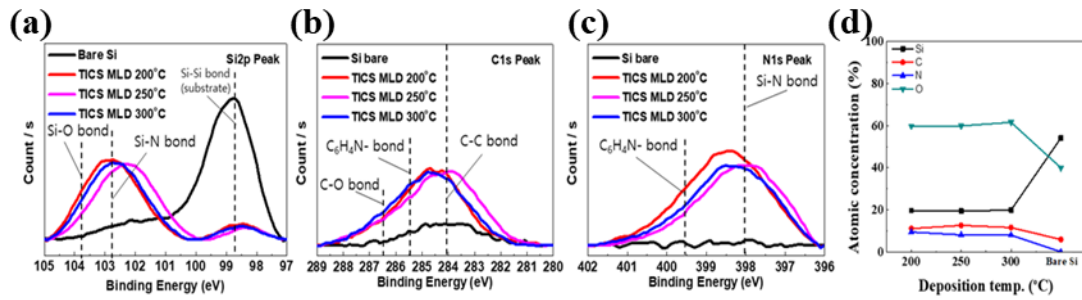


Figure 1. To confirm the composition ratio in the thin film, XPS (a) Si 2p, (b) C1s, (c) N1s peak intensities were analyzed, and (d) composition according to process temperature was summarized.