

INTEGRATING ATOMIC SCALE PROCESSES: ALD (ATOMIC LAYER DEPOSITION) AND ALE (ATOMIC LAYER ETCH)

ABSTRACT

Methods are provided for integrating atomic layer etch and atomic layer deposition by performing both processes in the same chamber or reactor. Methods involve sequentially alternating between atomic layer etch and atomic layer deposition processes to prevent feature degradation during etch, improve selectivity, and encapsulate sensitive layers of a semiconductor substrate.