VAPOR DEPOSITION ROUTES TO NANOPOROUS SILICA

ABSTRACT

A process for the manufacture of nanoporous silica dielectric films by vapor deposition of silica precursors on a substrate. The process provides for vaporizing at least one alkoxysilane composition; depositing the vaporized alkoxysilane composition onto a substrate; exposing the deposited alkoxysilane composition to a water vapor, and either an acid or a base vapor; and drying the exposed alkoxysilane composition, thereby forming a relatively high porosity, low dielectric constant, silicon containing polymer composition on the substrate.

Figure 1



