

ADVANCED FUNCTIONAL MATERIALS

FLUORINATED GRAPHENE

The unstable germanium oxide formed at the interface between the channel and dielectric layer has impeded the progress of Ge-based nanoelectronics for more than 60 years. On page 1805, W. Ren, Z. Di, and co-workers integrate fluorinated graphene as an effective diffusion barrier layer to suppress the formation of unstable interfacial oxide between HfO_2 gate oxide and Ge channel, thus obtaining the well-behaved Ge based MOS device with negligible C-V hysteresis, extremely low leakage, and superior equivalent oxide thickness.

