

Partial Replacement Silicide Gate

ABSTRACT OF THE DISCLOSURE

A method of forming fully silicide gates having uniform gate silicide thickness is presented. A gate dielectric is formed over a substrate. A silicon-containing layer is formed over the gate dielectric. A dielectric layer is formed over the silicon-containing layer. A top layer is formed over the dielectric layer. The gate dielectric, the silicon-containing layer, the dielectric layer, and the top layer are patterned into a gate stack. A spacer is formed along an edge of the gate stack. The top layer and the dielectric layer are removed. A metal layer is deposited on the silicon-containing layer and silicided.

Fig. 16