SILICIDED RECESSED SILICON

ABSTRACT

Methods and structures are provided for full silicidation of recessed silicon. Silicon (52) is provided within a trench (50). A mixture of metals (55) is provided over the silicon (52) in which one of the metals diffuses more readily in silicon than silicon does in the metal, and another of the metals diffuses less readily in silicon than silicon does in the metal. An exemplary mixture includes 80% nickel and 20% cobalt. The silicon (52) within the trench (50) is allowed to fully silicide (56) without void formation, despite a relatively high aspect ratio for the trench (50). Among other devices, recessed access devices (RADs) can be formed by the method for memory arrays (10).

FIGURE 9