Resistor With Reduced Leakage

ABSTRACT

A resistor 100 is formed in a semiconductor layer 106, e.g., a silicon layer on an SOI substrate. A body region 108 is formed in a portion of the semiconductor layer 106 and is doped to a first conductivity type (e.g., n-type or p-type). A first contact region 110, which is also doped to the first conductivity type, is formed in the semiconductor layer 106 adjacent the body region 108. A second contact region 112 is also formed in the semiconductor layer 106 and is spaced from the first contact region 110 by the body region 108. A dielectric layer 116 overlies the body region and is formed from a material with a relative permittivity greater than about 8. An electrode 114 overlies the dielectric 116.

(FIG. 2)