

Silicide/Semiconductor Structure and Method of Fabrication

ABSTRACT OF THE DISCLOSURE

A preferred embodiment of the present invention comprises a dielectric/metal/ 2^{nd} energy bandgap (E_g) semiconductor/ 1^{st} E_g substrate structure. In order to reduce the contact resistance, a semiconductor with a lower energy bandgap (2^{nd} E_g) is put in contact with metal. The energy bandgap of the 2^{nd} E_g semiconductor is lower than the energy bandgap of the 1^{st} E_g semiconductor and preferably lower than 1.1eV. In addition, a layer of dielectric may be deposited on the metal. The dielectric layer has built-in stress to compensate for the stress in the metal, 2^{nd} E_g semiconductor and 1^{st} E_g substrate. A process of making the structure is also disclosed.

(FIG. 1)