

# Abstract

## Novel Co/Ni Bi-layer Salicidation for 45nm Gate Technology

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We present the novel concept of “bi-layer metal salicidation” by using Co/Ni stacked films, which showed better film chemical and plasma resistance than pure NiSi. NFET device performance demonstrates 5%  $I_{dsat}/I_{off}$  (100nA) improvement and no degradation in terms of sheet resistance, junction leakage and isolation than pure NiSi. We also prove the approach can be implemented easily to manufacturing with conventional post salicide process similar to  $CoSi_2$  for 45nm gate technology and below.

