

## HiSIM1.1.0 Release Note (June 30, 2002)

Model updated:

I) Add shallow-trench-isolation (STI) leakage current model.

II) Add lateral-field-induced-capacitance (Cqy) model.

Also inner-fringing capacitance model is deleted.

Re: model parameter, add XQY and delete XJ.

III) Improve resistance model by potential barrier due to pocket implantation

Re: Rpock related model parameter, add new parameters RPOCP1, RPOCP2

Other detail comments

1) Redefine flag for Isub (coisub), IGIDL (cogidl), Igate (coiigs).

(when "coxxxx == 0" --> without Ixxx, otherwise with Ixxx)

2) Re: coding, lines for Egp12 and Egp32 equations are moved.

(Since the both equations are used in "routine" as well as GIDL computation)

3) Delete outer-fringing capacitance calculation in Meyer's capacitance model.

4) Numerical limitation is defined in quantum mechanical effect model @ high Vgs.

5) Default value change of qme\_dlt in quantum mechanical effect model.

(1.0e-2 --> 1.0e-9)

6) Default value of pol\_dlt in poly gate depletion model is changed.

(1.0e-2 --> 2.0e-1)

7) T8 equations in Ed-calculation routine are modified.

8) Modify equations in constant capacitance calculation routine.

(Qgod\_dVbse = 0.0, Qgod\_dVdse = 0.0) → (Qgos\_dVbse = 0.0, Qgos\_dVdse = 0.0)

9) Correct (change) "unit control parameter".

clm2 /= C\_m2cm --> clm2(no scaling)

gidl1 /= C\_m2cm --> \*= C\_m2cm\_p1o2

gleak1 /= C\_m2cm --> gleak1(no scaling)