

Original Code (line 558 in b3soiacl.d.c):

```
*(here->B3SOIDPbPtr +1) -= xcdgb + xcddb + xcdsb + xcdeb;
```

Fixed to:

```
*(here->B3SOIDPbPtr +1) -= xcdgb + xcddb + xcdsb + xcdeb  
+ xcdgmb; /* v3.2 bug fix */
```

Original Code (line 559 in b3soiacl.d.c):

```
*(here->B3SOISPbPtr +1) -= xcsgb + xcldb + xcspb + xcseb;
```

Fixed to:

```
*(here->B3SOISPbPtr +1) -= xcsgb + xcldb + xcspb + xcseb  
+ xcsgmb; /* v3.2 bug fix */
```

2. vgd/vgs replaced by vgmD/vgms for RgateMod=3

Original Code (line 4613 in b3soild.c)

```
T0 = vgd + DELTA_1;
```

Fixed to:

```
T0 = vgd + DELTA_1;  
if (here->B3SOIrgateMod == 3) T0 = vgmD + DELTA_1;  
/* v3.2 bug fix */
```

Original Code (line 4623 in b3soild.c):

```
qgdo = (pParam->B3SOIcgdo + T3) * vgd - T3 * (T2  
+ 0.5 * pParam->B3SOIckappa * (T4 - 1.0));
```

Fixed to:

```
qgdo = (pParam->B3SOIcgdo + T3) * vgd - T3 * (T2  
+ 0.5 * pParam->B3SOIckappa * (T4 - 1.0));  
if (here->B3SOIrgateMod == 3) {  
qgdo = (pParam->B3SOIcgdo + T3) * vgmD - T3 * (T2  
+ 0.5 * pParam->B3SOIckappa * (T4 - 1.0));  
} /* v3.2 bug fix */
```

Original Code (line 4626 in b3soild.c)

```
T0 = vgs + DELTA_1;
```

Fixed to:

```
T0 = vgs + DELTA_1;  
if (here->B3SOIrgateMod == 3) T0 = vgms + DELTA_1;  
/* v3.2 bug fix */
```

Original Code (line 4636 in b3soild.c):

```
qgso = (pParam->B3SOIcgso + T3) * vgs - T3 * (T2  
+ 0.5 * pParam->B3SOIckappa * (T4 - 1.0));
```

Fixed to:

```
qgso = (pParam->B3SOIcgso + T3) * vgs - T3 * (T2  
+ 0.5 * pParam->B3SOIckappa * (T4 - 1.0));  
if (here->B3SOIrgateMod == 3) {  
qgso = (pParam->B3SOIcgso + T3) * vgms - T3 * (T2  
+ 0.5 * pParam->B3SOIckappa * (T4 - 1.0));  
} /* v3.2 bug fix */
```

3. here->B3SOIqinv for CapMod=2

Original Code (line 3801 in b3soild.c):

```
qinv = CoxWL * (Vgsteff - 0.5 * T0 + T3);
```

Fixed to:

```
qinv = CoxWL * (Vgsteff - 0.5 * T0 + T3);  
here->B3SOIqinv = -qinv; /* for noise v3.2 */
```

4. Calculation of gcegb is removed in b3soild.c

Original code line 4857 in b3soild.c is removed

*gcegb = (-pParam->B3SOIcgeo) * ag0; is removed because of redundant*

5. gcegmb term is removed in ceqqb calculation

Original code (line 4987 in b3soild.c):

```
ceqqb = cqbody - gcbgb * vgb + gcbdb * vbd + gcbsb * vbs  
- gcbeb * veb - gcbT * delTemp - gcegmb * vgme;
```

Fixed to:

```
ceqqb = cqbody - gcbgb * vgb + gcbdb * vbd + gcbsb * vbs  
- gcbeb * veb - gcbT * delTemp; /* v3.2 bug fix */
```

6. vgme replaced by vgmb in ceqqd

Original code (line 4989 in b3soild.c):

```
ceqqd = cqdrn - gcdgb * vgb + gcddb * vbd + gcdsb * vbs  
- gcdeb * veb - gcdT * delTemp - gcdgmb * vgme;
```

Fixed to:

```
ceqqd = cqdrn - gcdgb * vgb + gcddb * vbd + gcdsb * vbs  
- gcdeb * veb - gcdT * delTemp - gcdgmb * vgmb;  
- /* 3.2 bug fix */
```

7. gcegmb term is added in ceqqe

Original code (line 4992 in b3soild.c):

```
ceqqe = cqsub - gcegb * vgb + gcedb * vbd + gcesb * vbs  
- gceeb * veb - gceT * delTemp;
```

Fixed to:

```
ceqqe = cqsub - gcegb * vgb + gcedb * vbd + gcesb * vbs  
- gceeb * veb - gceT * delTemp - gcegmb * vgmb;  
/* 3.2 bug fix */
```

8. vgme replaced by vgmb in ceqqgmid

Original code (line 4998 in b3soild.c):

```
ceqqgmid = *(ckt->CKTstate0 + here->B3SOIcggmid)  
+ gcgmdb * vbd + gcgmsb * vbs - gcgmgmb * vgme;
```

Fixed to:

```
ceqqgmid = *(ckt->CKTstate0 + here->B3SOIcggmid)  
+ gcgmdb * vbd + gcgmsb * vbs - gcgmgmb * vgmb;  
/* 3.2 bug fix */
```

9. rbody clamping value changed

Original code (line 5592):

```
if (pParam->B3SOIrbod < 1e-30)  
{  
    if (here->B3SOIrbodext <= 1e-30)  
        T0 = 1.0 / 1e-30;  
    else  
        T0 = 1.0 / here->B3SOIrbodext;  
    lbp = Vbp * T0;  
    Gbps = T0 * dVbp_dVb;  
    Gbps = -T0 * dVbp_dVb;  
} else
```

Fixed to:

```
if (pParam->B3SOIrbod < 1e-3) /* 3.2 bug fix */  
{  
    if (here->B3SOIrbodext <= 1e-3) /* 3.2 bug fix */  
        T0 = 1.0 / 1e-3; /* 3.2 bug fix */  
    else  
        T0 = 1.0 / here->B3SOIrbodext;  
    lbp = Vbp * T0;  
    Gbps = T0 * dVbp_dVb;  
    Gbps = -T0 * dVbp_dVb;  
} else
```

10. pParam->B3SOIacde wrong position

Original code:

```
pParam->B3SOIacde = pParam->B3SOIacde *  
                    pow((pParam->B3SOInpeak / 2.0e16), -0.25);  
should be moved to right below acde binning:
```

Fixed to:

```
pParam->B3SOIacde = model->B3SOIacde  
                  + model->B3SOIacde * Inv_L  
                  + model->B3SOIwacde * Inv_W  
                  + model->B3SOIpacde * Inv_LW;  
pParam->B3SOIacde = pParam->B3SOIacde *  
                    pow((pParam->B3SOInpeak / 2.0e16), -0.25);  
/* v3.2 bug fix */
```

11. dAbulk_dVg is added when Abulk < 0.01

Original code line 1824 in b3soild.c

```
if (Abulk < 0.01)  
{  
    T9 = 1.0 / (3.0 - 200.0 * Abulk);  
    Abulk = (0.02 - Abulk) * T9;  
    dAbulk_dVb *= T9 * T9;  
}
```

Fixed to:

```
if (Abulk < 0.01)  
{  
    T9 = 1.0 / (3.0 - 200.0 * Abulk);  
    Abulk = (0.02 - Abulk) * T9;  
    dAbulk_dVb *= T9 * T9;  
    T10 = T9 * T9; /* 3.2 bug fix */  
    dAbulk_dVg *= T10; /* 3.2 bug fix */  
}
```