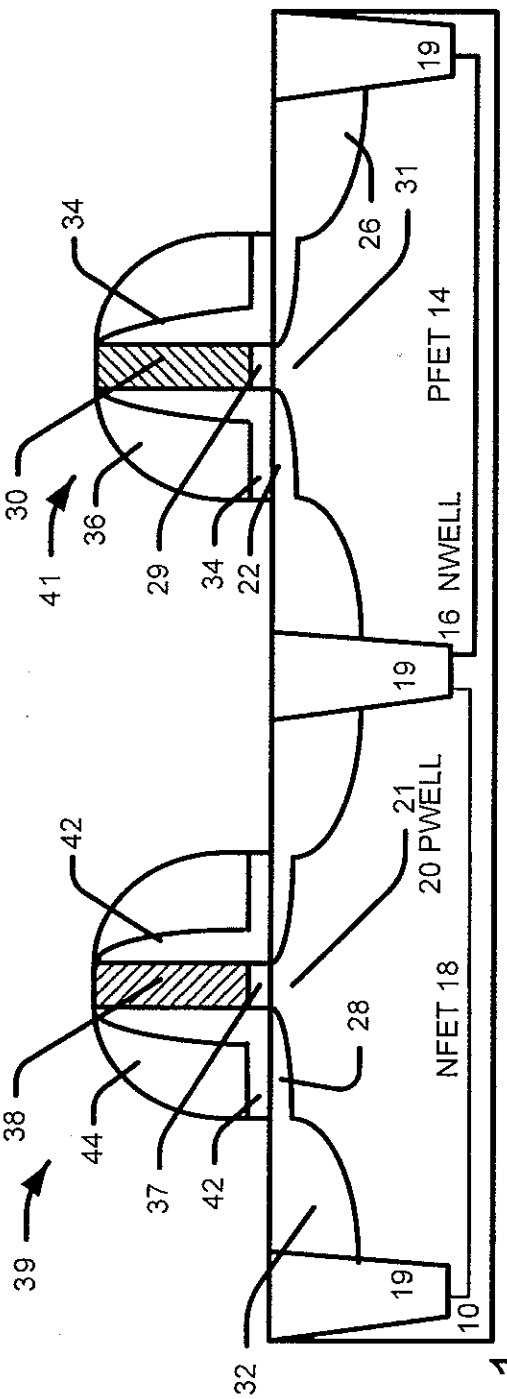

19
34
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41
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34
22
PFET 14
16 NWELL
19
21
20 PWELL
42
NFET 18
28
38
44
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19
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32

FIG. 1

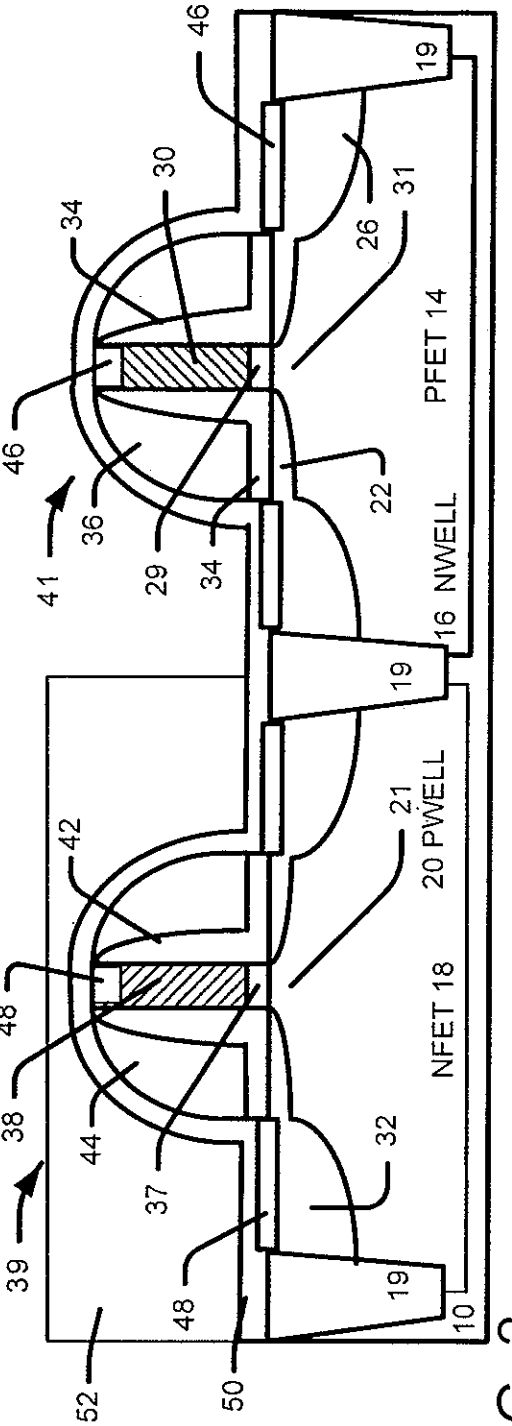

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PFET 14
16 NWELL
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20 PWELL
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NFET 18
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FIG. 2

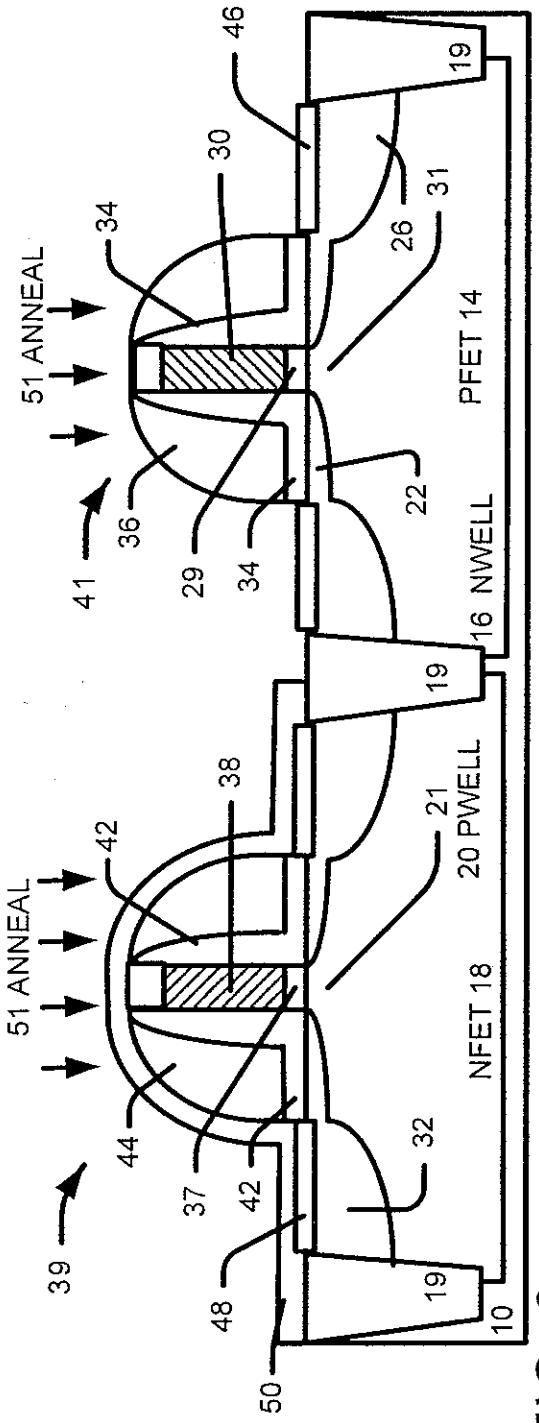

51 ANNEAL
51 ANNEAL
39
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42
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PFET 14
NFET 18
16 NWELL
20 PWELL
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19
10

FIG. 3

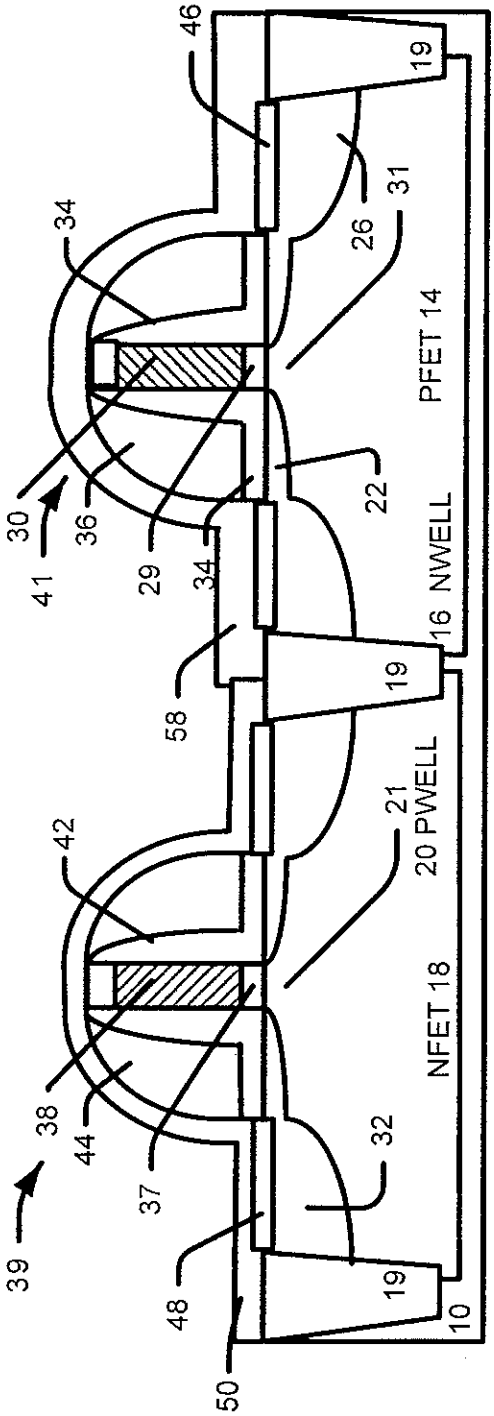

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PFET 14
NFET 18
16 NWELL
20 PWELL
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19
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FIG. 4

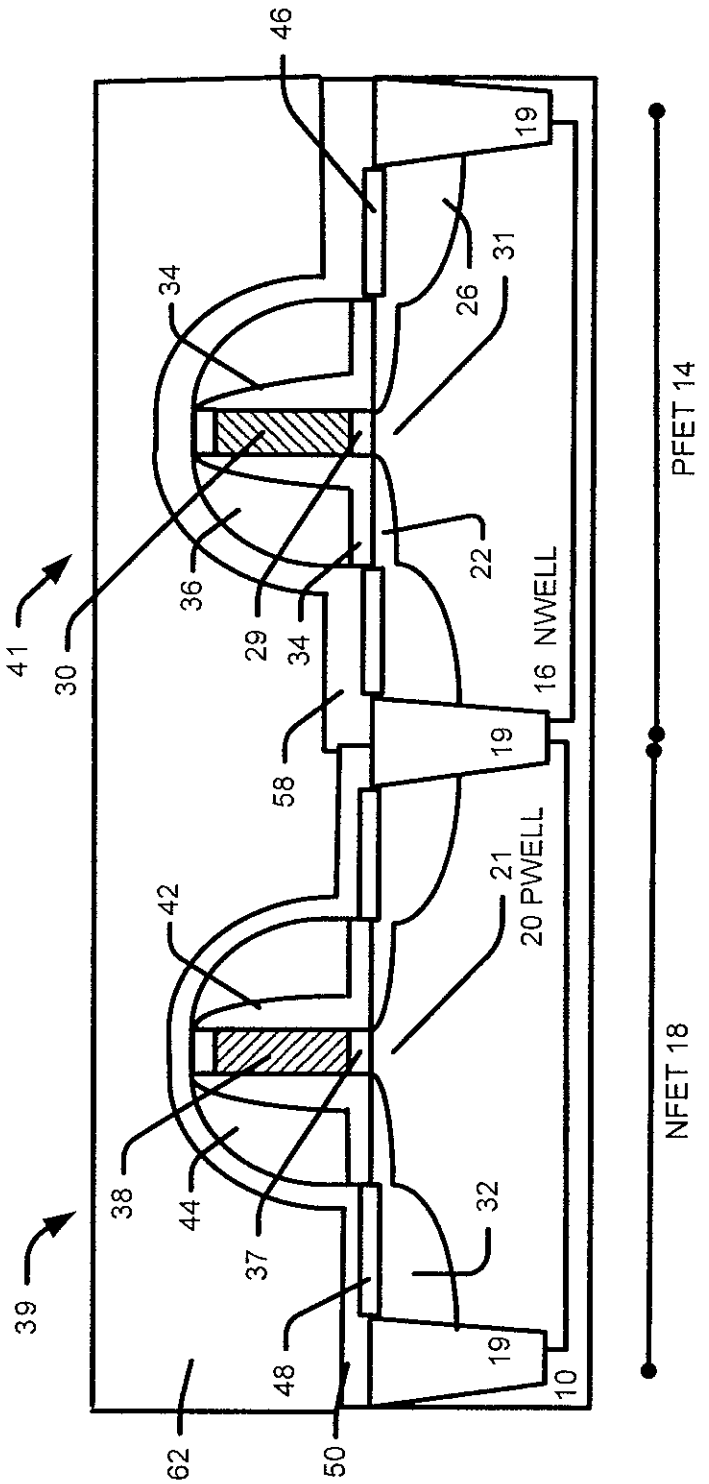

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16 NWELL
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20 PWELL
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62
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PFET 14
NFET 18

FIG. 5

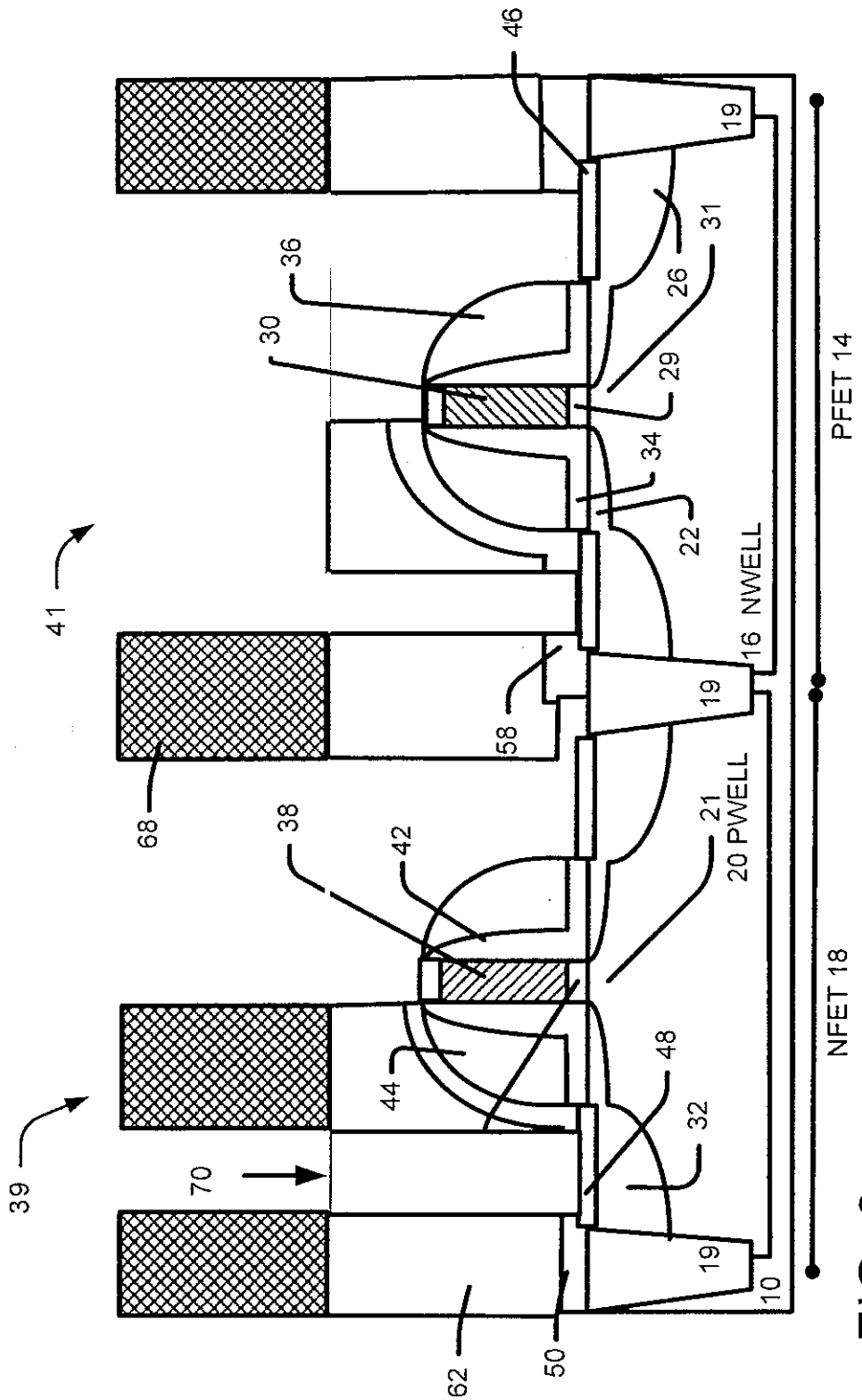

46
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16 NWELL
PFET 14
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68
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20 PWELL
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70
48
44
32
NFET 18
62
50
10

FIG. 6

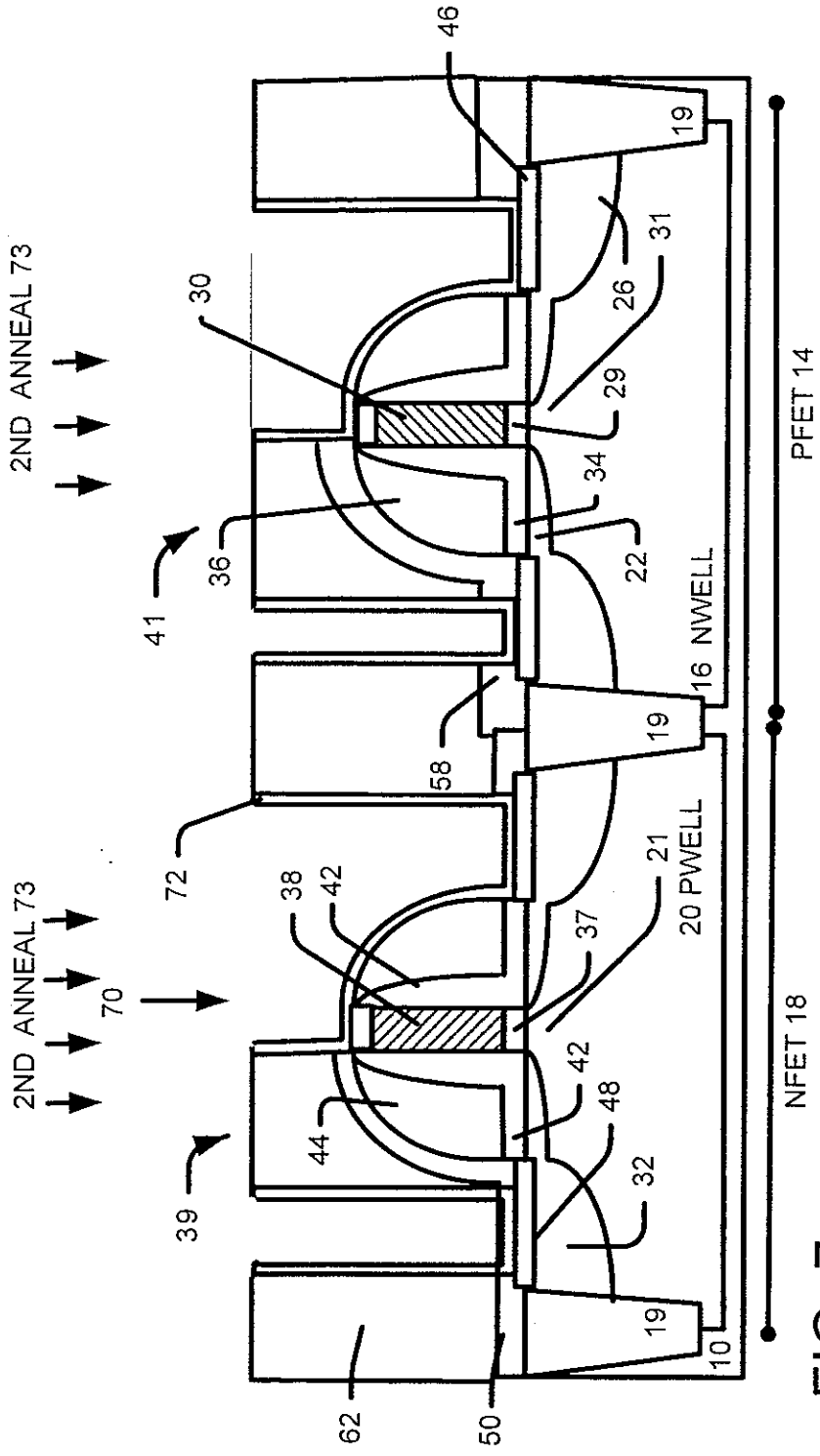

2ND ANNEAL 73
2ND ANNEAL 73
2ND ANNEAL 73
70
46
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16 NWELL
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72
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20 PWELL
37
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44
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19
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62
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PFET 14
NFET 18

FIG. 7

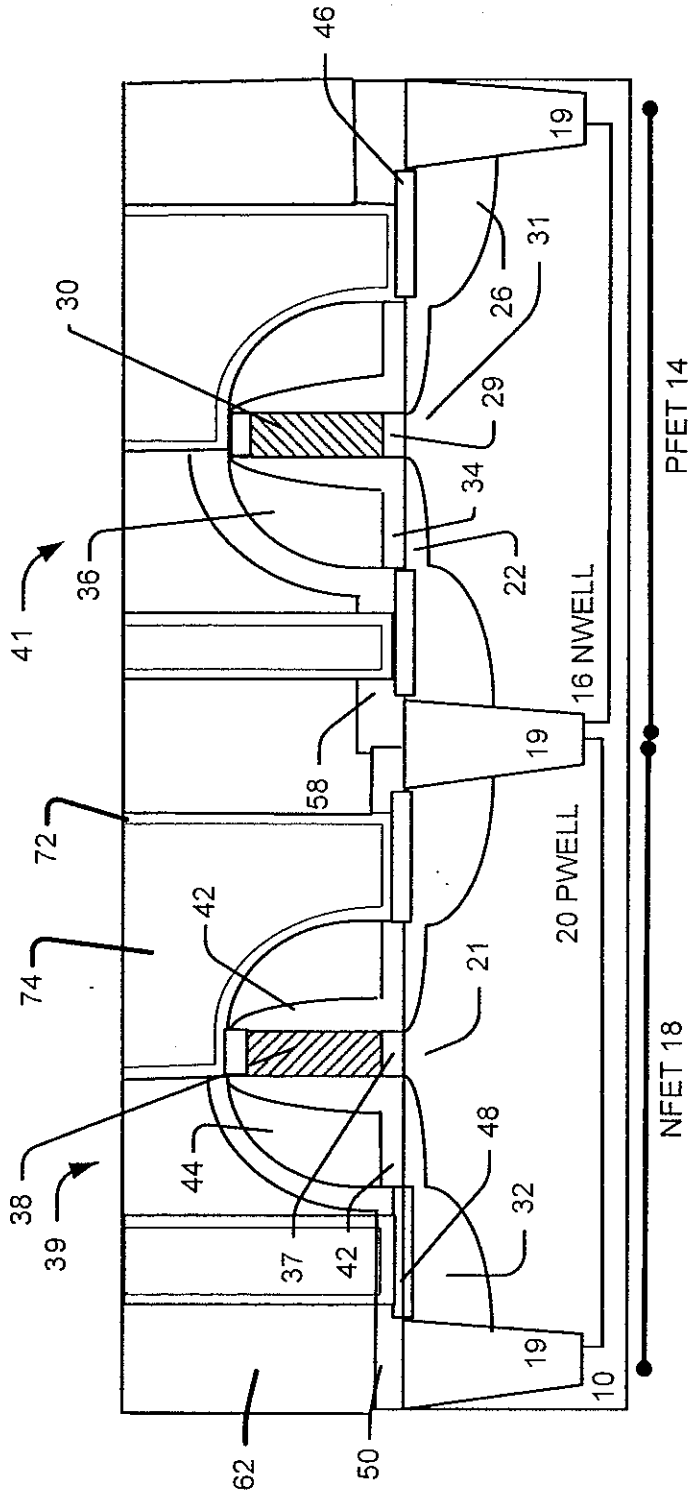

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16 NWELL
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74
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20 PWELL
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19
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PFET 14
NFET 18

FIG. 8

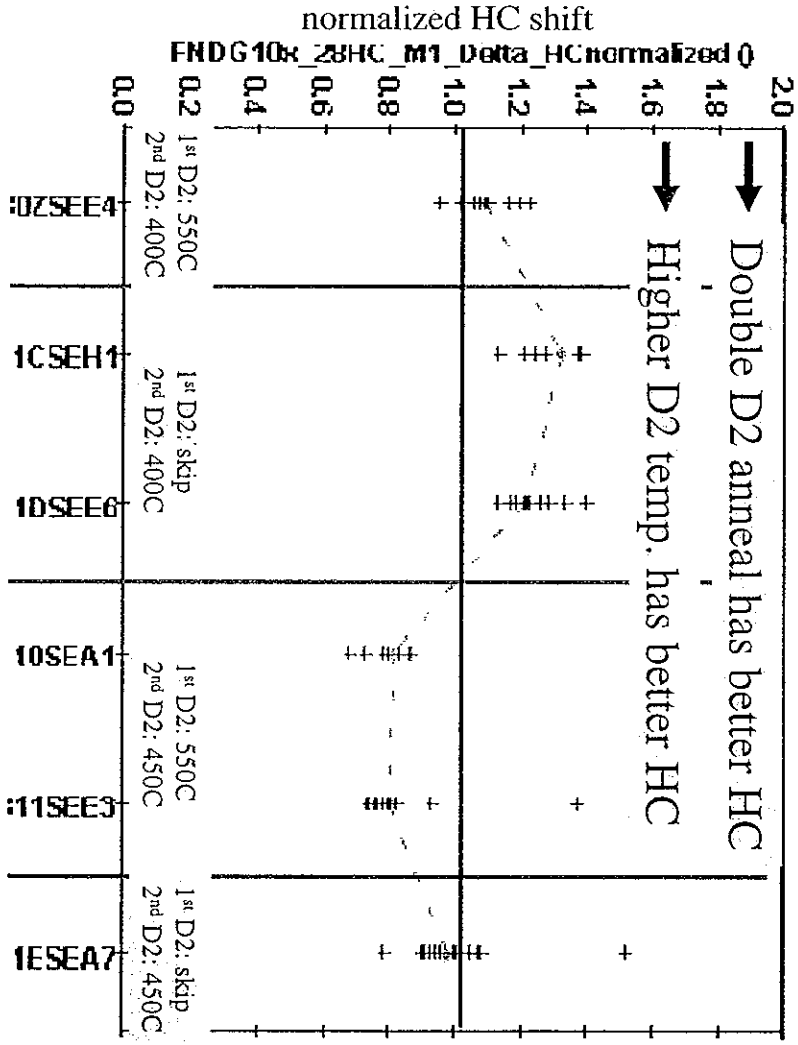

normalized HC shift
FNDG10k_28HC_M1_Delta_HCnormalized ()
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6
1.8
2.0
Double D2 anneal has better HC
Higher D2 temp. has better HC
1DZSEE4
1CSEH1
1DSEE6
10SEA1
11SEE3
1ESEA7
1st D2: 550C
2nd D2: 400C
1st D2: skip
2nd D2: 400C
1st D2: 550C
2nd D2: 450C
1st D2: skip
2nd D2: 450C

FIGURE 9

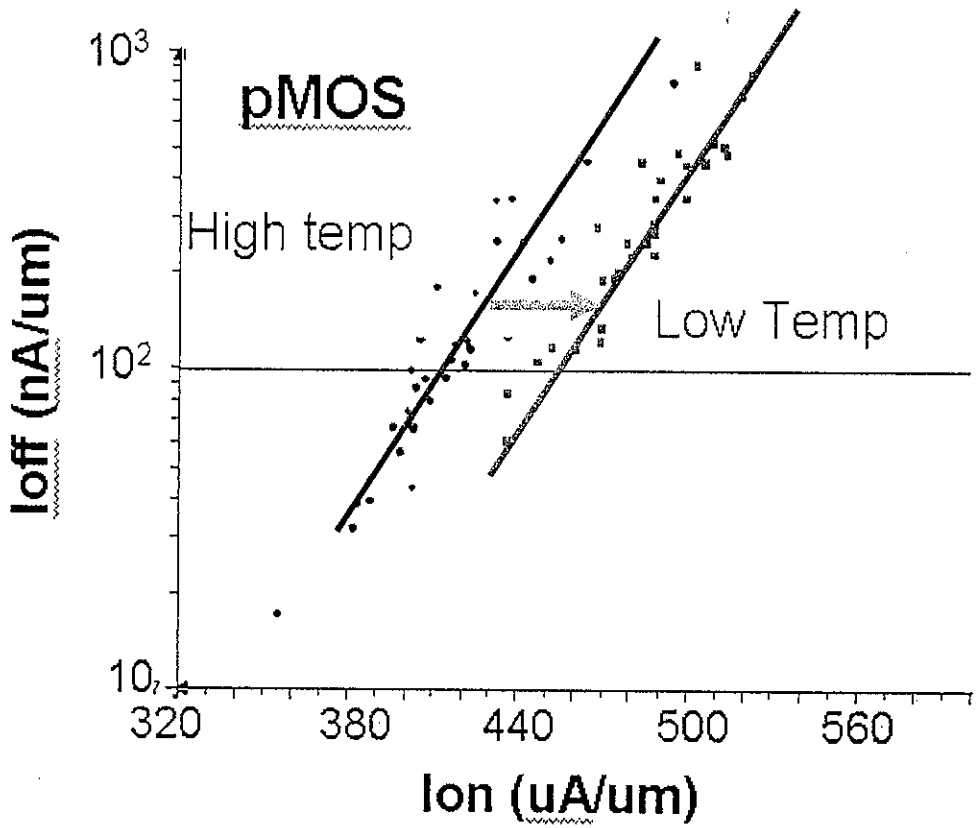

pMOS
High temp
Low Temp
Ioff (nA/um)
Ion (uA/um)
10³
10²
320
380
440
500
560

FIGURE 10