



26) (34) (27, 28)(29, 30)(31, 32) 가 (22, 24,  
 2) (46) (34) (22, 24, 26) (47 - 50, 5  
 (56)  
 / (56)

가

9

DRAM

가

, LOCOS

가

가

1

2 1

3 2

4 3

5 4

6 5

7 6 .  
 8 7 .  
 9 8 .  
 10 .  
 11 10 .  
 12 11 12 - 12 11 .  
 13 11 .  
 14 13 14 - 14 13 .  
 15 13 .  
 16 15 16 - 16 15 .  
 17 , 16 .

가

(implant)

가

가

1 , (10)가 (10) (12) .  
 , " " ( ) , ( )  
 ) " " ( )  
 .

(14) (14) (12) . (16)  
 (14) . (18) (16)  
 . (16) (18)

2 , (12) (22, 24, 26)  
 . (22, 24, 26) (27, 28)(29, 30)(31, 32) 가 . (22, 24, 26)

3) LDD (33) (implant dose) (3  
 $2 \times 10^{13}$  /cm<sup>2</sup> , LDD /  
 LDD D<sub>t</sub> .

3 , (34) (12) (22, 24, 26) . (34)  
 , 가 , ,  
 , 가 .

4 , (34) (22, 24, 26) (2  
 0) - .

5 , (36) (34) , (12) ( (38, 39, 40)  
 , (12) (42, 43, 44) . (28, 29) ( (22, 24)  
 (34) ,  
 (12)

(26) , (34) (31, 32) . (2  
 2, 24) , (34) (28, 29) , (27, 30)  
 . , (34)  
 (28, 29, 31, 23) (16) ,  
 (22, 24) , (28, 29) (27, 30) .

(34) , (12), (22, 24, 26),  
 (34) (46) . (46)  
 , 가

7 , (46) (47, 48, 49, 50, 52) .  
 , (34) (30) (4  
 9) (24) , , .  
 (24) , (34) (30) (49) , .  
 (29) (48) , (48, 49)(50, 52)  
 (24, 26) , (47)가 (22)  
 (24) (49) (30) (34)  
 (49) 가 . /

8 , (56) , (12)  
 (42, 43, 44) , (56) 가  
 . (24, 26) (22, 24) , (56)  
 (38) (39, 40) .

, (56) , (56)  
 , 가 , n p (56)  
 . (56) . n p  
 , p n . n p  
 (parasitic diode) (56) n p  
 , (56) , , .

p n , 8 .  
 (58, 60) (58) (56)  
 (60) . 가 , (38, 39) (56)  
 , (56) , (60) (58) (56) ,  
 (60) 가 (22, 24, 26) (16)  
 56) . , (39, 40) , (60) ( )  
 (12) . (56)  
 / (42, 43, 44)  
 (56) (12) .  
 , / (12)  
 , (56) / .  
 (56) ,

(doping halo implant)

9 , ( ) (56) (57) (56)  
 (24, 26, 28) , (42, 43, 44) .

(10a) 10 - 16 (12) 10 (12)  
 (64) (66) LOCOS (64) (62)  
 PECVD CVD (12)

(10a) 4 10  
 (10) (34)

11 12 (68)가 (66) (34)  
 (77) (79) (68) (66) 가 (70)  
 (62) (12) (68)  
 (22, 24, 26) 10 - 20%

13 14 (68) (72) (62)  
 (12) (68) (72)  
 (68) (72) (68) (72)  
 72) 가 (72) (68)

15 16 (72) (66) (68)  
 (75) (34) (72)  
 (68) 가 (66) (75) (77) (7  
 9) (66)

17 16 (10b) , LOCOS (66)  
 (66b) (68b) 가

(57)

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36.

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가

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37.

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42.

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43.

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44.

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CVD

45.

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가

46.

가

47.

46

, LOCOS

48.

46

CVD

49.

46

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51.

50 , LOCOS .

52.

50 , CVD .

53.

50 , .

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53 , LOCOS .

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53 , CVD .

56.

50 , 가 , .

57.

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가

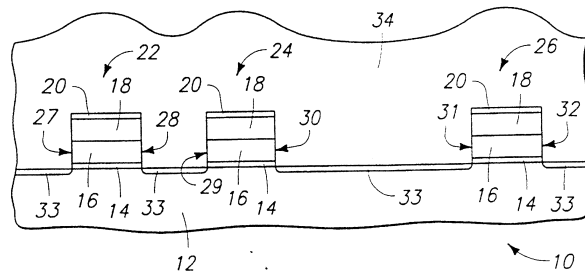
58.

57 , LOCOS .

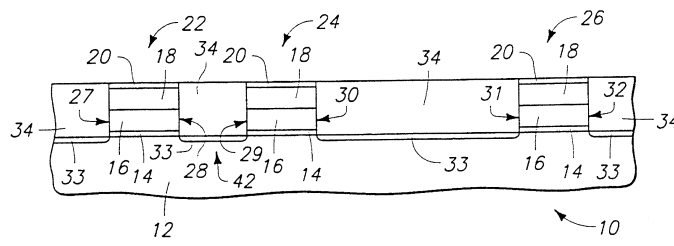
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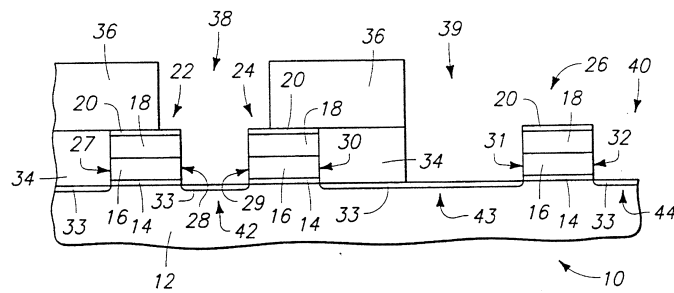
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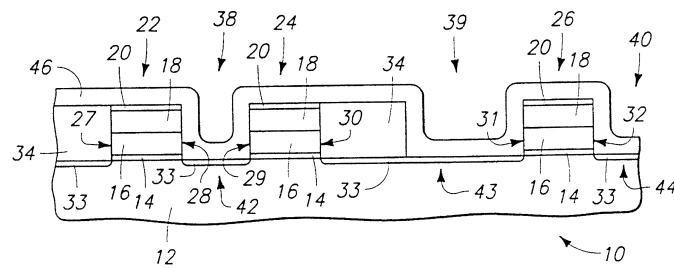
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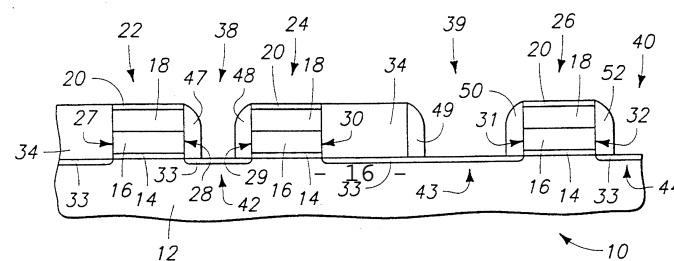
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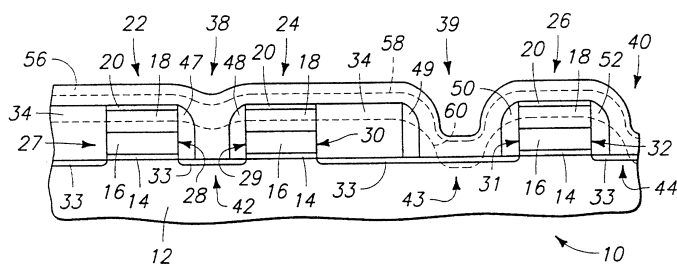
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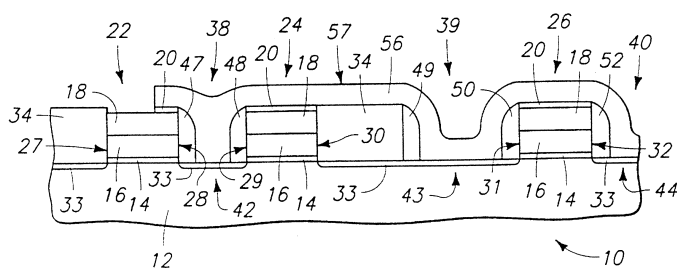
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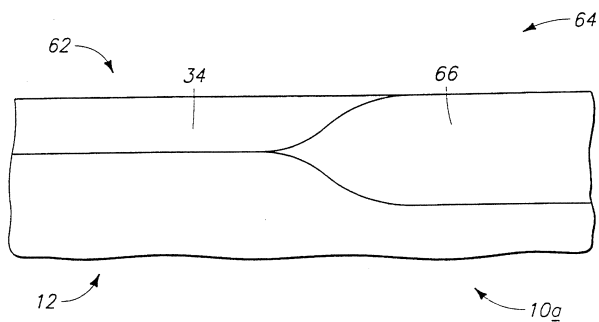
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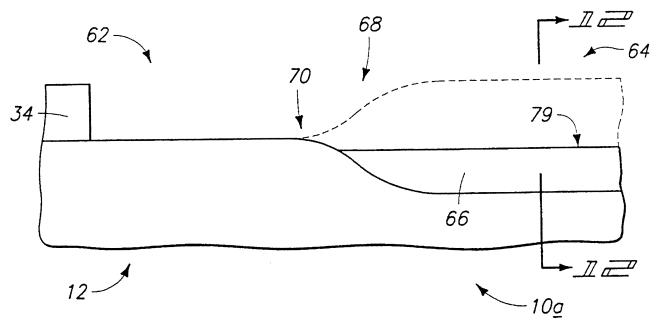
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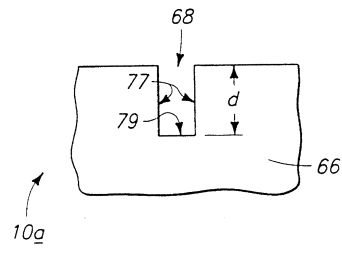
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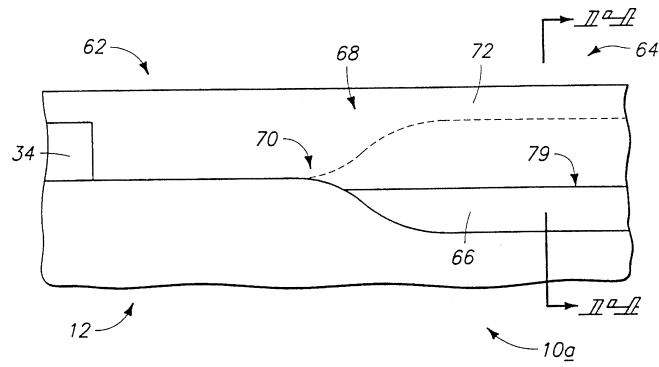
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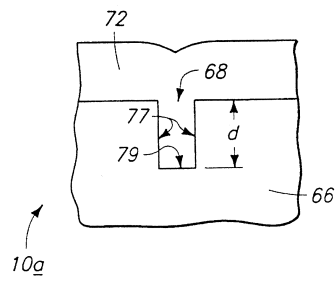
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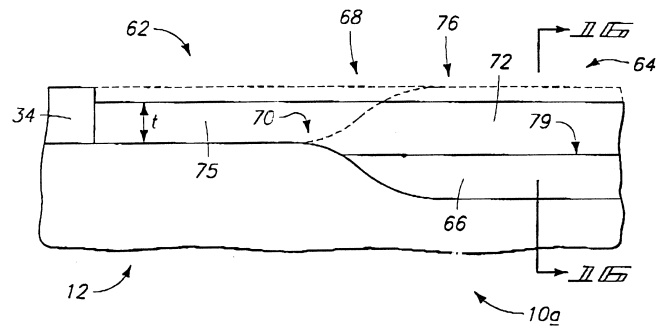
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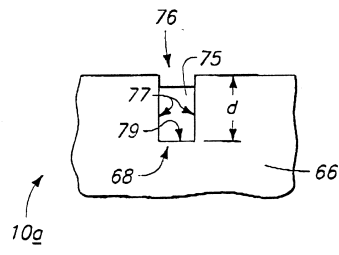
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17

