

(19)  
(12)

(KR)  
(A)

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(21) 10-2001-0084006  
(22) 2001 12 24

(71) 1 838

(72) 106 1206

(74) :

(54)

PMOS 가 , 1 , 1

1 , 110 140KeV , LDD

/ ,

2c

1a 1c PMOS

2a 2c PMOS

3  
4  
5

< >

100 :            101 :  
 102 : n        103 :  
 104 :        -            105 :  
 106 :            107 :  
 108 : LDD        109 :  
 110 :        /

nt) 가 , PMOS (Saturation Curre  
 hannel Effect) 가 가 (Well) 가 가 (Short C  
 (Carrier Scattering Effect) (Mobility) 가 가  
 (energy) 가 가 (velocity energy) 가 가 가  
 (Doping) 가 가  
 1a 1c PMOS  
 1a =0deg (10) (11) , P + 1.0E13/500KeV, =0deg  
 13) (10) (12) (10) (14)  
 (15) As , 7.0E12/100KeV , 7deg  
 1b (12) , (16) (17)  
 (17) (17)  
 (10) LDD (17) (18)  
 1c (17) (19)  
 (19) (10) /  
 (20)

가 As 가 7.0E12/100KeV 7deg ,

SSR(super Steep Retrograde Well)  
 (B) (Indium) (P) (As) (Sb)  
 (mass)가 (steep)

가 가

1 1 1 110 140KeV

LDD

1 (Phosphor) 1.0E13/500KeV, =0deg =0deg

1 (Arsenic)

2a 2c PMOS

2a (100) (101) , P + 1.0E13/500KeV, =0d  
 eg =0deg n (102) (100) (100)  
 4) (103) (105) (10

(104) P (105) As  
 , 110 140KeV

3 4 5  
 (Parameter) 가 10% 가

Si ~400

2b (102) (106) (10  
 7)

(107) (107)

(100) LDD (108)

2c (107) (107) (109)

(110) (109) (100) /

10% 가 가

(57)

1.

, 1 ;

1 1 - ;

1 110 140KeV ;

LDD ;

;

/

2.

1 ,

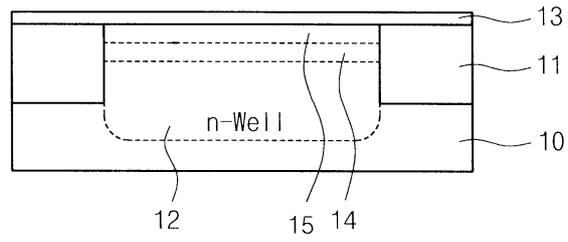
1 (Phosphor) 1.0E13/500KeV, =0deg =0deg

3.

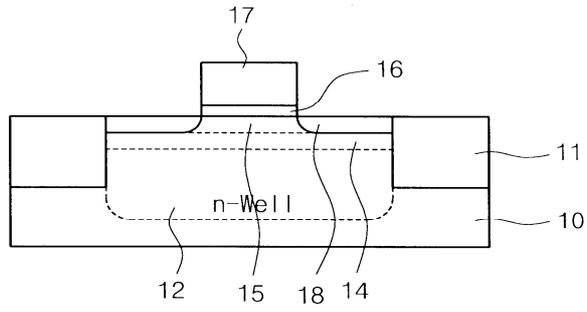
1 ,

1 (Arsenic)

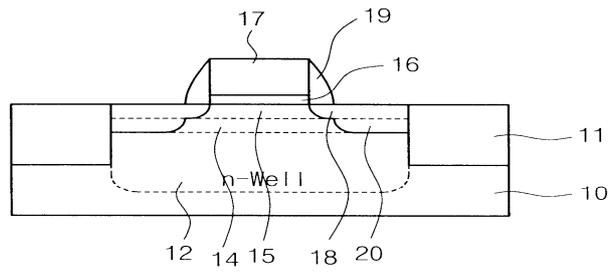
1a



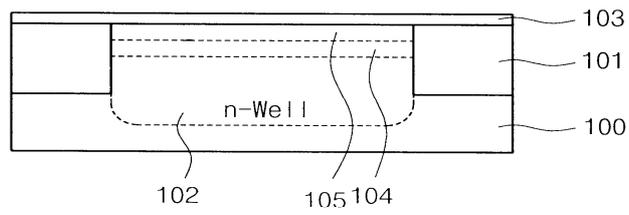
1b



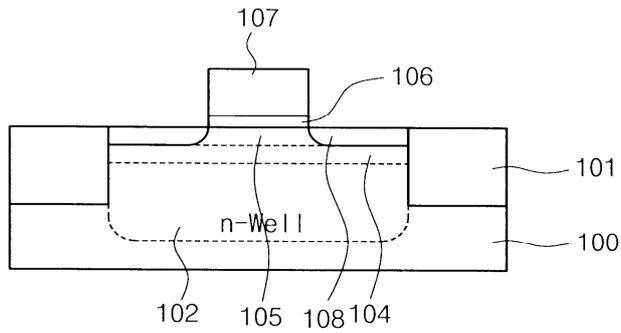
1c



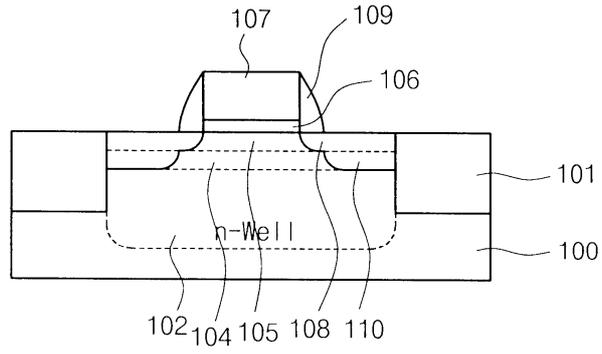
2a



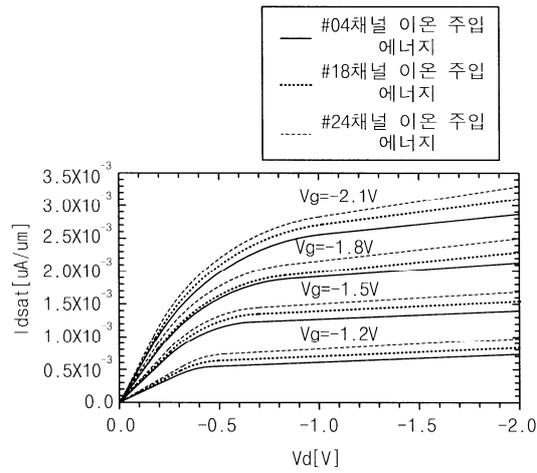
2b



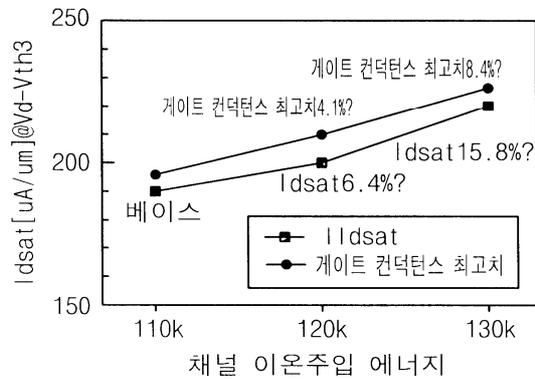
2c



3



4



5

이온주입 에너지 채널 문턱전압	침투전류		게이트 컨덕턴스 최고치	
	L=0.18	L=10	L=0.18	L=10
110k	189	2.9	393	5.74
120k	201	3.1	409	5.88
130k	219	3.3	426	6.01