

(19) (12) (KR) (A)

(51) Int. Cl.⁷
H01L 21/336
H01L 29/78

(11) (43) 10-2004-0101569
2004 12 02

(21)	10-2004-7017367		
(22)	2004 10 28		
	2004 10 28		
(86)	PCT/JP2003/005621	(87)	WO 2003/094238
(86)	2003 05 02	(87)	2003 11 13

(30) JP-P-2002-00131012 2002 05 02 (JP)

(71) 가 가
6 6-3

(72) 가
981-8007 4 11-12

981-3131 21-1

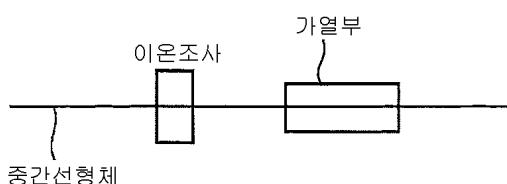
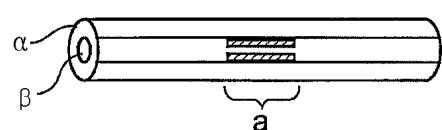
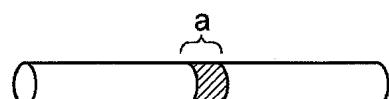
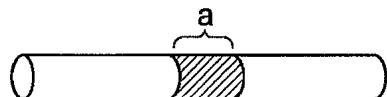
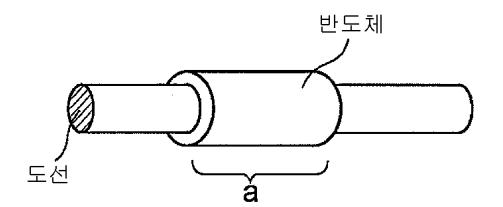
981-3222 가 5 13-18

(74)

:

(54)

, , 가 , 가 ,
., .
가 , , , , , ,
, .
, .
,



가
3

가
(rigid)

가

가

가

가

가 (可撓性) 가 ,

가

가

가

DRAM, SRAM

2

가

가

가 가

가 , 가

가 , 가

1

가

10mm

1mm

1 μ m

가 10

가 100

1000

,

,

,

가

,

가

,

가

.

pn

pin

가

,

,

,

,

가

가

가

가

50%

가

70%

가

50%

가

70%

,

,

,

가

가

가

가

20m/sec

()

가

(discrete,),

(thyristor), (FET,), DRAM, SRAM (),

()

가

가 ,

, NPN , 3가 , N , P , P 3가

가 ,

가

NPN

NPN
가 ,

(,)

가

()

, 10μm 가 10mm 가 1μm , 5mm 가 0.1μm 1mm 가

(melt blow) , , , , (jet)

, 100000 가 10~10000, 10 , 0.1

()

, MOSFET(1), (1), MOSFET(2), (2) MOSFET(n),

, MOSFET(k)(k=1 - n) MOSFET

(2) MOSFET(n).

, MOSFET

, MOSFET

()

가
(dipping)

가

()

lyacene), (), (polythiazyl), (3-), (3-), (3-), (po

, (3-)

, (Na, K, Ca) $\text{AsF}_5 / \text{AsF}_3$ ClO_4^- n

, SiO_2

, ()

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16

(1)

1

6

MOSFET

(3), (5)

(1) 가

(2),

(4),

(

2

(20)
21,22,23) 가

2

3

(23)

(24)

(24)

(25)

1

3

가

(30),

(31),

(32),

(34) 가

(24)

(31)

(30)

(31a)

(30a)

(32a,33a)

(32)

(34a)

(34)

(24)

가

(25)

(3-)

(Na, K, Ca)

AsF₅ /AsF₃ClO₄

n

, SiO₂

가

(2)

4 2

1

(41a)

4b

(41a,41b)

(41b)

(41) A-A

4a

4b B-B

1

(3) (4), . , (3) (5) (45), . (45), (46) (46) (4), .
 (40a) 5 (41a) (40a) (40a) (32a,33a) ()
 , 30a, 31a, 32a, 33a, 34a 40a,41a 1 , 40a,41a
 , , (47), (46), (45) , , 40a, 41a
 , , 40a, 41a , , 5 , A-A , B-B
 , , A-A , , A-A , ,
 , , (46), (45) , , (41a) ,
 (3) , ,
 6
 1, 2 , ,
 , , 2
 , (1) (2) , , (6a).
 2 , , (2) , , (61)
 , (6b). , , ,
 , (62) (61) (61) ,
 (6c). (62) () , , (63)
 , 2 , , (6d).
 , , ,
 , , ,
 (4) , , ,
 1

(a)

(1)

7a
(b)
가

(b)

(2)

(7c).

가

(3)

(2)

(3,4)

(c)

(7c, 7d).

(4)

가

가

(5)

가

7f

(

7g

, (d)

(d2)

(6)

8 6

5

(82)($v_1 - v_0$)
가 20m/sec

50m/sec

100m/sec

(v₀)(v₁)

20m/sec

, 가 가 가

8c

가

8b

, (8b) 8b

, 가

가 가

, 8c

가

8b

50%

, 가 가, 가

100

0 ~ ± 5 °

가

, 70%

가

(7)

9 7

(5) 가 (1) 가 . (70) (4) 가 , (3) 가 , (5) 가 ,

(1)

가

2 가 7

3) SiO_2 , (70), (1), (5), (4), (2) (

(8)

10a 8

pin 가

(102) 가 , n (101), i (100), p (103), (104)
, p (103) (105)

(102), n (101), i (100)

p (103), (104) 가 가 . . , . . p (103), p (103), p (103)

(102), n (101), i (100), p (103), (104)

, 10a i , , . p (103) i

10a (104) p (103)

, p (103) (104) p+ p+ p (103) (104)

p , n , i

가

(9)

10b 9

8 pin . , . . p (8)
 3), i (80), n (81) 가 . , (82,83)

10b

가

(10)

가 , p n

, p n 2 (i 3)
p n 1

p /n

p /n , 가

(11)

(延伸)

가

10% 10~99% 가 100×()/()

0.1μm 1mm 가 10μm 1μm 가

(12)

11 12

(111)

(11a).

(111)

가

(112)

11b).

가

(

(112)

(113a,113b,113c,113d)

(11f) 가

(11d), (11e),

(114a,114b,114c,114d)

가

가

11f

(114c)

(114d)

, (11a), (11b), (11d)
(dipping),

가 11g

가 , (115)

, 가 , 가 .

11h ,) (117)

50% . 70%

(13)

12

12

12a

a

12b

가

12c

가

2
a

가

12e

가 . 가

12

가 1

13
13 DRAM DRAM 가
13a MOSFET(209a1) (207) (S₁, S₂.....), (G₁, G₂.....)
13b MOSFET (209a1) (207) MOSFET
MOSFET(209a1) (201), (202), (204,205),
(203) (210) (201)
MOSFET(209a1, 209b1.....)가
13a MOSFET(209a2,a3.....) 가
MODFET
(204) 13c 13d (205) (S₁)
(207) (207), (207), (207)
S₁ (204), (204) (S₁) MOSFET(209a2,a3.....) (S₁ 206)
MOSFET (205) (207), (210)
13 (210), MOSFET, MOSFET가
(210), MOSFET
가
(15)

MOSFET

MOSFET

, 100

, 100

100

가 가

(16)

pin

가

, pin

360 °

가

가

，
，
，
，

가

가

가

가

가

가

가 가

가

가

(suede)

가

(17)

14

15

1

16

(B)

(A)

16

, , , 가 , ,
, MOSFET , , ,
,

가

, 가 가 ,

(57)

1.

가

2.

가

3.

가

4.

가

5.

가

가

6.

가

7.

가

8.

가

9.

가

10.

가

11.

가

12.

가

13.

가

가

14.

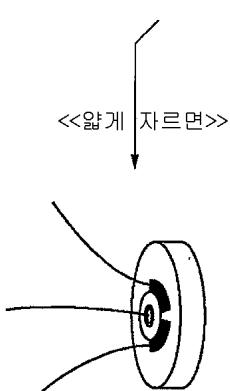
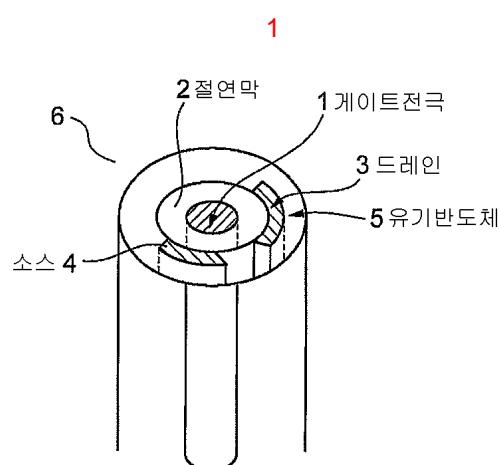
가

15.

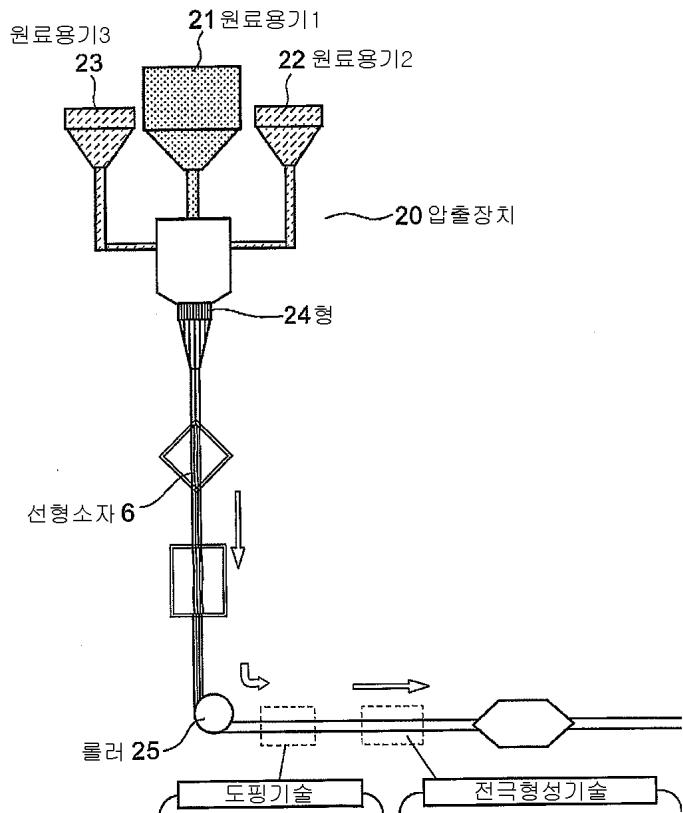
가

16.

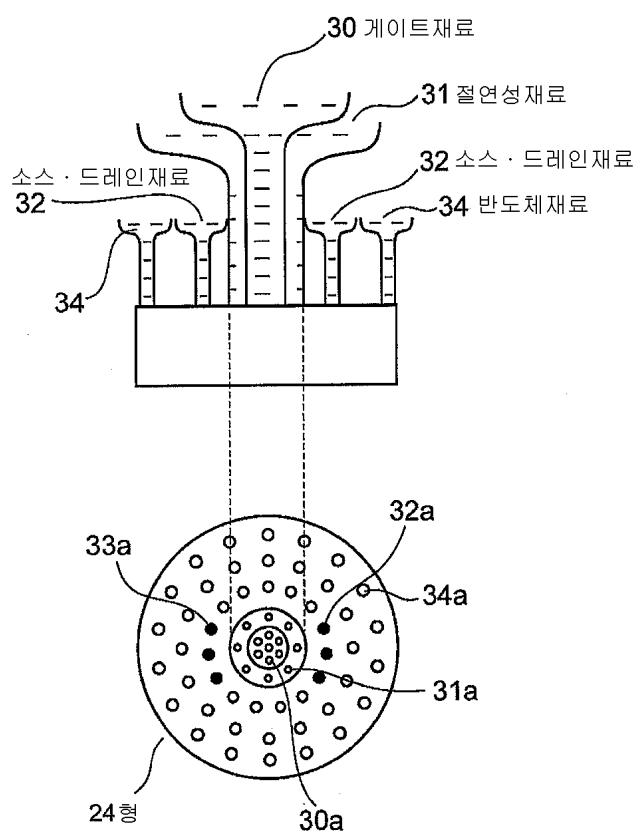
가

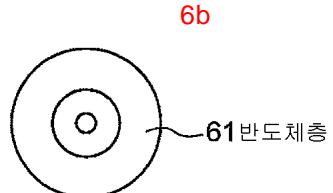
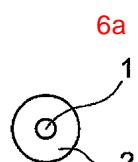
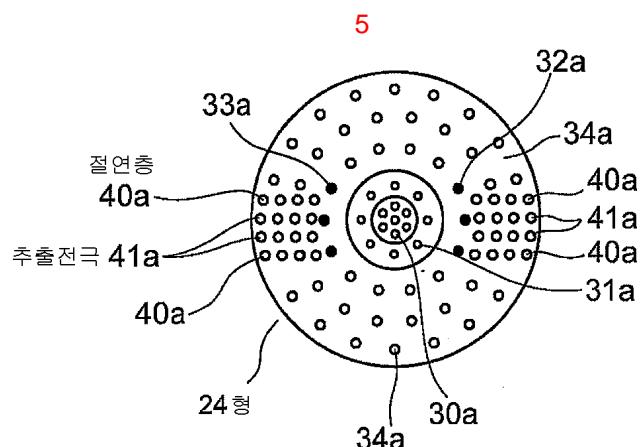
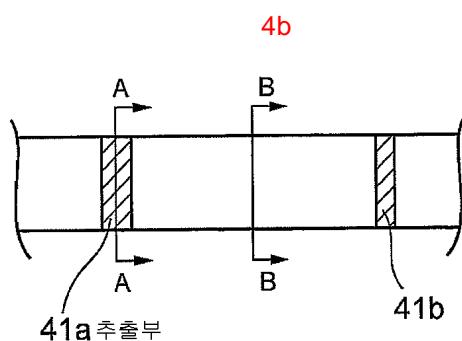
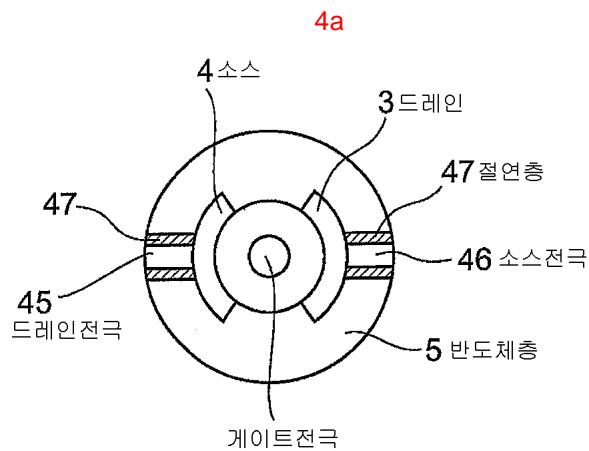


2

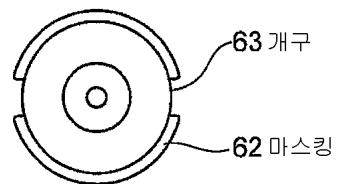


3

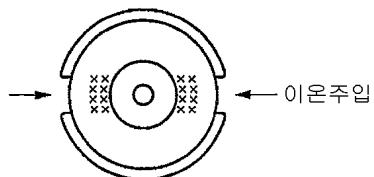




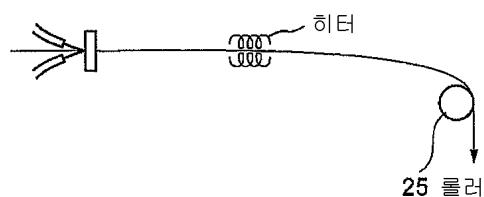
6c



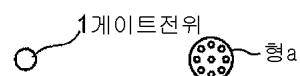
6d



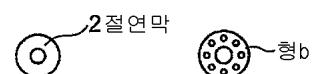
7a



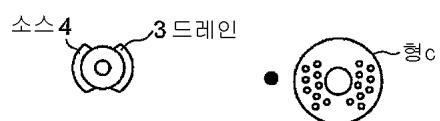
7b



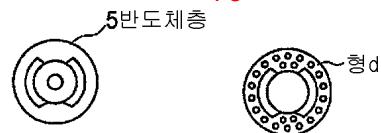
7c



7d

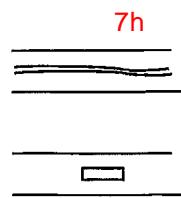
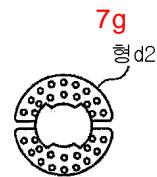


7e

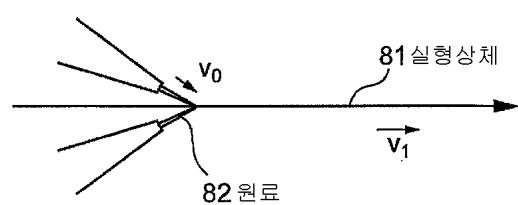


7f





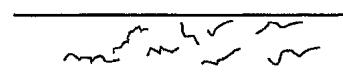
8a

 v_0 : 원료사출속도 v_1 : 실형상체의 주행속도

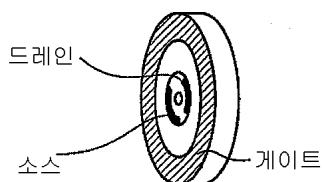
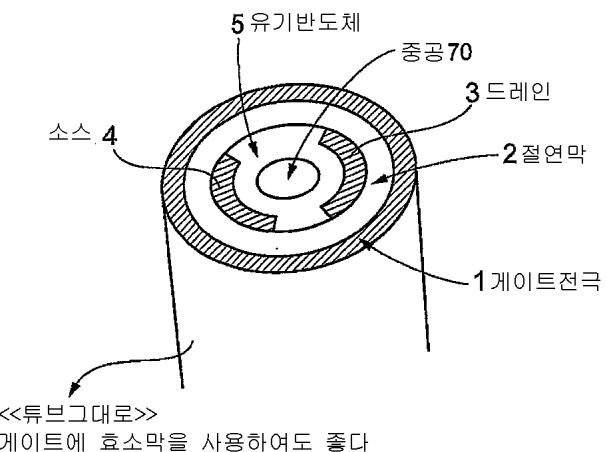
8b



8c

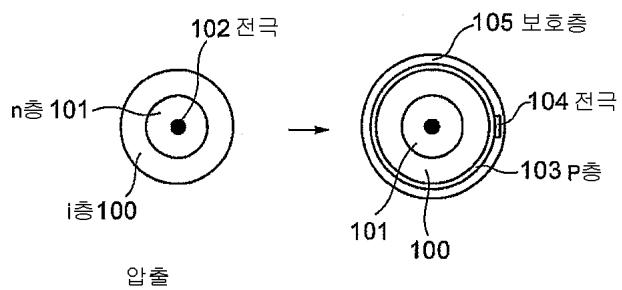


9

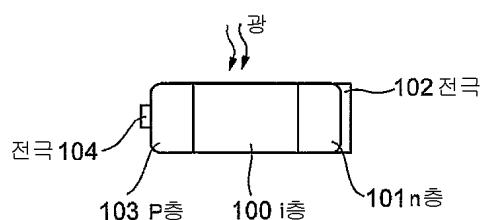


10a

광전력소자



10b



11a

