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10-0376184
2003 03 04(21) 10-1997-0003726
(22) 1997 02 06(65) 1997-0063842
(43) 1997 09 12

(30) 96-44306 1996 02 06 (JP)

(73) 가 가
가 가 398

(72) 157 가 4-10-20

243 가 가 304-1 - 205

가 가 가 2-26-2, 202

243 가 가 304-1 - 102

(74)

:

(54)

가

.

(103, 104)

,

가

.

,

(103, 1

04)

0.1 5 mm

,

5 15 mm

가

,

,

1a

1A	1B	
2	(homogenizer)	
3A	3B	
4A	4F	
5		(照射)
6A	6B	
7		
8		
9	9	(矩形)
10	18	
11		

★

101:	102	105:	106	108:
109:	110:	111:		
201 :	202:	401:		
402:	403:	404:	(水膜)	
405:	406:	407:		
408:	409:		410:	
411, 415:	413:		416:	
417:	418:			

1A 1B 가 , 1A 1B , 101 ,

, KrF 가 Kr F
 102 105 (homogenizer) . (10
 2, 105)
 가 .
 ,
 (103, 104)
 가 .
 106 (106)
 107, 108, 110
 , 109 (109)
 (110) (111)
 (111) , , ()
 (103, 104)
 , (103, 104) 가 ,
 , (103, 104)
 (102, 105) (103, 104)
 3A 3B
 3A 5 mm 12 1A 1B (104) 1A 1B ()
 104) 2 1A 1B 104 5 (201) (202)
 가 7 , , 10
 , 2 (202) 'a' 5 mm
 3A 12 cm
 3A 3A 3B
 , 3B (stripe)
 () (走査) (照
 射) 3A 3B (104)
 0.1 5mm 가
 (mm) ,
 가, (100, 7), (700, 50), (700, 140)
 (100, 20) 가
 가 7 7 가 5 15 mm
 , 가,
 (mm) , (mm)
 (30, 0.1), (80, 0.1), (80, 5), (50, 5) (30, 3)
 가
 가 8 8 30 80 mm
 , 10 0.1 5 mm
 2 201 가 , 202

가 1A 1B

103, 104

[1]

가 1A 1B

6A 6B (602, 603)

가 2 (604, 605)

(604), (605), mm (604) 가

10 cm (605) 가

(606, 607, 609) 6A 6B 가 608

(605) 가

(605) 12 (5 mm 가)

10 10 가 가

가 12 cm

[2]

4A 4F

(401) (下地膜) (402) CV

D 3000 CVD CVD (403) 500 (403)

CVD (403) 가 1000 (403) 200

500 (403) Ni

Ni, Ni, Fe, Co, Cu, Pd, Pt, Au (403) (滴下) (, 10 ppm) (水膜)

Ni (404) (4A) (spin coater)() , 55

0, 4 가 (405) (405) (4B) (走査) (照射)

5 1A 1B 502

5 501 503

2 가 가 5 mm (0.1 mm

(502) 10

가 (矩形波)

9 9

10 18 9 10

10
4C , (406) (407) 1000 5000 (()) 0.1 % (()) (()) (408) (408) , 3% () 가 , (409) () 409 (409) 3000 (409) () 3% (410) (膜質) , 가 5 (410) (409) 410 (408) , 가 , 4D 가 , 4D 가 , P() 4D 412 414 (412, 414) 413 , 4E 가 , 1A 1B 5 4E 가 , (416) (417) (418) , 4F [3] 가 , 2 XeCl (308 nm 가) (248 nm) KrF , KrF XeCl (hv)가 [4] 7가 , 가 5 15 mm 5 15 mm 가 700 mm 11 6) y (x/5) x 10 (x) x (y) x 7 가 (43/600)x - (1/

가 1000 mm , , 72 200
 , 100 가 가 , 500 1
 ,398 mm 가 500 1,398 mm
 , 가
 0.1 5 mm

(57)

1.

0.1 5mm

2.

1

3.

1

가,

2

4.

3

90

5.

6.

7.

8.

0.1 5 mm

9.

10.

x(mm)
 가, 30 mm x 0.1 mm y 5 mm
 (座標系)

x(mm)
 가, 30 mm x 0.1 mm y 5 mm

(非)

(非)

(照射)

(非) , ,
(mm) , (mm)
가, (30, 0.1), (80, 0.1), (80, 5), (50, 5), (30, 3)

10.

;
(非) (照射)
(mm)
가, (30, 0.1), (80, 0.1), (80, 5), (50, 5), (30, 3)

11.

(mm)
가, (30, 0.1), (80, 0.1), (80, 5), (50, 5), (30, 3)

12.

11 ,
.

13.

11 , 가, 2

14.

13 , 90

15.

(mm)
가, (30, 0.1), (80, 0.1), (80, 5), (50, 5), (30, 3)

16.

15 ,
.

17.

5 , 가, 2

18.

17 , 90

19.

가, $(43/600)x - (1/6)y$ (x/5) x(mm)

20.

19 ,
.

21.

19 , 가, 2

22.

21 , 90

23.

가, $(100, 7), (700, 50), (700, 140), (100, 20)$ 가
가

24.

가, (100, 7), (700, 50), (700, 140), (100, 20)

가
가

25.

가, $(100, 7), (700, 50), (700, 140), (100, 20)$

가

26.

25

27.

26 , 가, 2

28.

27 , 90

29.

가, $(100, 7), (700, 50), (700, 140), (100, 20)$

가

30.

29

31.

8 , 가, 2

32.

31 90

33.

0.1 5 mm

34.

33

35.

33 , 가, 2

36.		90	
35	,		.
37.			
33	,	KrF	XeCl
	,		
38.			
	,	(非)	,
	,		,
			0.1 5 mm
			.
39.			
38	,		
	,		
40.			
38	,	KrF	XeCl
	,		
41.			
	,		
	,		, 0.1 5 mm 가
			;
	,		,
	,		(非)
			.
42.			
41	,		
	,		
43.			
41	,	KrF	XeCl
	,		
44.			
	,	(非)	,
	,		,
		(mm)	(mm)
(30, 3)		(mm)	가, (30, 0.1), (80, 0.1), (80, 5), (50, 5),
	,		,
	,		.
45.			
44	,		
	,		
46.			
44	,	KrF	XeCl
	,		
47.			
	,		
	,		,
			;
	,		,
	,		(非)
	,		,
		(mm)	(mm)
(30, 3)		(mm)	가, (30, 0.1), (80, 0.1), (80, 5), (50, 5),
			.

48.

47

49.

47

KrF

XeCl

50.

,

;

(mm)

(mm)

,

가, (30, 0.1), (80, 0.1), (80, 5), (50, 5),

(30, 3)

51.

50

52.

50

가,

2

53.

52

90

54.

50

KrF

XeCl

55.

,

,

(mm)

(mm)

,

가, (30, 0.1), (80, 0.1), (80, 5), (50, 5),

(30, 3)

56.

55

57.

55

KrF

XeCl

58.

,

,

,

,

,

;

가, (100, 7), (700, 50), (700, 140), (100, 20)

가

59.

,

,

,

,

,

;

0.1 5 mm

60.

,

,

,

,

,

;

(mm)

(mm)

,

가, (30, 0.1), (80, 0.1), (80, 5), (50, 5), (30, 3)

61.

,

,

,

,

,

;

y

x(mm)가 $(43/600)x - (1/6)$

y (x/5)

62.

58

,

KrF

XeCl

63.

60

,

64.

58

,

1000

가

65.

58

,

, 가

,

,

66.

58

,

, 가

,

,

67.

59

,

KrF

XeCl

68.

59

,

1000

가

69.

59

,

, 가

,

,

70.

59

,

, 가

,

,

71.

60

,

KrF

XeCl

72.

60

,

1000

가

73.

60

,

, 가

,

,

74.

60

,

, 가

,

,

75.

61

,

KrF

XeCl

76.

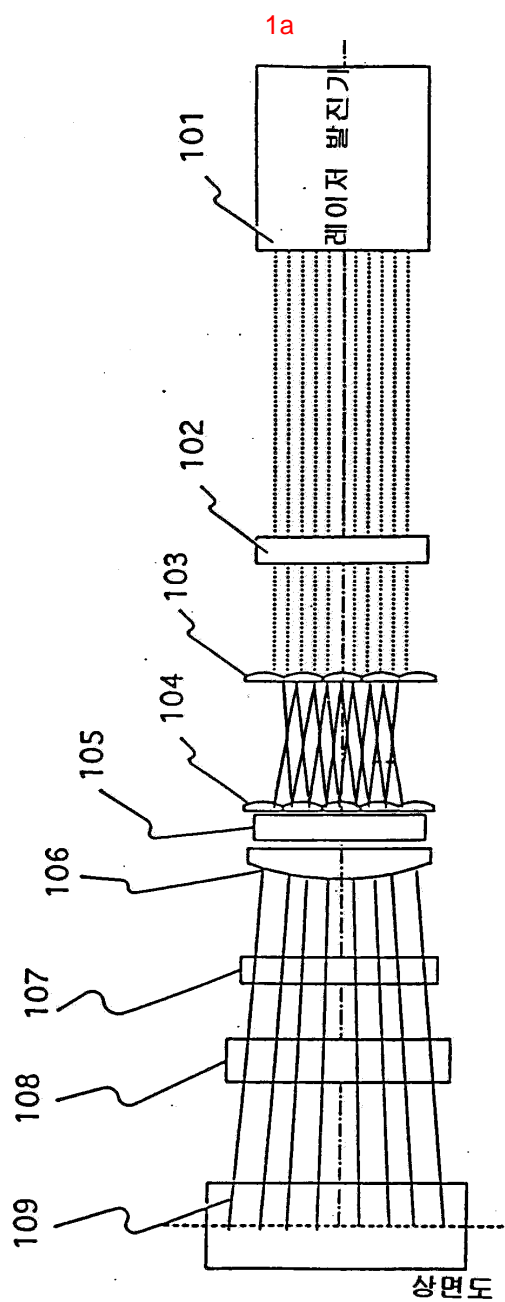
61 , 1000 가

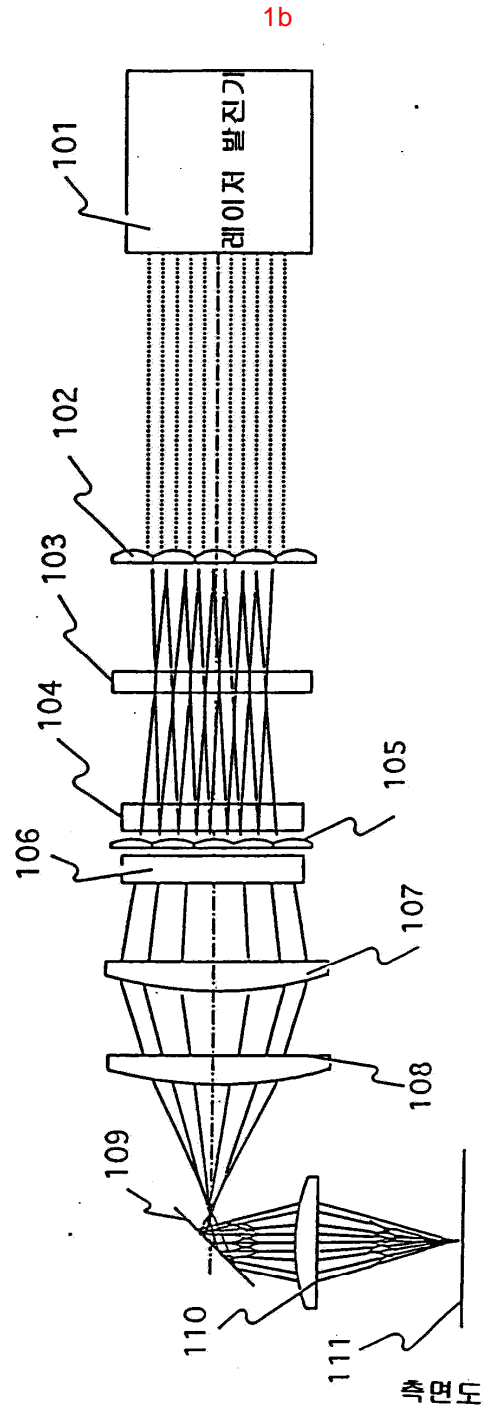
77.

61 , 가

78.

61 , 가



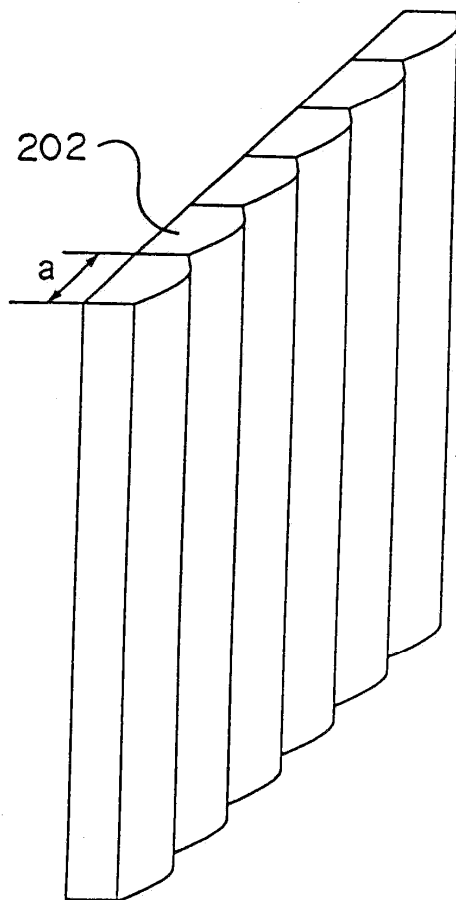


2

201

202

a



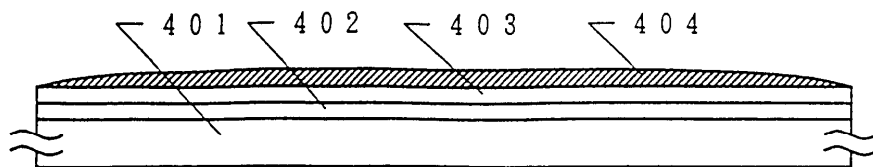
3a



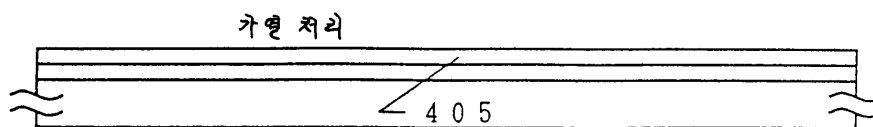
3b



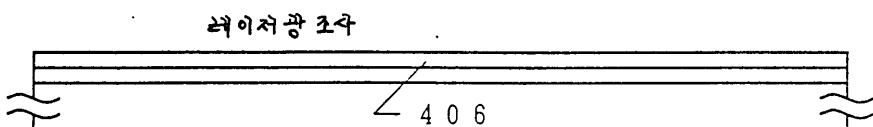
4a



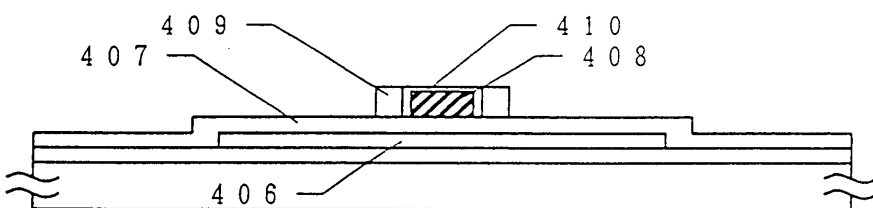
4b



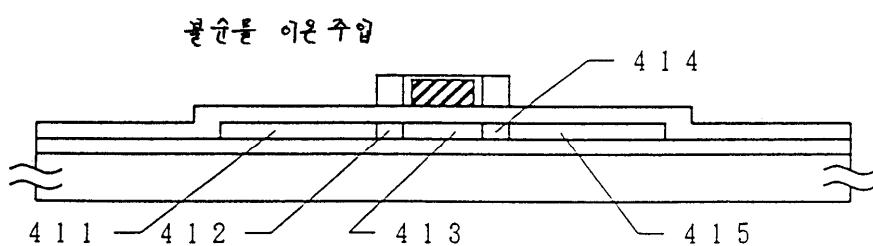
4c

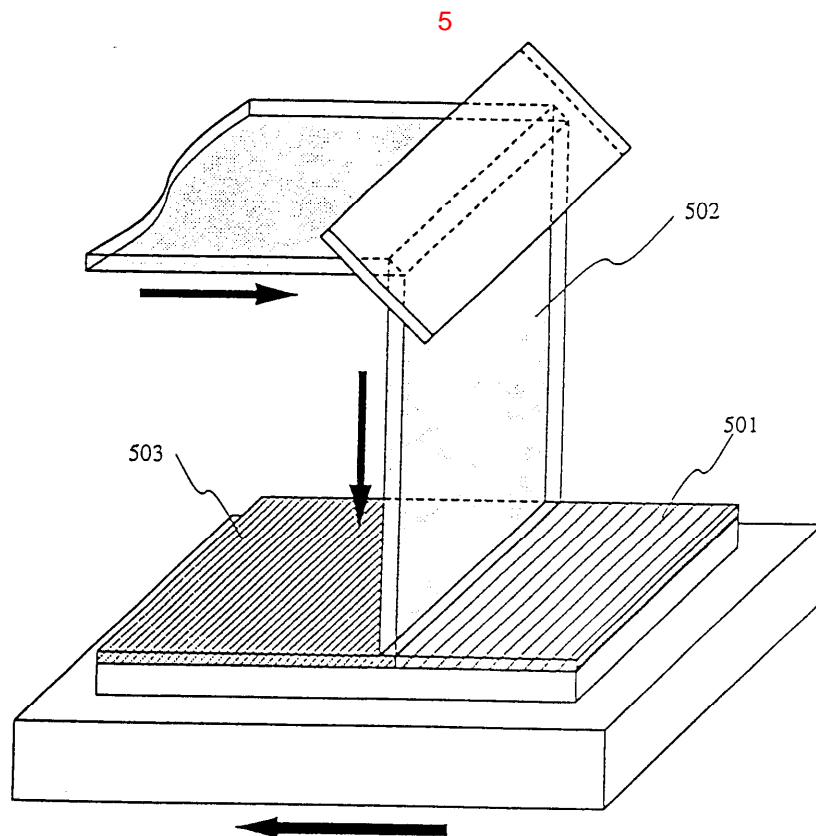
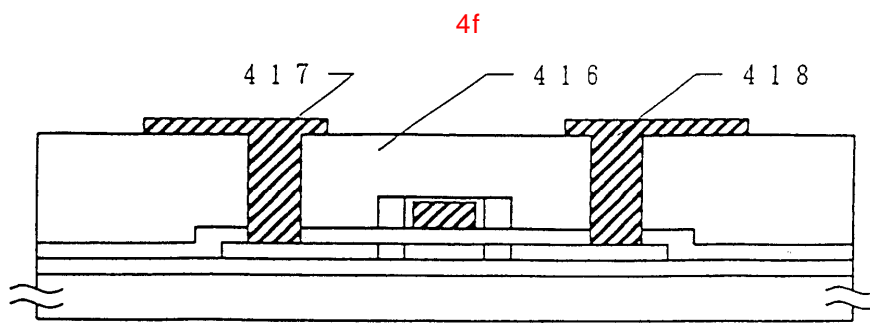


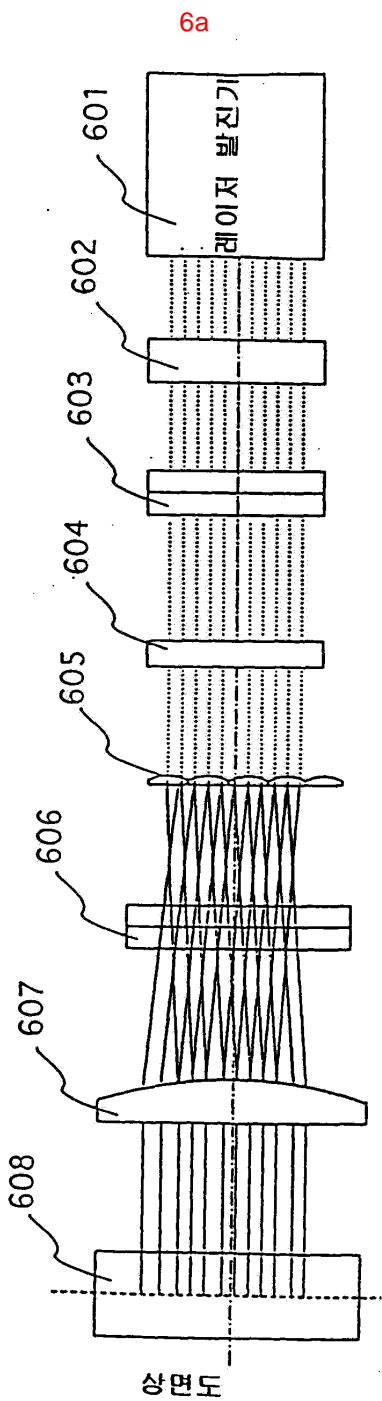
4d

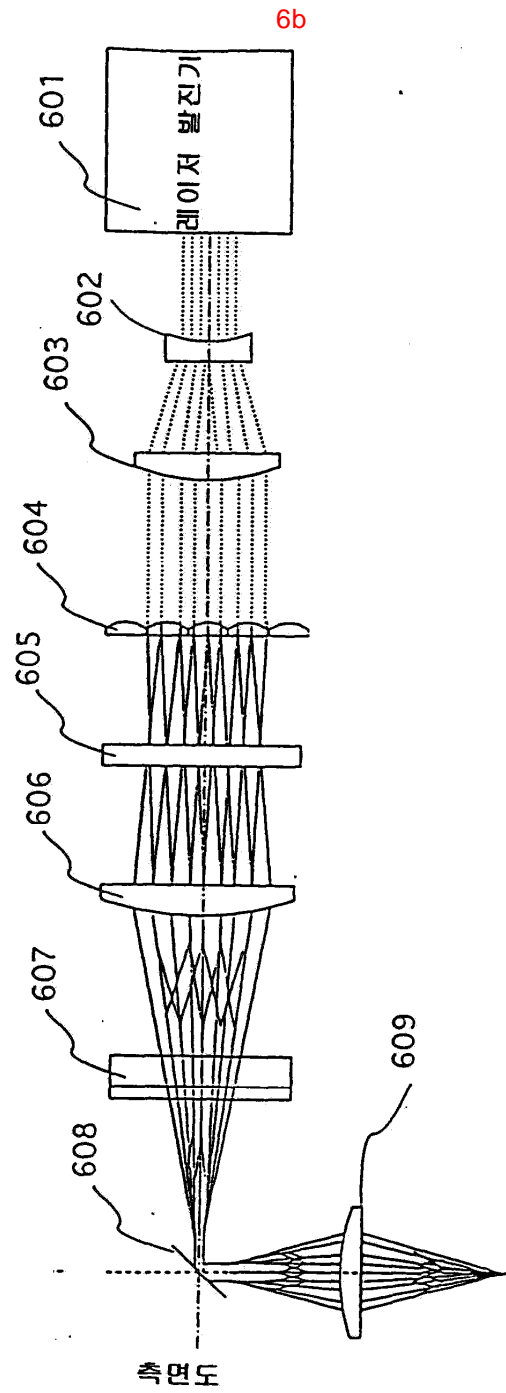


4e

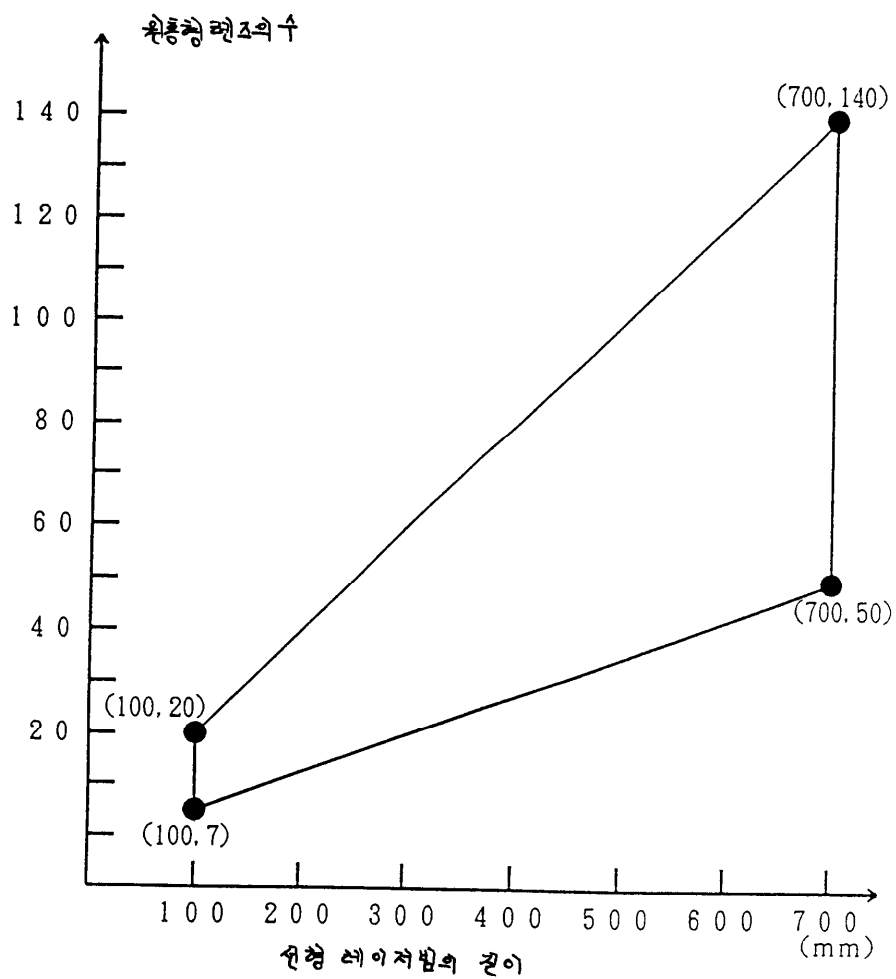




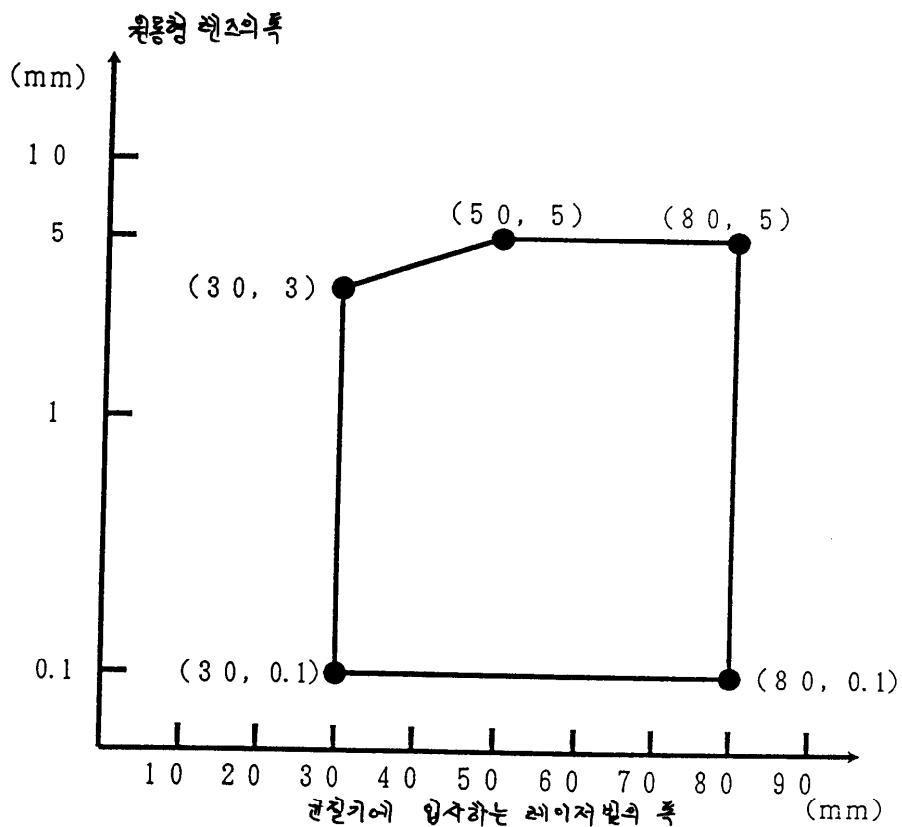




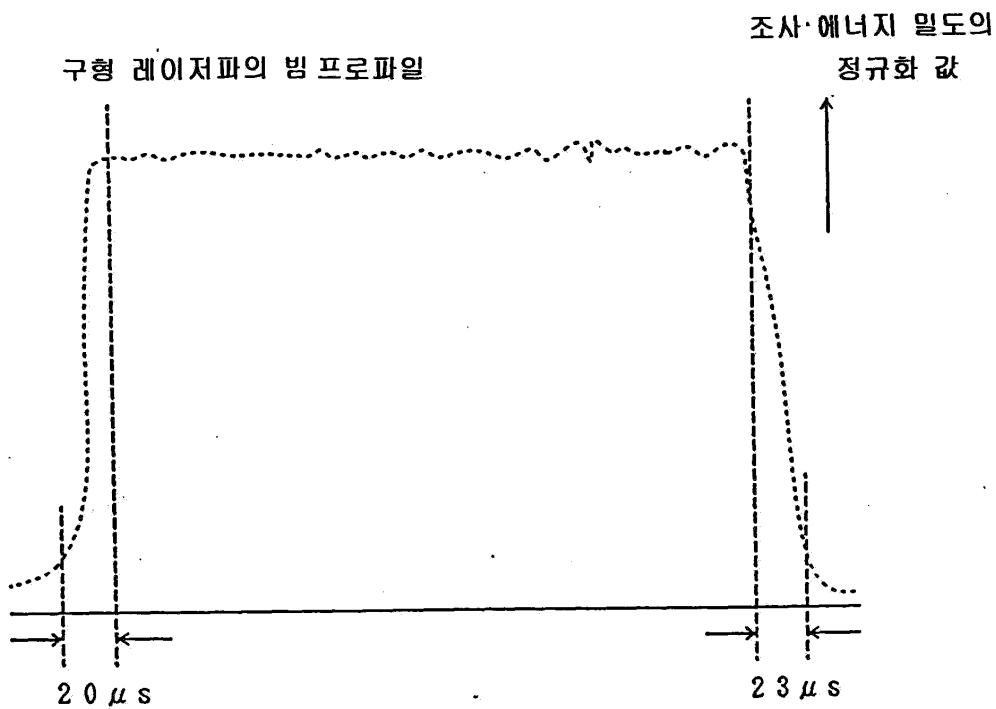
7



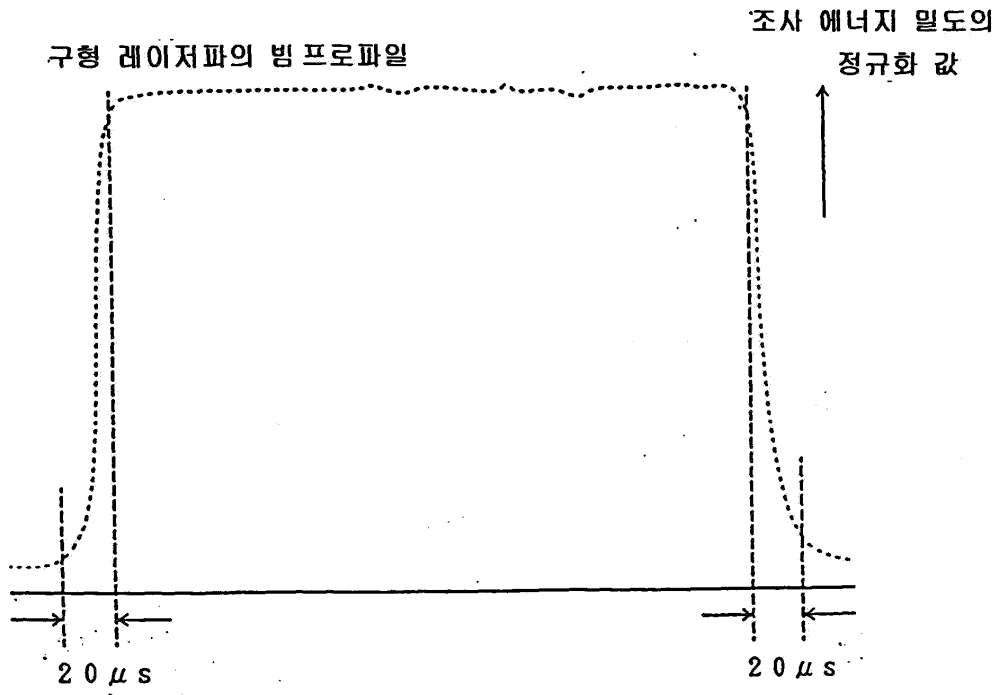
8



9



10



11

