

4 , , 2 - 92650 , IC pnpn (1 - 238962 , 2 - 1458) , 2 - 92651

(2 - 263668) .

1 , 가 (T_1, T_2, T_3, \dots) , (L_1, L_2, L_3, \dots) , 3 (D_1, D_2, D_3, \dots) , V_{GA} (5V) , (R_L) (G_1, G_2, G_3, \dots) , (T_1) (ϕ_s) 가 가 , (ϕ_1) 가 가 (ϕ) , 1 , R_1, R_2, R_1 ,

(ϕ_1) H , (T_2) 가 , (G_2) V_{GK} 5V (ϕ_1) 0V (D_2) (D_2) , 1V (G_3) (D_1) (G_1) , (G_1) 5V 가 , +pn (1V) 가 , (ϕ_2) H , 2V (T_3) (T_3) , 4V (T_5)) (T_3) , 2

(ϕ_s) , (ϕ_s) L (0V) (ϕ_2) H (2 4V) , (T_1) , (ϕ) s) H

(T_2) 가 , (G_2) , V_{GK} (5) , 0V 가 , (ϕ_1) , Pn (1V) , (L_2)

(G_1) 5V, (G_3) 1V가, (L_1)
 (L_3) 2V가, (L_2) 가, (ϕ_1)
 (ϕ_1) 0V, 가
 600dpi/128 (5.4mm)
 T_1 T_{128} 40, 50, 60, 70, 80, 90, (ϕ_1, ϕ_2) , (ϕ_s) , (D_{out})
 (100) , $(40, 50, 70)$, ϕ_1, ϕ_2, V_{GK} , 4
 (40) , ϕ_1 , ϕ_2 , V_{GK} , 5
 (40) , ϕ_1 , ϕ_2 , V_{GK} , 5
 $(4, 5)$, ϕ_1, ϕ_2 , $(2, 3)$, (5) , ϕ_1 , (2) , ϕ_2 , (3) , (6) , 4, 2
 ϕ_1, ϕ_2 , $(2, 3)$, ϕ_2 , (3) , ϕ_1 , (2) , (8) , 4
 (10) , 4, (8) , pnpn, p, (30) , n, (32) , p, (34) , n, (36) , pnpn, p
 (22) , (18) , (10) , pnpn, (18) , pnpn
 (18) , (14) , (20) , (16) , (18) , 1, ϕ_2 , $(3; 4)$, 5, ϕ_2 , (3) , 1, (25) , 4, ϕ_1 , (2) , 가가
 (18) , (25) , (14) , 가가
 pnpn, pnpn, pnpn, 5, 가
 가, 가, 가, 가
 , pnpn

1 , pnpn 3 3 2 , pnpn
 , 3 2 , , pnpn
 3 , 2 , pnpn 가
 , , pnpn 가 pnpn , , pnpn .
 (1) pnpn 2 , 가 .
 (2) pnpn , (≠ ohmic) , .
 (3) pnpn , , .
 (4) pnpn pnp npn , .
 pnpn pnpn 1 , , pn
 pn 1 pnpn 2 , ,
 2 , , pnpn .
 3 , , pnpn ,
 , pnpn pnpn .
 4 , pnpn pnp npn , pnp npn , ,
 pnp npn npn .
 1 , 가 .
 2 , .
 3 , ∅ 1 .

4 ,

5 ,

6 , 1

7 ,

1

6 , 1

6 , 5

(10) p GaAs가, p (30, 34) p GaAs가, n (32, 36) n GaAs가,
 (14) SiO₂가 (16, 25) Al (18) AuZn

가 , pnpn (34) n (36) (34, 36) , p
 (23) (34) (ohmic) (24) (14) , p
 (16) (36 34) 가 (34) n (36) (16)
 가 (30, 32, 34, 36) pnpn

2

pnpn , pnpn (18) , n GaAs
 n (36) ()
 (18) AuZn (n) (整流)
 , p (10) pnpn
 (18) , p (34) (18) p

3

, 5 , pnpn ()
 (18) GaAs
 , pnpn , pnpn 가

4

, pnpn n , pnp ,

7 , (18) p GaAs (10) , n GaAs (36) pnp (30, 32, 34) , pnpn

, npn

4가

, pnpn

가

, pnpn

가

(57)

1.

pnpn 3 , 3 2 , 1

2

pnpn 3 , , 2

가

pnpn

pnpn

1

2

2.

pnpn 3 , 3 2 , 1

2

pnpn 3 , , 2

가

pnpn ,

pnpn

3.

2 ,

4.

pnpn 3 , 3 2 , 1

2 , ,

pnpn 3 , 2

가 , ,

pnpn ,

pnpn ,

5.

pnpn 3 , 3 2 , 1

2 , ,

pnpn 3 , 2

가 , ,

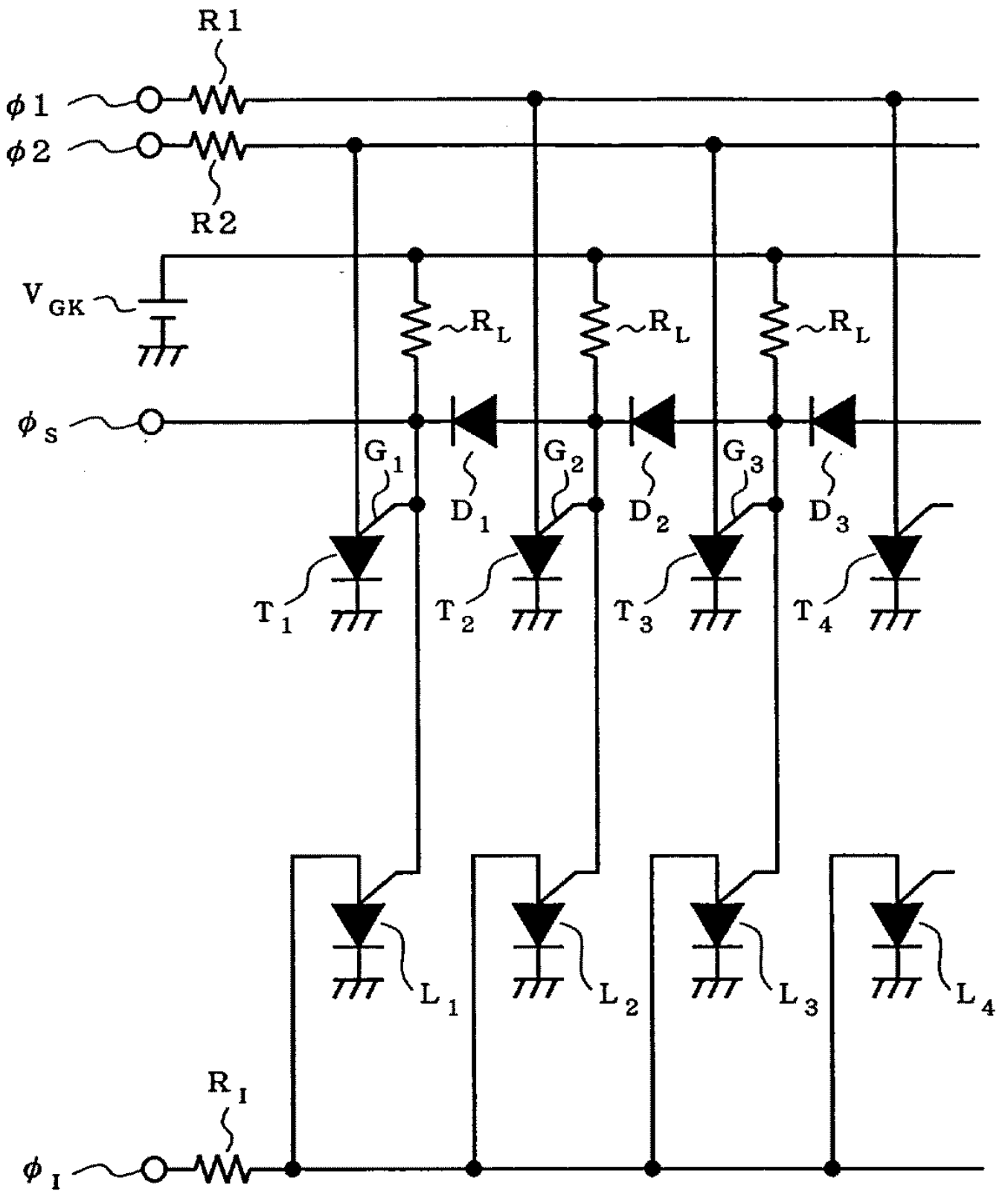
pnpn

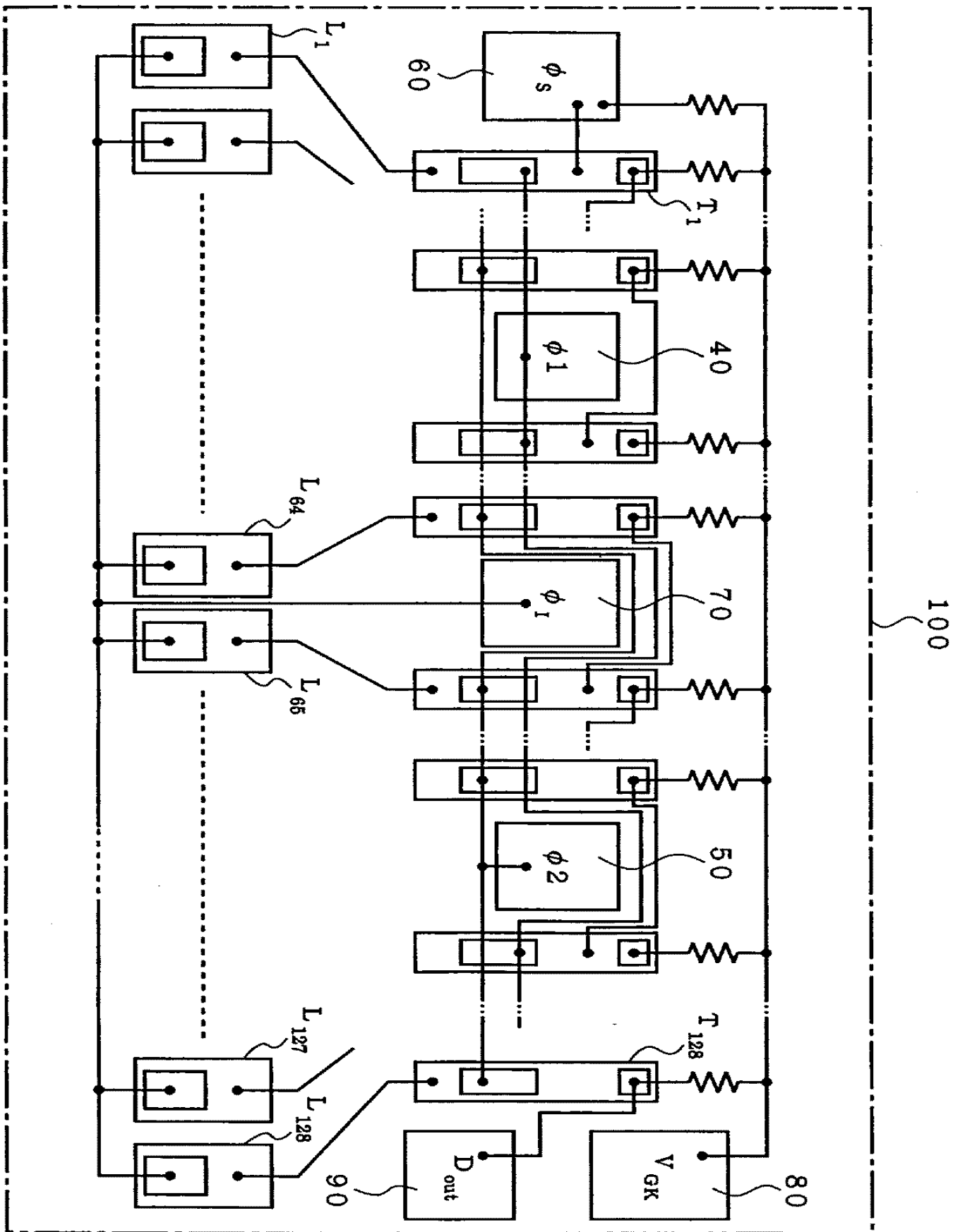
pnpn , pnp npn ,

pnp npn ,

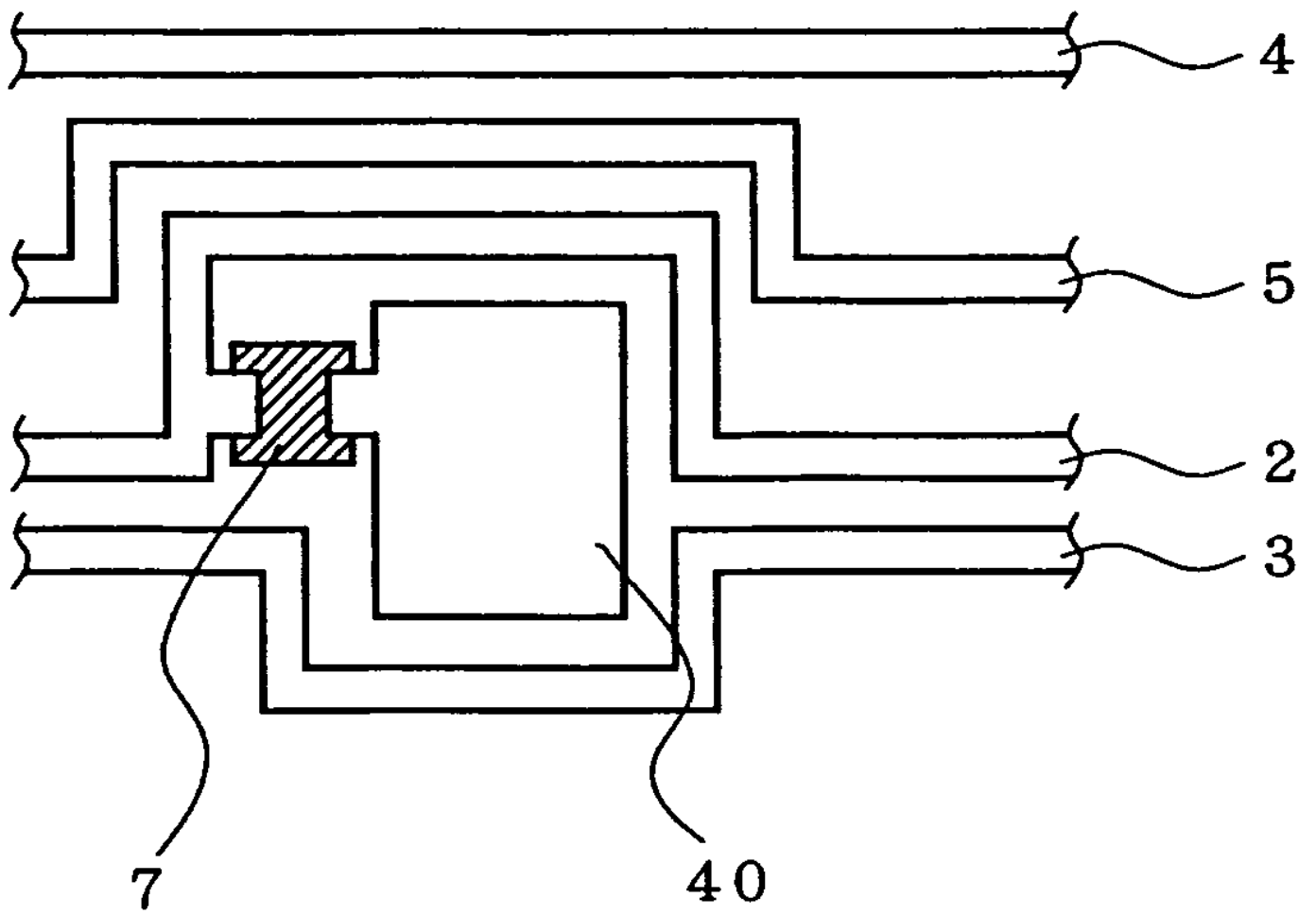
pnp npn

1

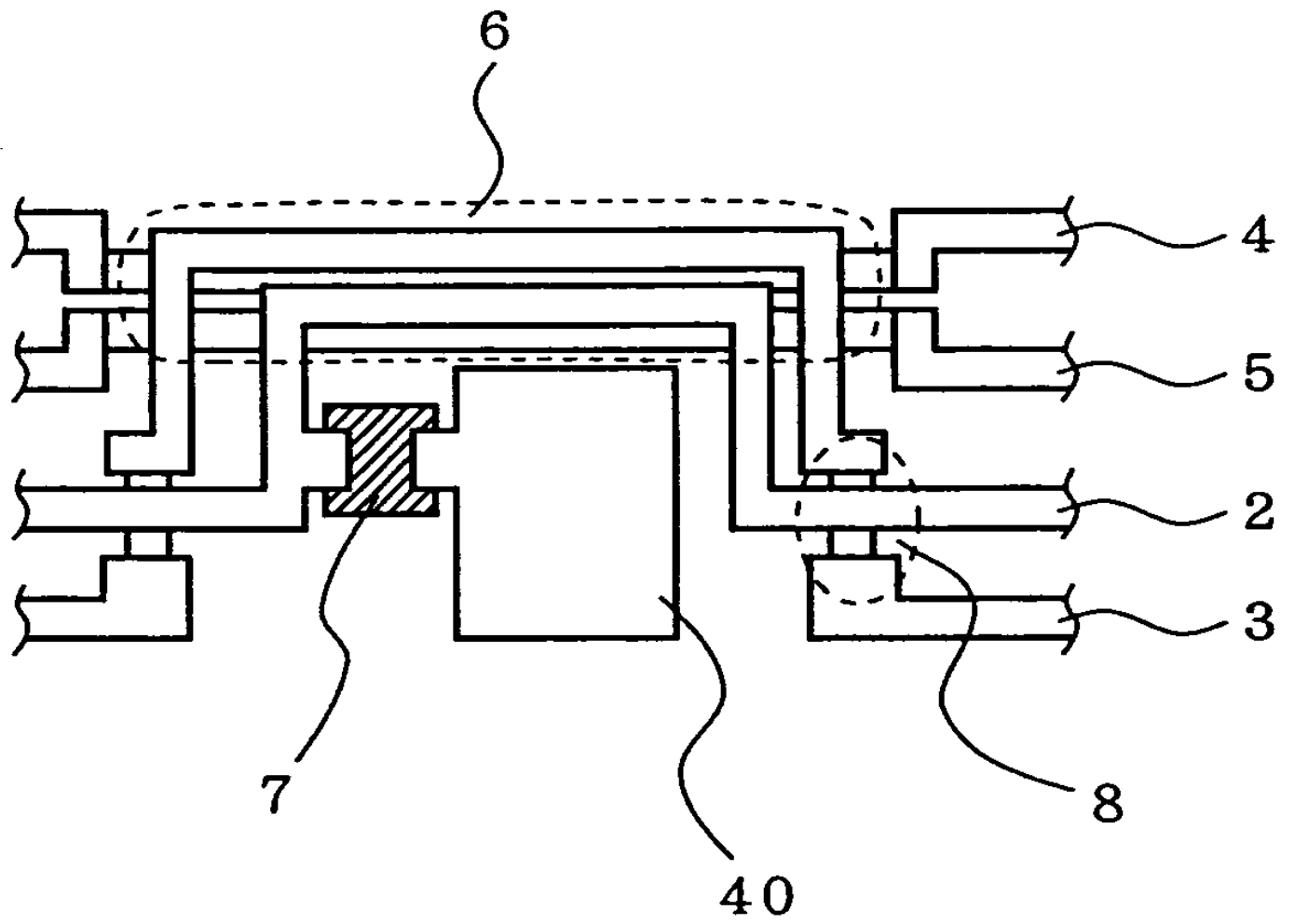




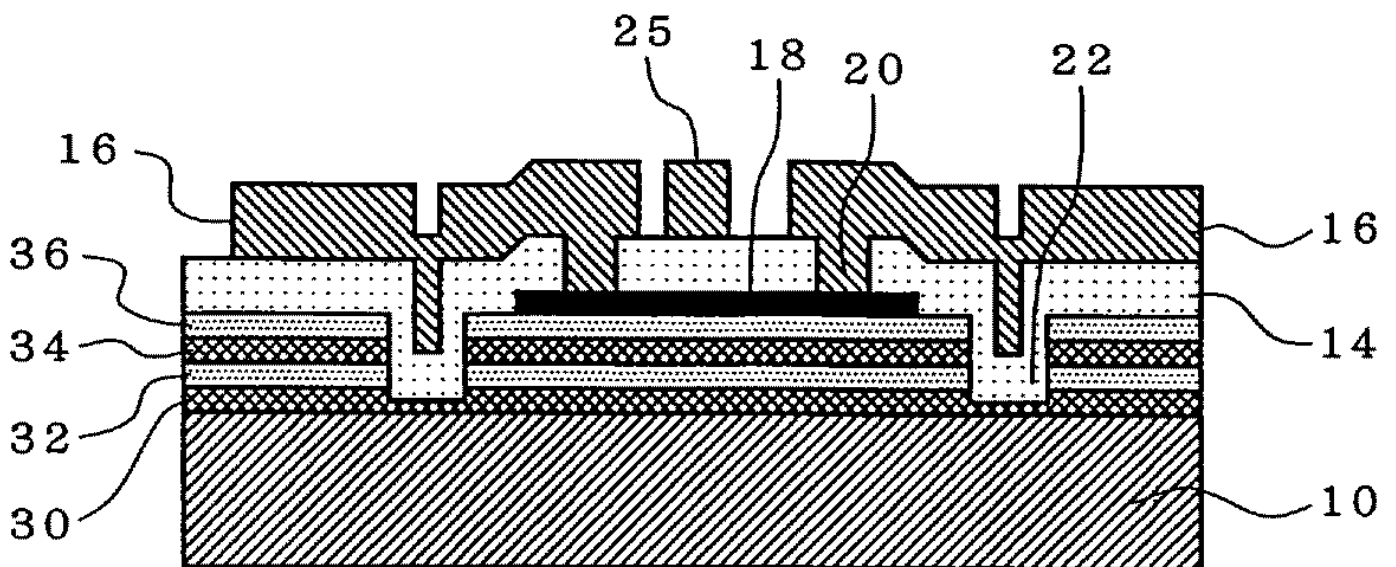
3



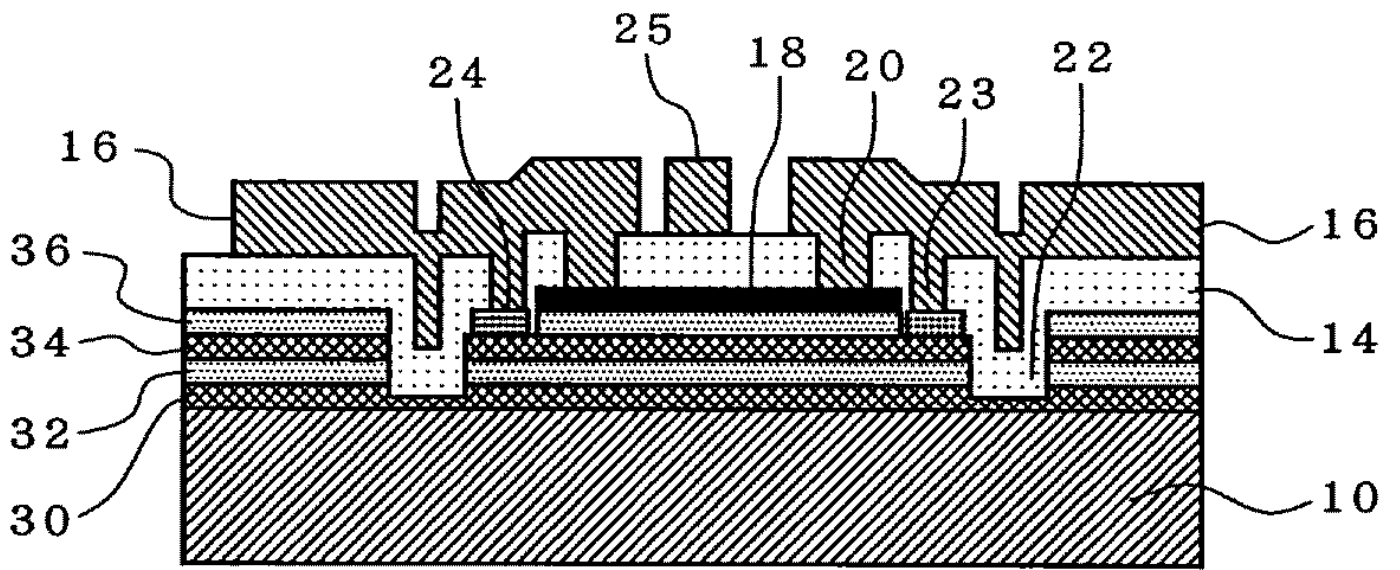
4



5



6



7

