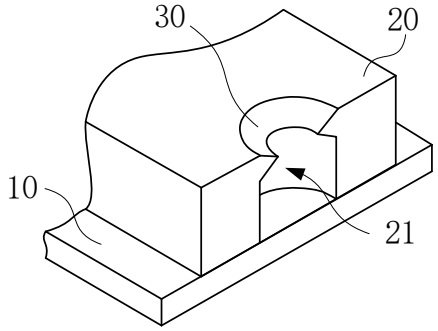


Fig. 1

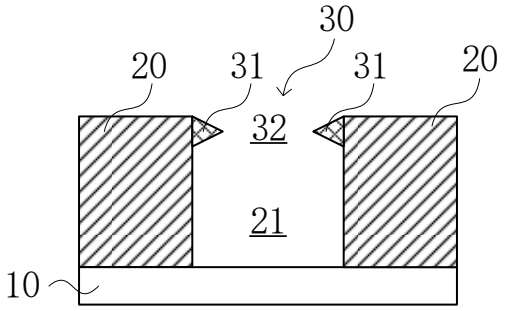


Fig. 2

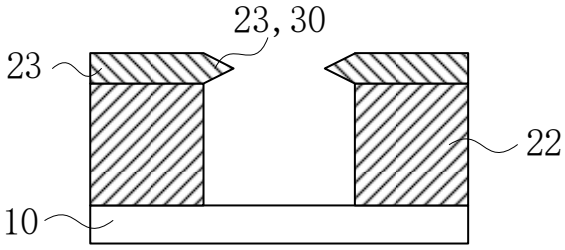


Fig. 3

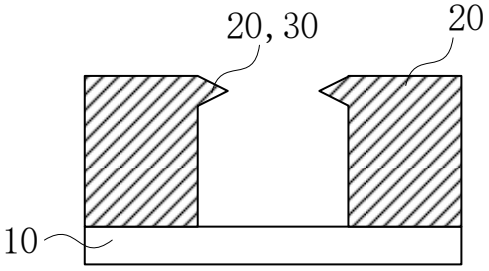


Fig. 4

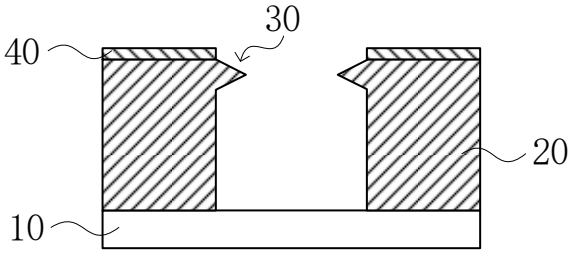


Fig. 5

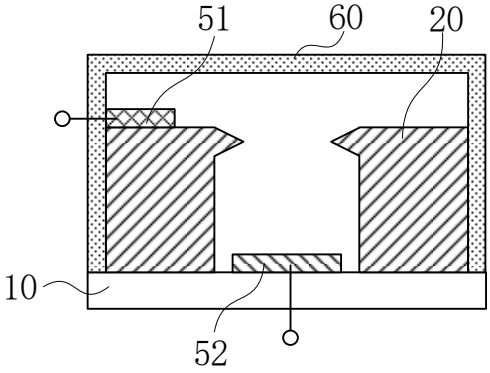


Fig. 6A

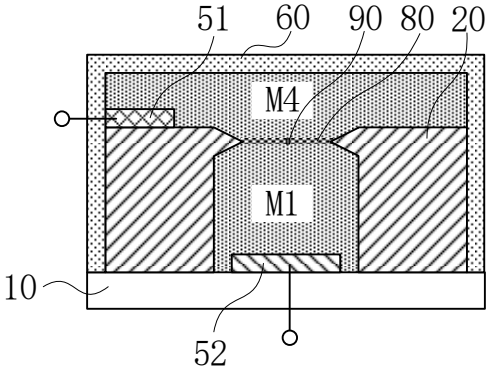


Fig. 6B

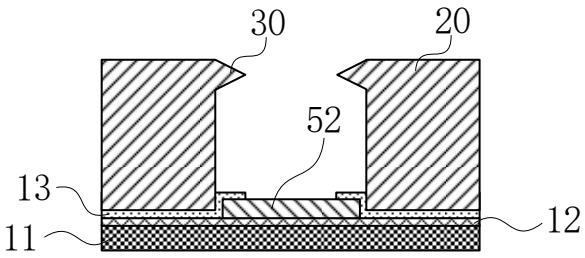


Fig. 7

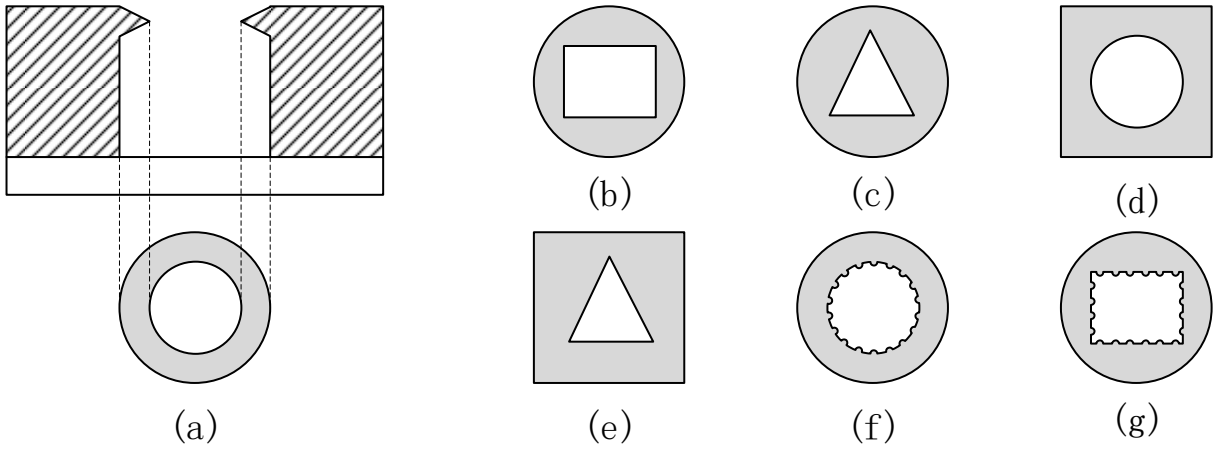


Fig. 8

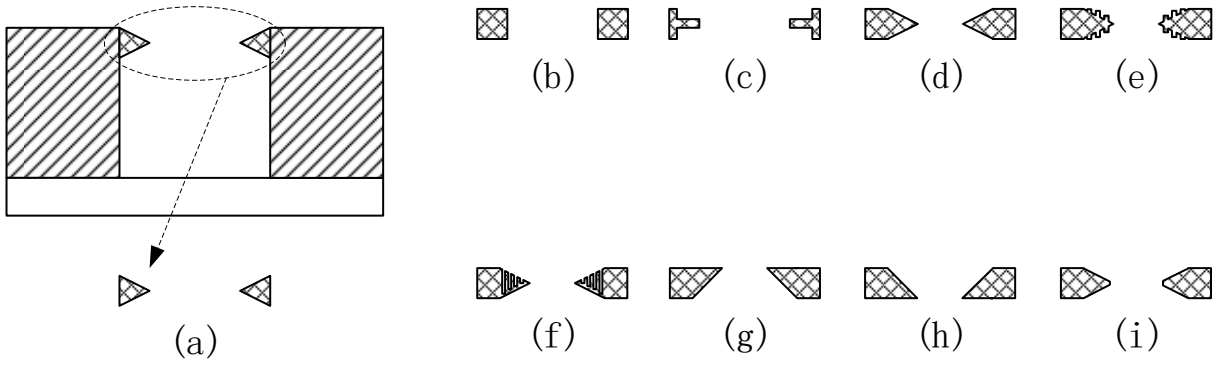


Fig. 9

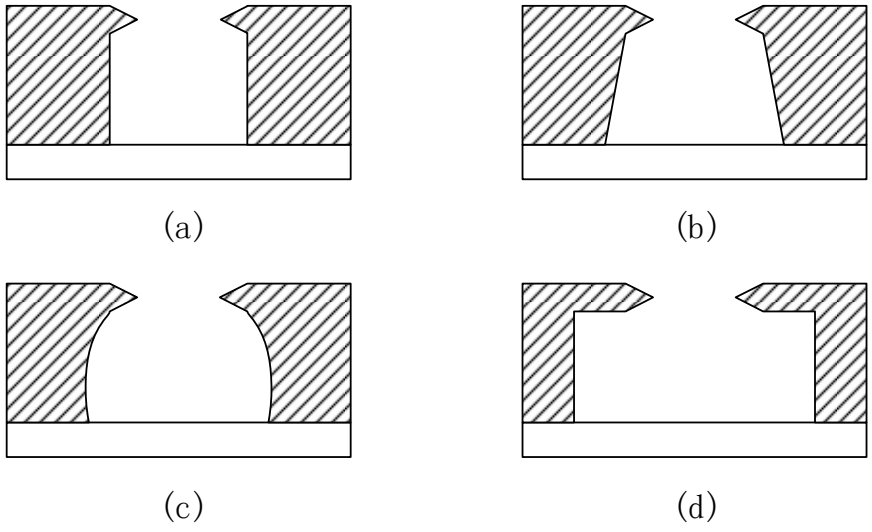


Fig. 10

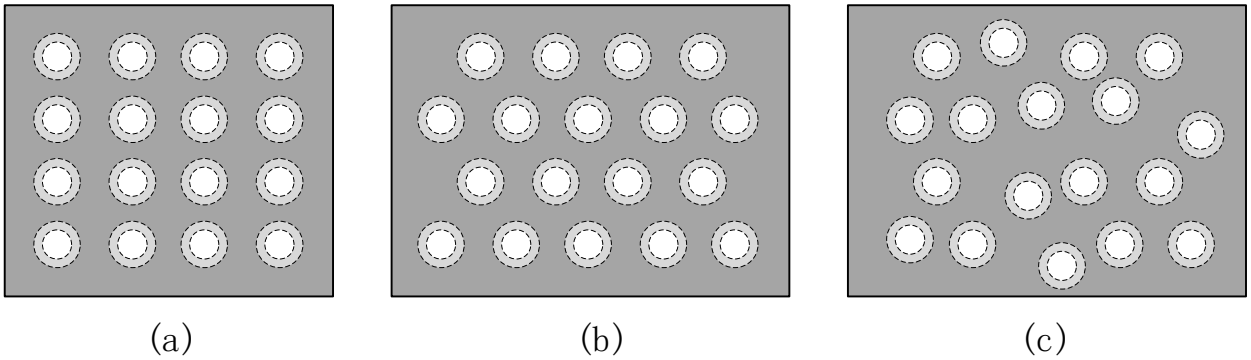


Fig. 11

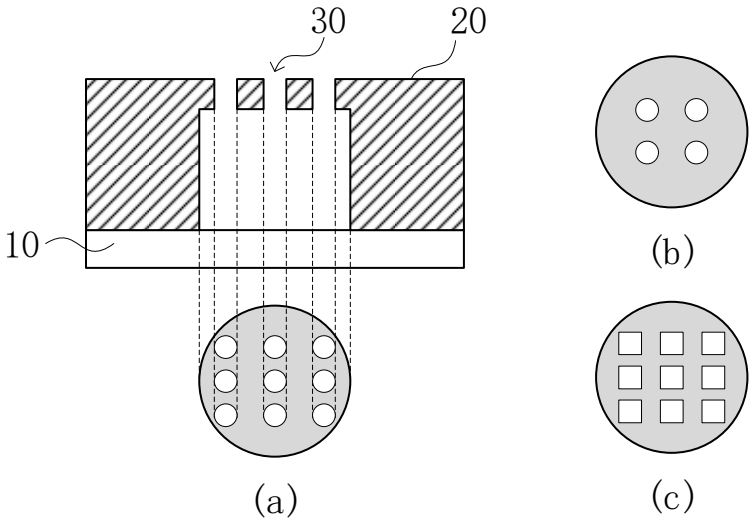


Fig. 12

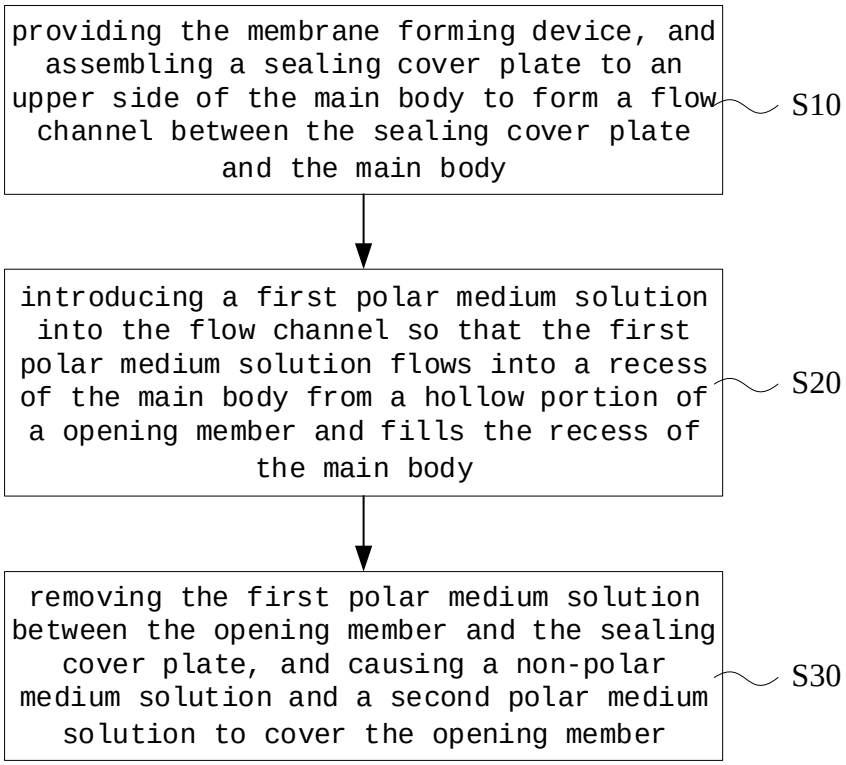

providing the membrane forming device, and assembling a sealing cover plate to an upper side of the main body to form a flow channel between the sealing cover plate and the main body
S10
introducing a first polar medium solution into the flow channel so that the first polar medium solution flows into a recess of the main body from a hollow portion of a opening member and fills the recess of the main body
S20
removing the first polar medium solution between the opening member and the sealing cover plate, and causing a non-polar medium solution and a second polar medium solution to cover the opening member
S30

Fig. 13A

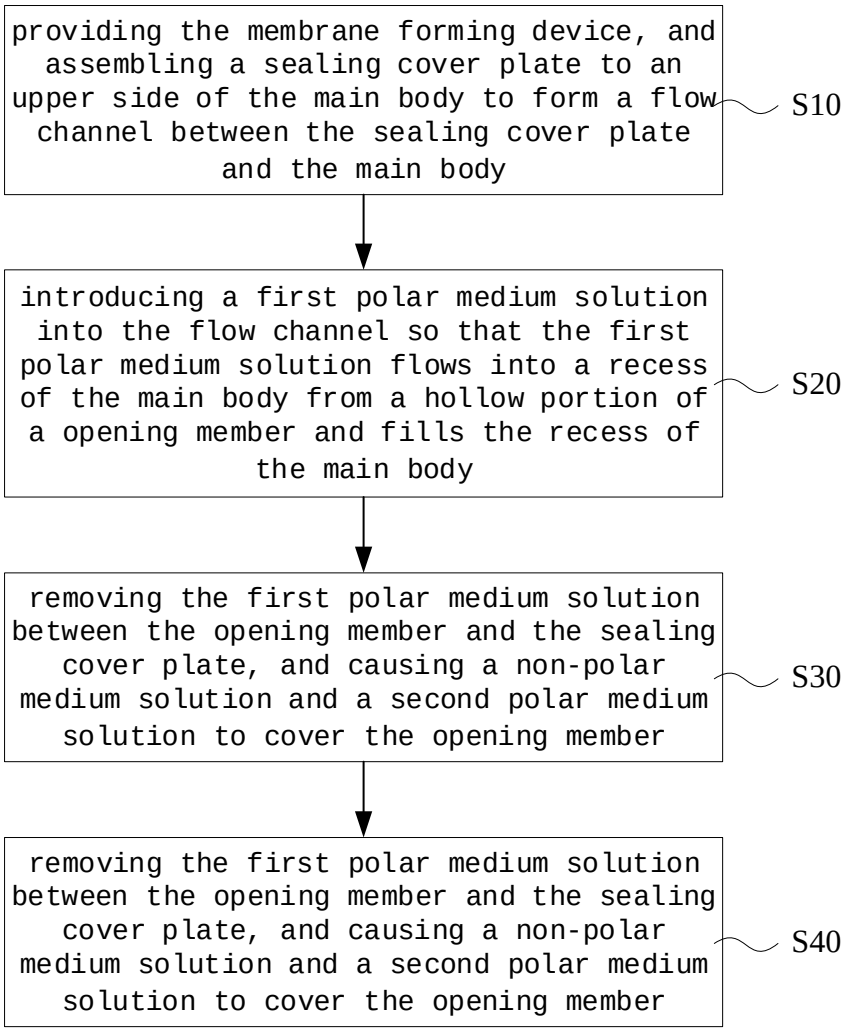

providing the membrane forming device, and assembling a sealing cover plate to an upper side of the main body to form a flow channel between the sealing cover plate and the main body
S10
introducing a first polar medium solution into the flow channel so that the first polar medium solution flows into a recess of the main body from a hollow portion of a opening member and fills the recess of the main body
S20
removing the first polar medium solution between the opening member and the sealing cover plate, and causing a non-polar medium solution and a second polar medium solution to cover the opening member
S30
removing the first polar medium solution between the opening member and the sealing cover plate, and causing a non-polar medium solution and a second polar medium solution to cover the opening member
S40

Fig. 13B

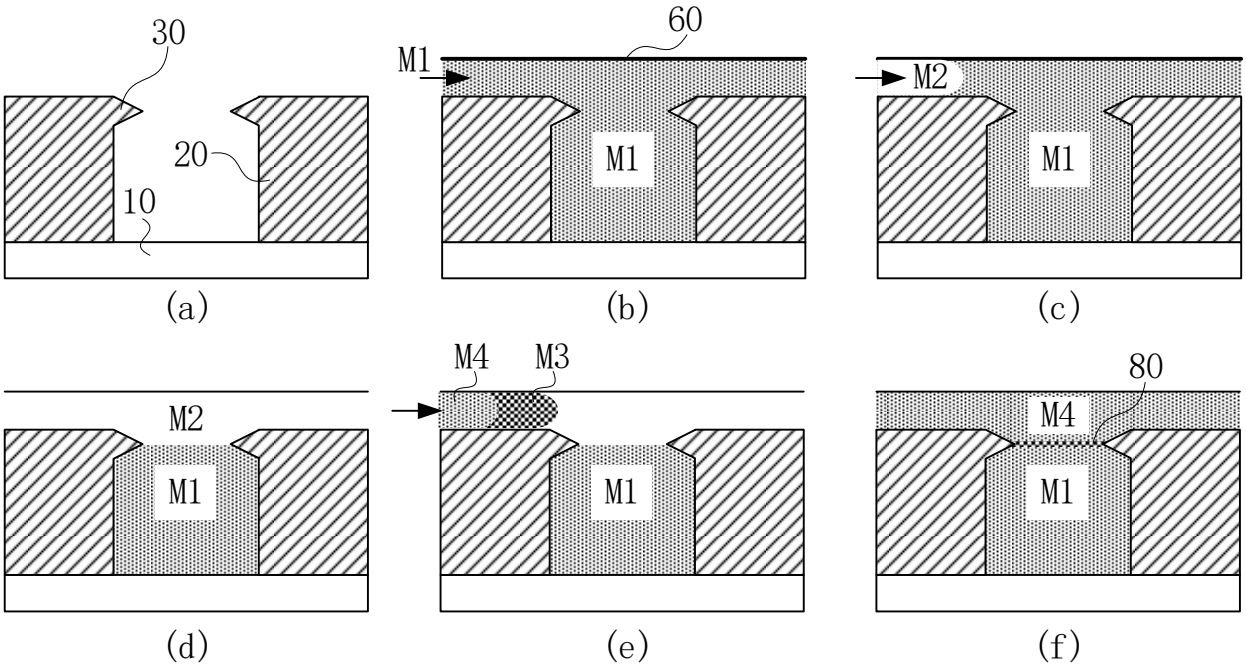

30
20
10
(a)
60
M1
M1
(b)
M2
M1
(c)
M2
M1
(d)
M4
M3
M1
(e)
80
M4
M1
(f)

Fig. 14

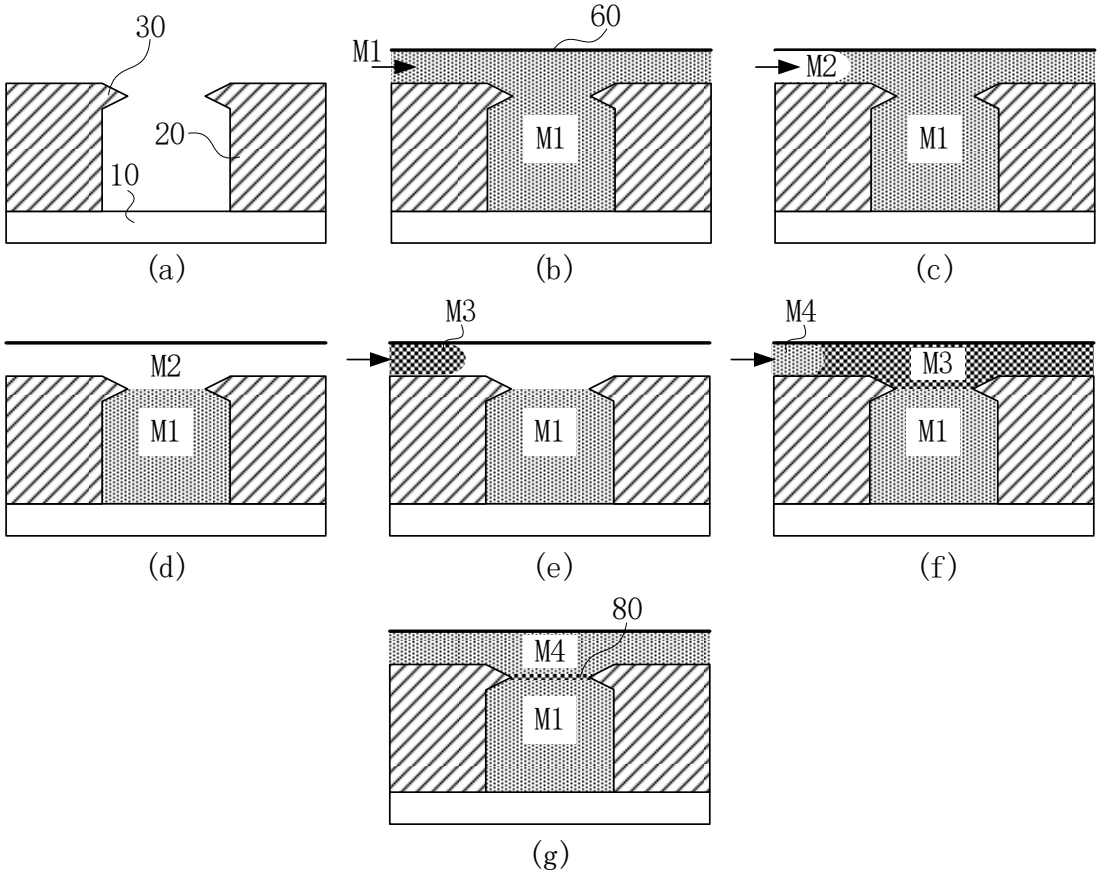

30
20
10
(a)
60
M1
M1
(b)
M2
M1
(c)
M2
M1
(d)
M3
M1
(e)
M4
M3
M1
(f)
80
M4
M1
(g)

Fig. 15

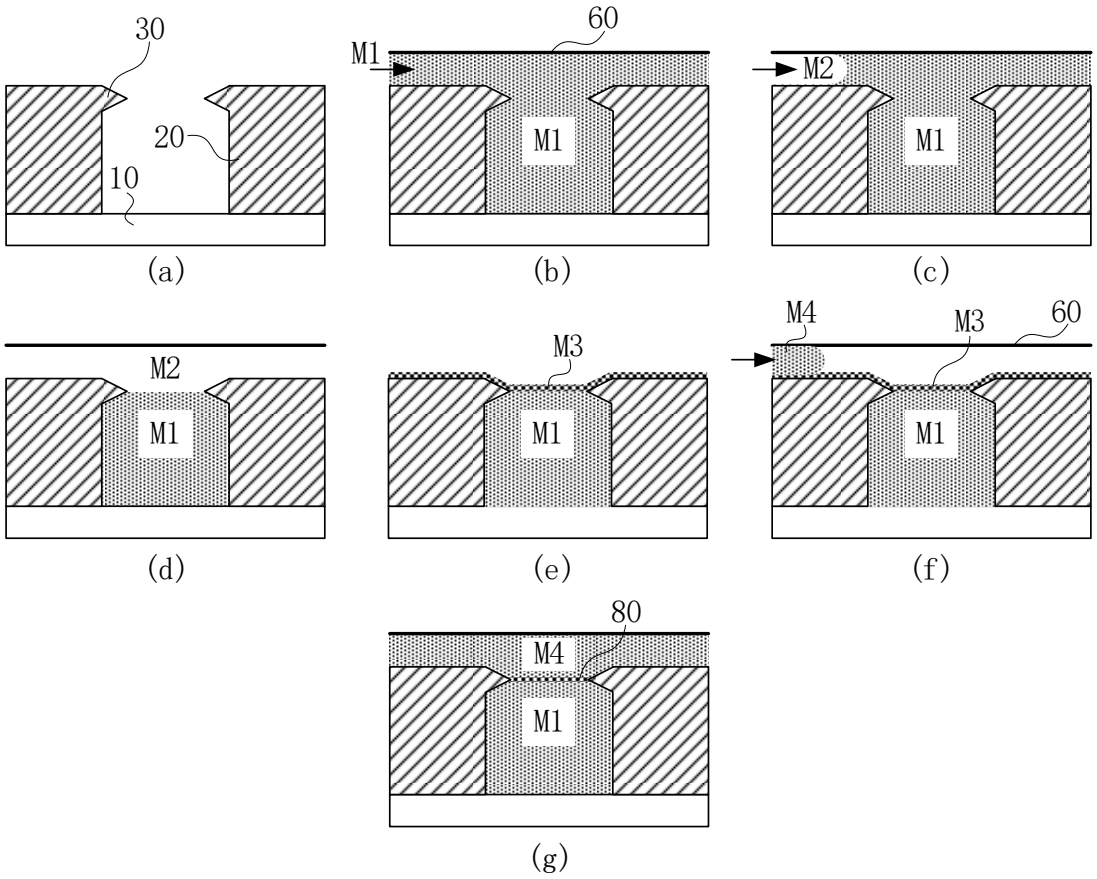

30
20
10
(a)
M1
60
M1
(b)
M2
M1
(c)
M2
M1
(d)
M3
M1
(e)
M4
M3
60
M1
(f)
80
M4
M1
(g)

Fig. 16

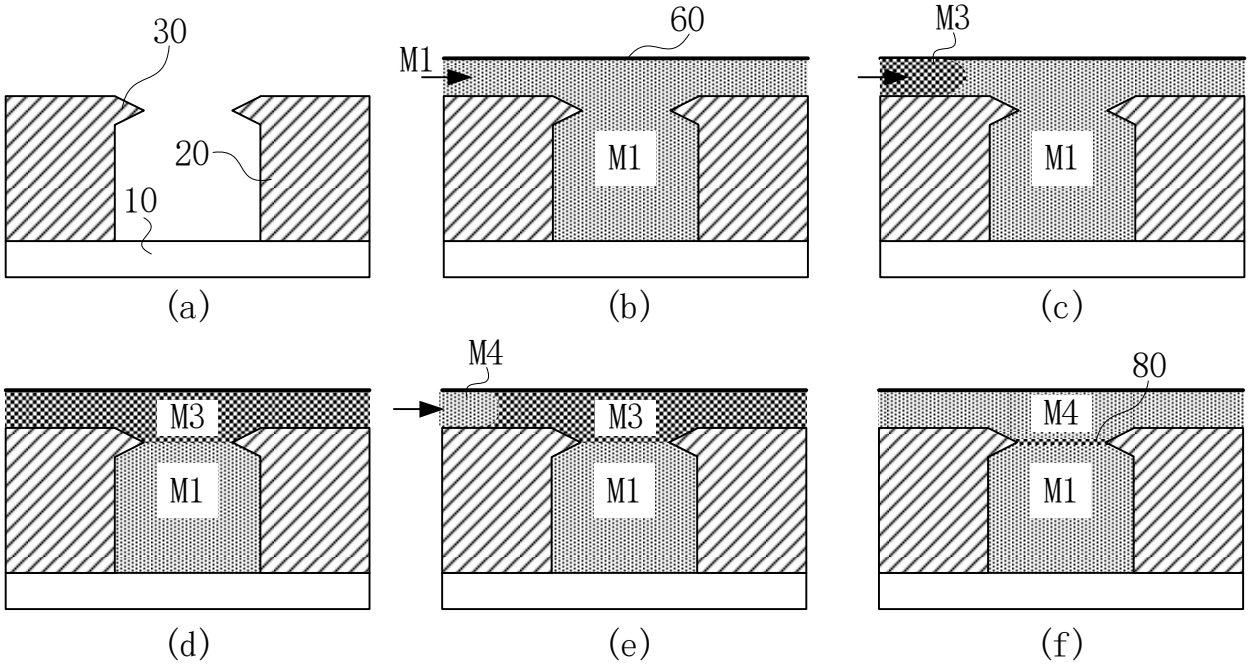

30
20
10
(a)
M1
60
M1
(b)
M3
M1
(c)
M3
M1
(d)
M4
M3
M1
(e)
80
M4
M1
(f)

Fig. 17

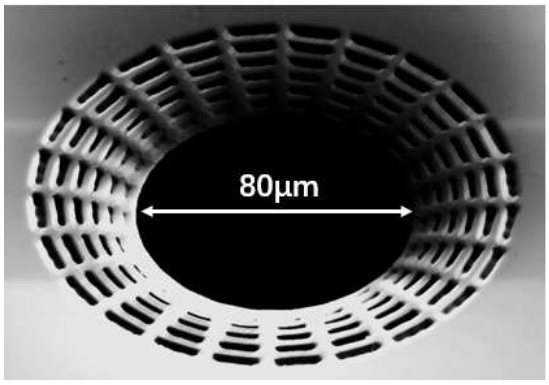


Fig. 18

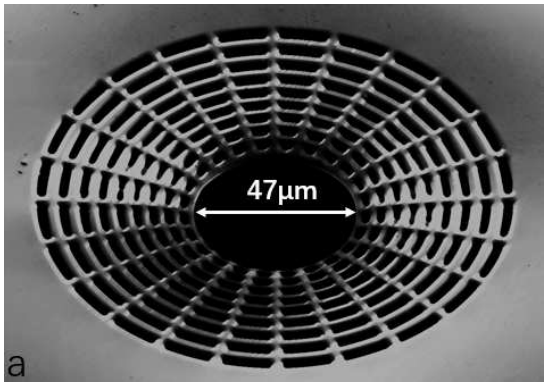


Fig. 19

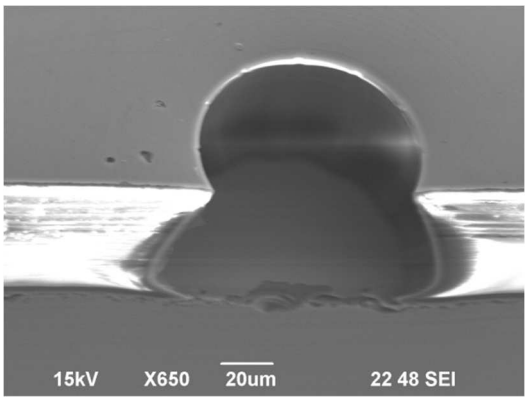


Fig. 20

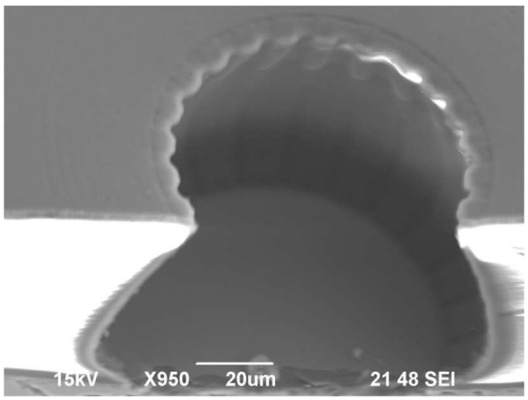


Fig. 21

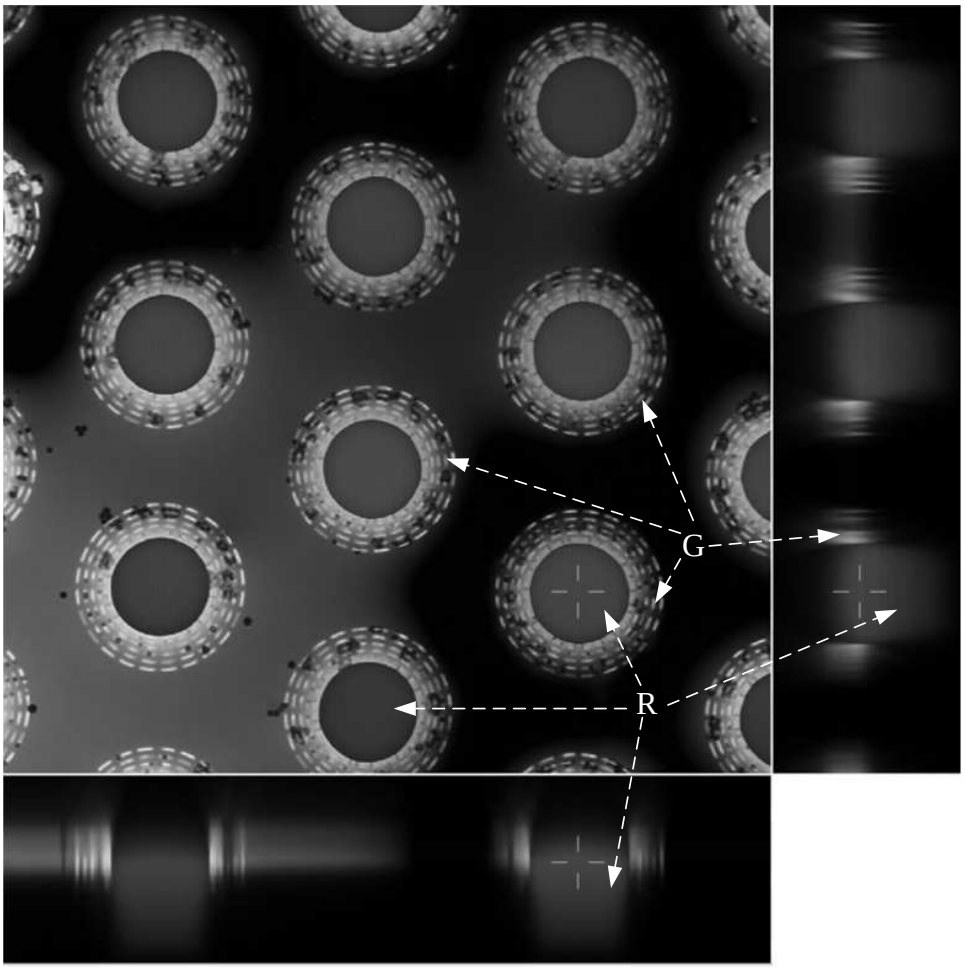


Fig. 22

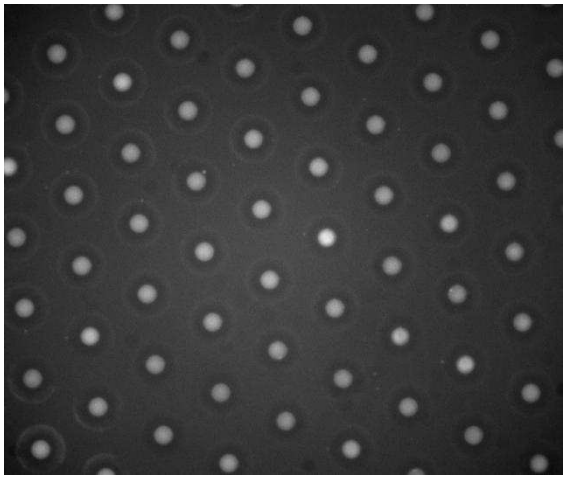


Fig. 23

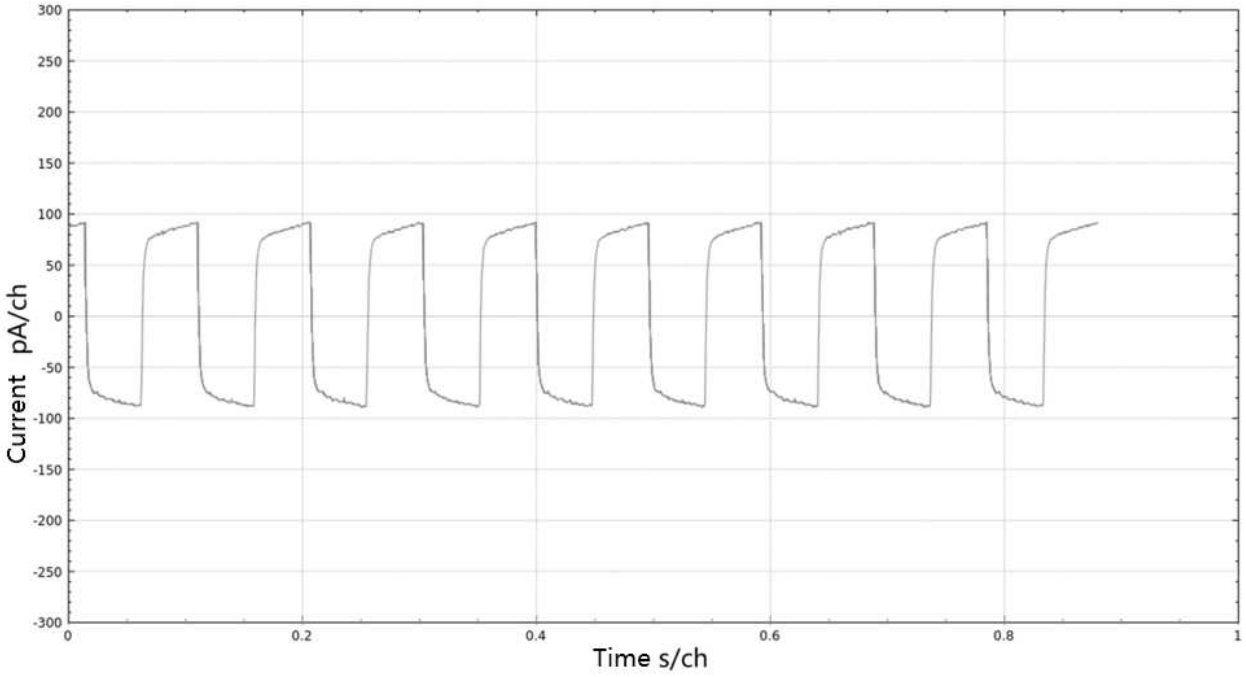

Current pA/ch
Time s/ch
300
250
200
150
100
50
0
-50
-100
-150
-200
-250
-300
0
0.2
0.4
0.6
0.8
1

Fig. 24

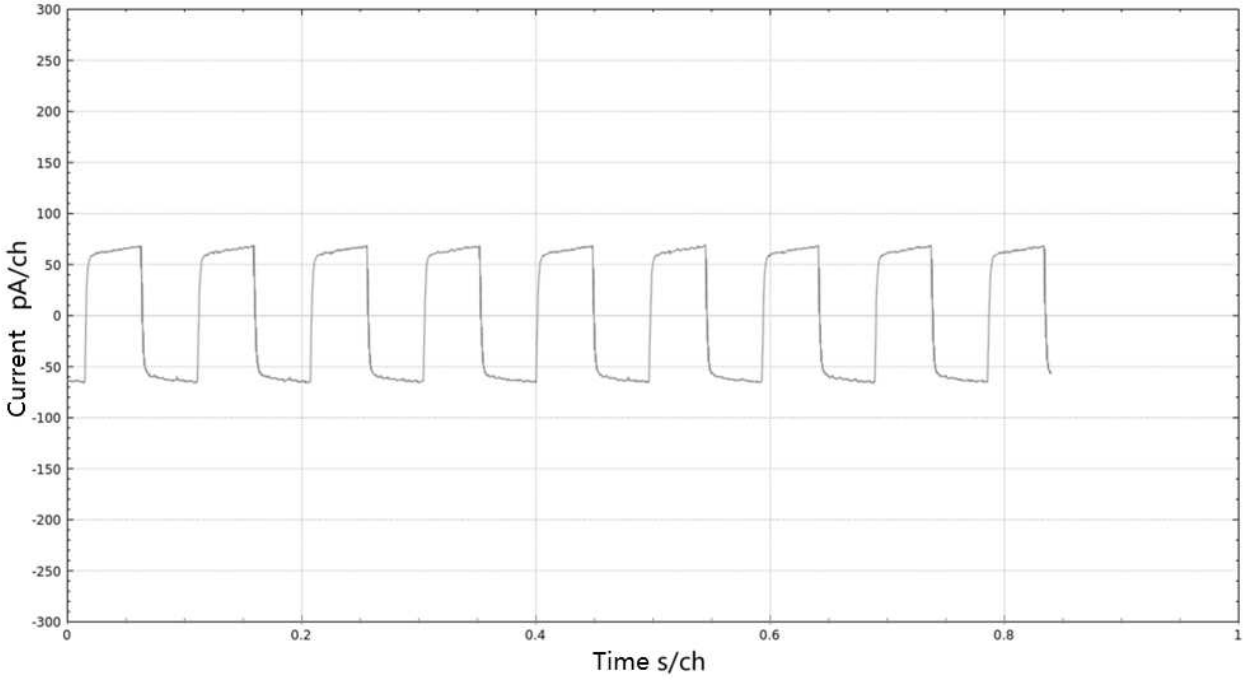

Current pA/ch
Time s/ch
300
250
200
150
100
50
0
-50
-100
-150
-200
-250
-300
0
0.2
0.4
0.6
0.8
1

Fig. 25

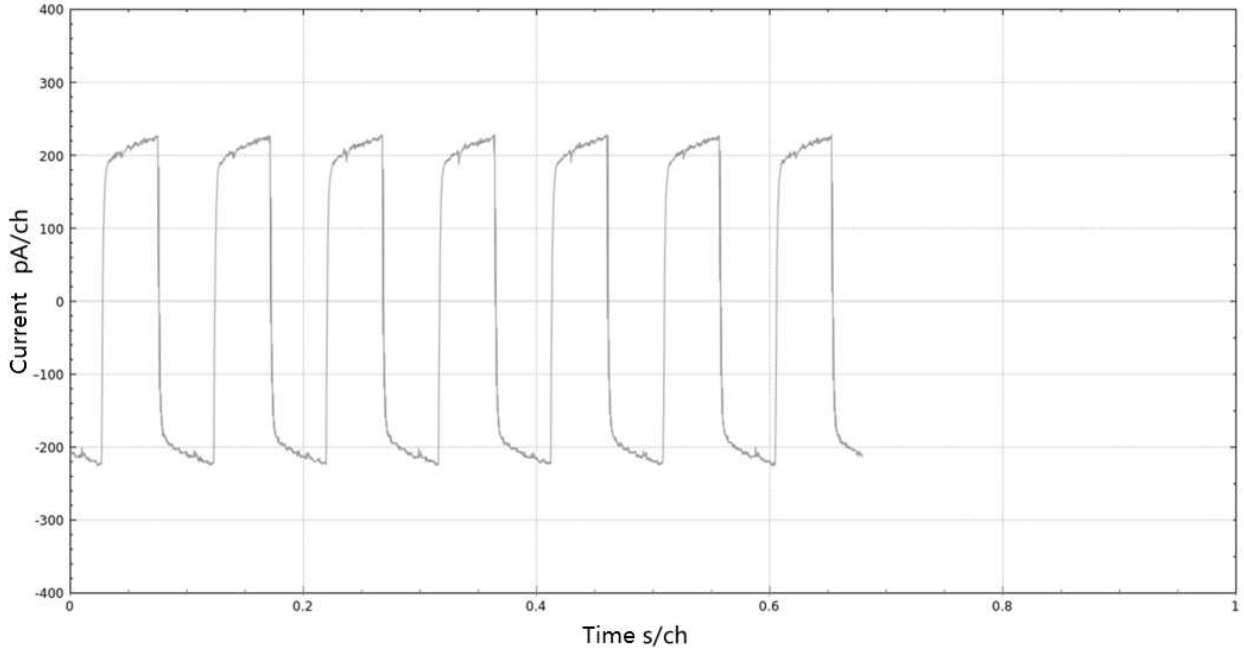

Current pA/ch
Time s/ch
400
300
200
100
0
-100
-200
-300
-400
0
0.2
0.4
0.6
0.8
1

Fig. 26

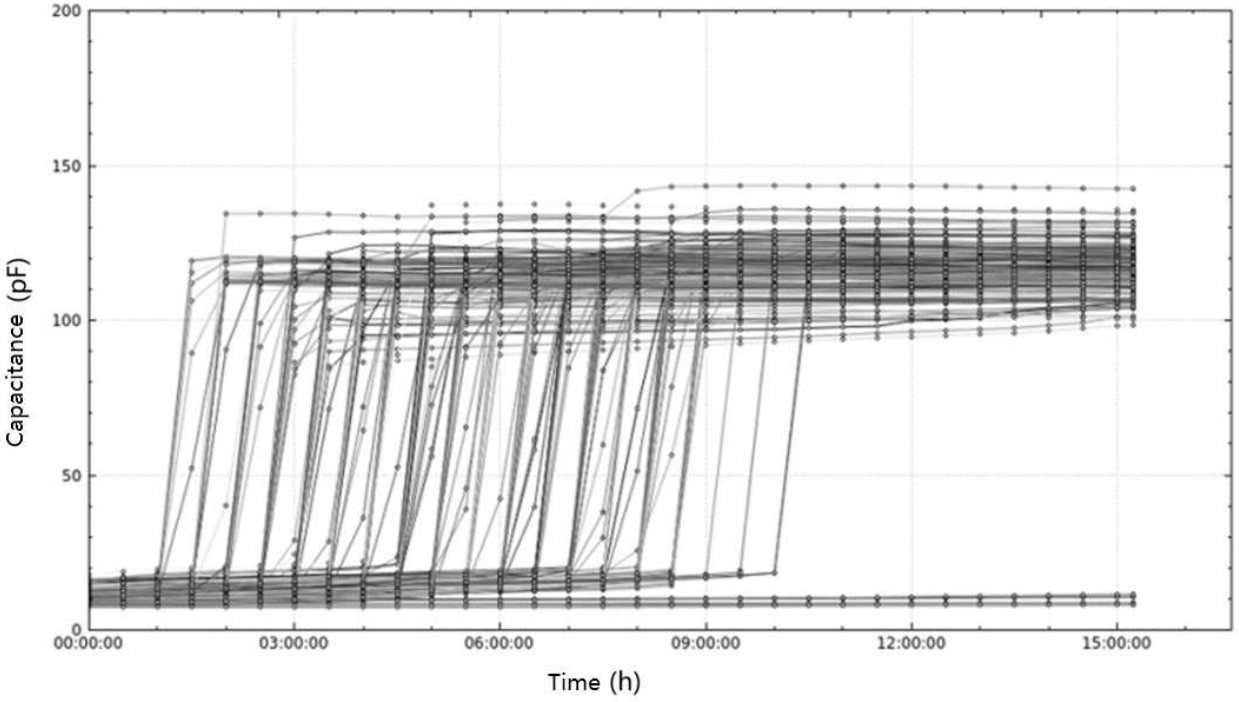

Capacitance (pF)
Time (h)
200
150
100
50
0
00:00:00
03:00:00
06:00:00
09:00:00
12:00:00
15:00:00

Fig. 27

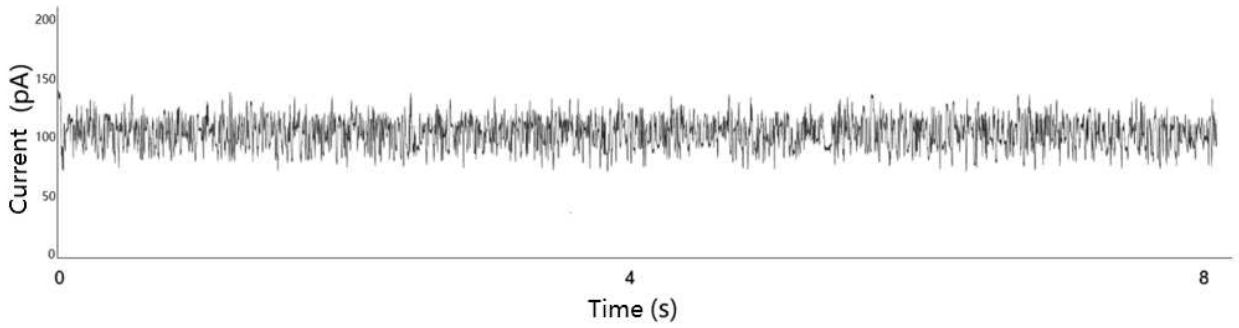


Fig. 28

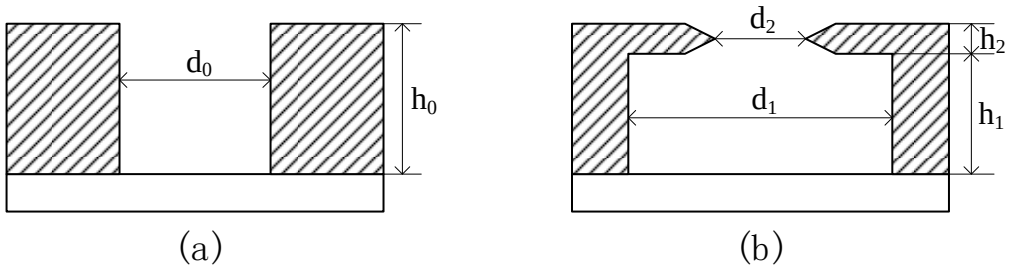


Fig. 29