815 ; A :

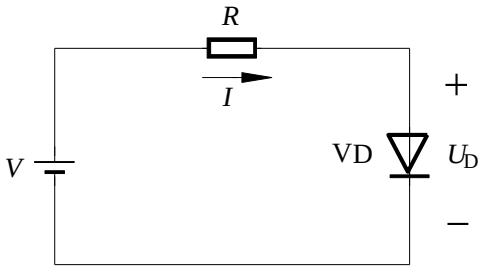
:

1

= 列= 列：1

1? = V 6V = I 2mA= $U_D = 0.7$V V 3V = I

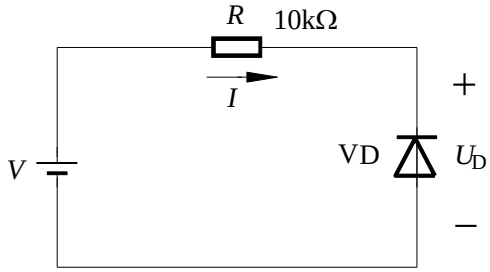
A 1mA = B 1mA= C 1mA= 2mA = D 2mA



2? 100V= V 10V = I 1μA V

20V =I

A 2μA 各= B 1μA = C = D 2μA



3? = = =

A = B = C

4? N P

A = B =

C 业 = = D =

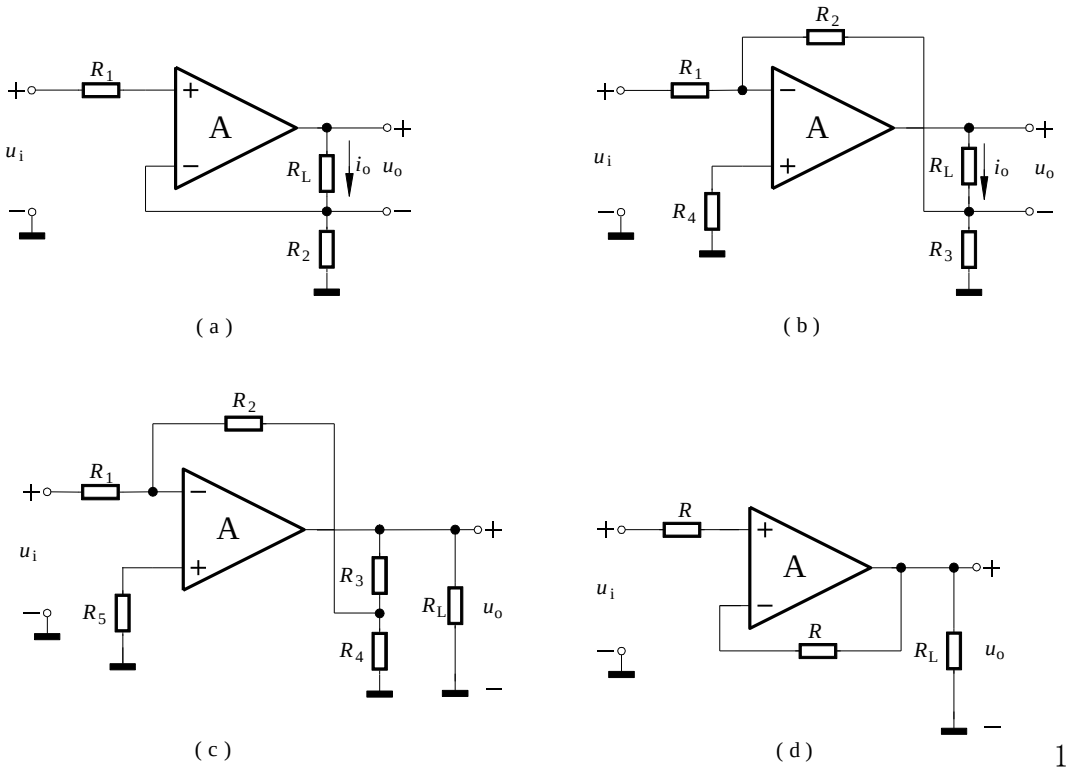
5?

(1)?

(2)?

(3)?

(4)?

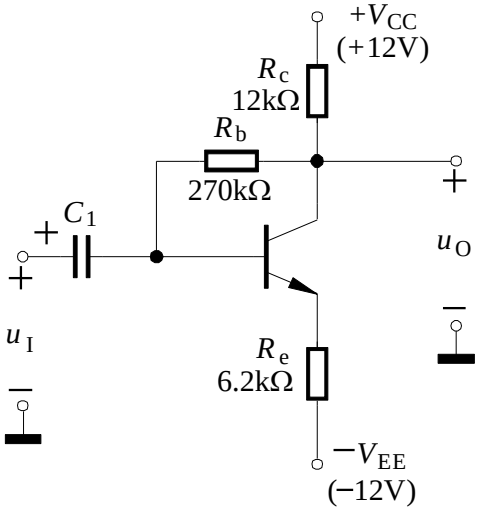


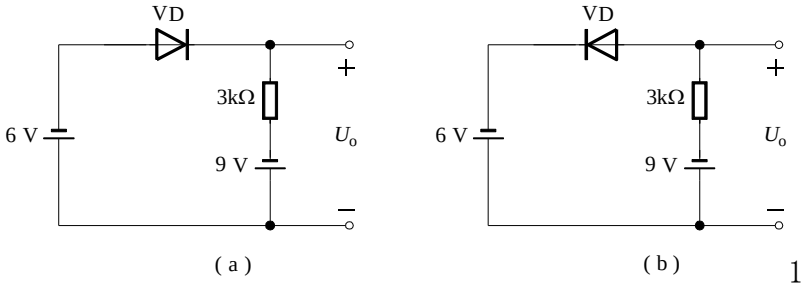
1

14 列：

β 50＝U_{BEQ} 0.6V I_{BQ} I_{CQ}

U_{CQ} U_{EQ}





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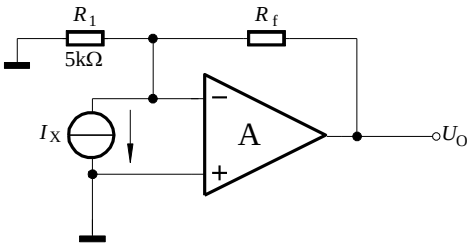
2 = 8 列= 16 列：

=I_X =A

1? U_O I_X

2? R_f =5kΩ= U_{OM} ±12V= I_{XM} ?



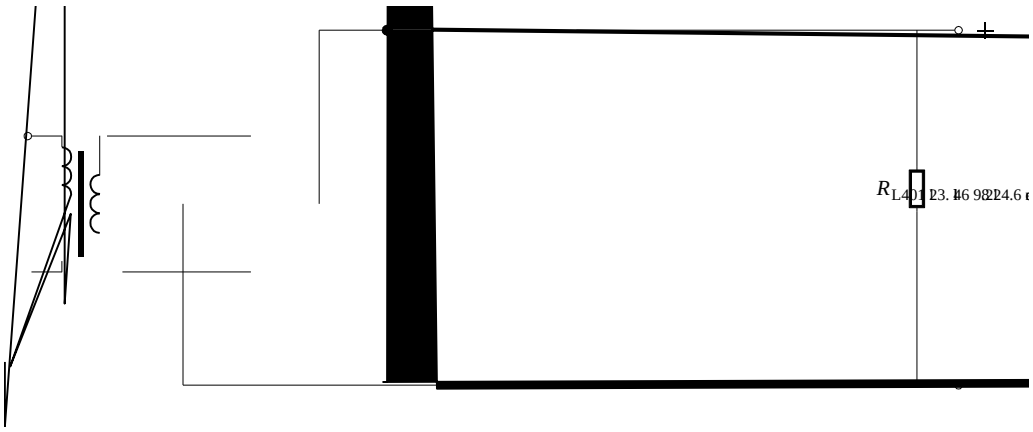
2 = 8 列= 16 列：

= VD_Z U_Z 5.3V=

U_{BE}=0.7V

1? R_W U_O 15V= R_W

2? R_W U_O



3 = 5 列= 15 列：

1

9 9 1 9 9 1 9 9 1

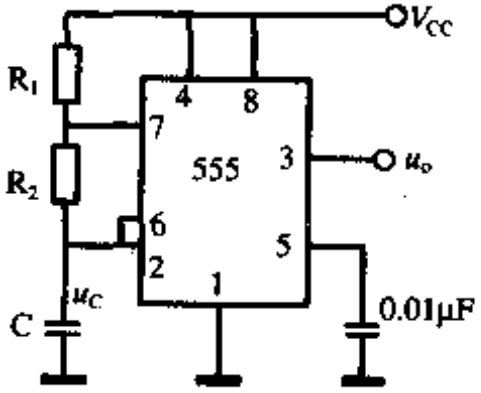
3 = 5 列= 15 列：

555 = R_1=3？9k =R_2=3k =C=1μF

1：555

2： u_c u_o

3： u_o



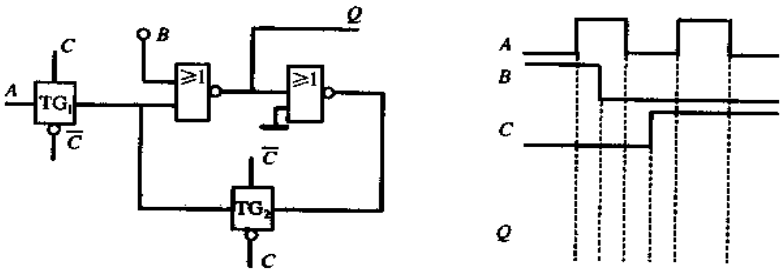
3 = 5 列= 15 列：

CMOS

1： C=0 Q

2： C=1 Q

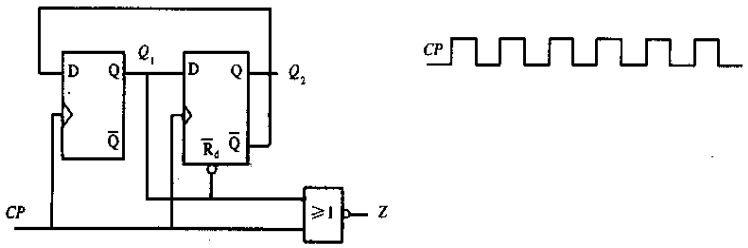
3： Q



15 列：

= D = 0

CP Q1 Q2 Z 列 Z CP



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