

图12.27在初级用电流镜像电路的OP放大电路

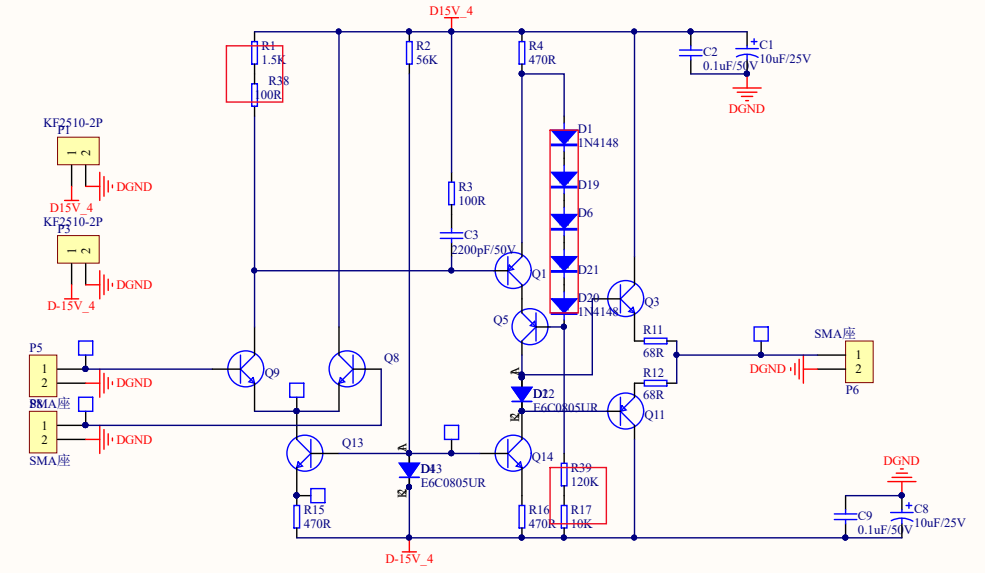


图12.28将第二级进行沃尔曼自举化电路的OP放大器

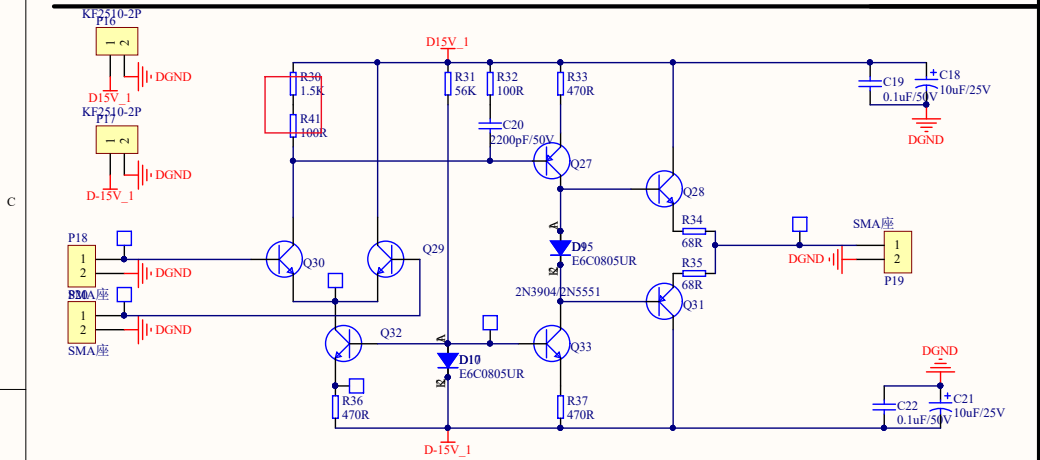


图12.9设计的OP放大器

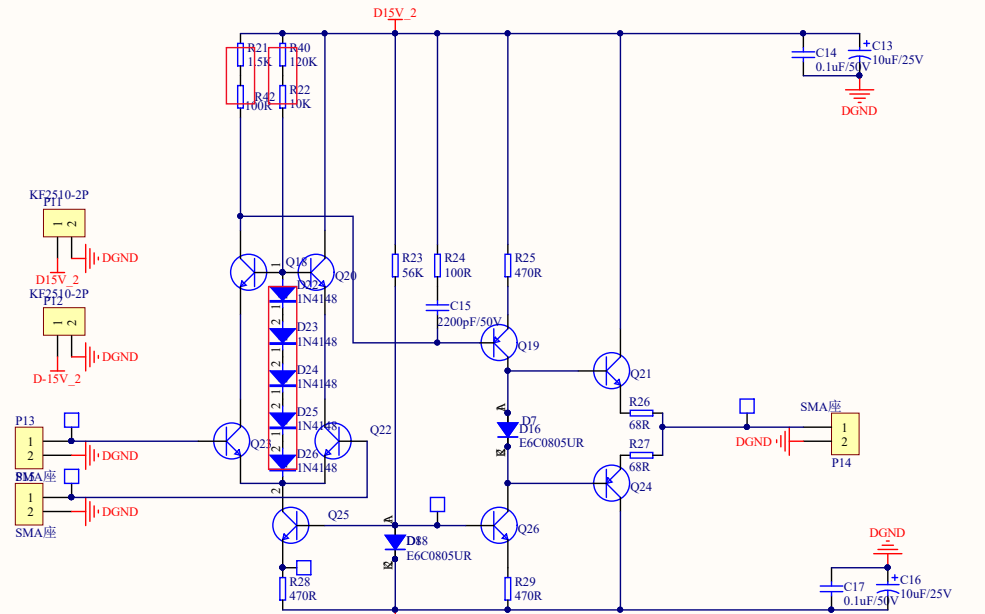
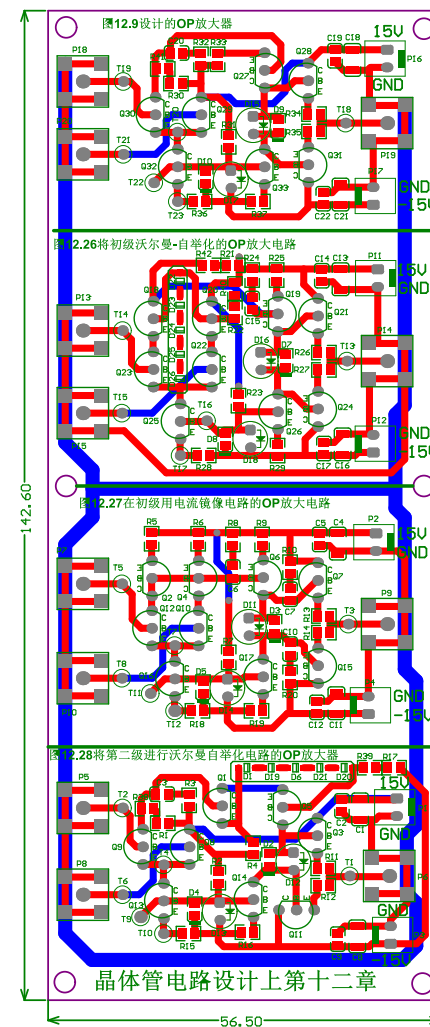


图12.26将初级沃尔曼-自举化的OP放大电路

| Title | | |
|-------|-------------------------------|----------|
| Size | Number | Revision |
| A3 | | |
| Date: | 2017-02-25 | Sheet of |
| File: | D:\0实验板\晶体管电路设计\第十\Doc\SH.doc | 10 |



| Designator | Comment | Description | Footprint | LibRef | Quantity |
|---|---------------|-------------|----------------------|-----------|----------|
| C1, C4, C8, C11, C13, C16, C18, C21 | 10uF/25V | TAN | LC-1206_C | CAP2 | 8 |
| C2, C5, C9, C12, C14, C17, C19, C22 | 0.1uF/50V | Capacitor | LC-0805_C | Cap | 8 |
| C3, C6, C15, C20 | 2200pF/50V | Capacitor | LC-0805_C | Cap | 4 |
| C7, C10 | 470pF/50V | Capacitor | LC-0805_C | Cap | 2 |
| D1, D6, D19, D20, D21, D22, D23, D24, D25, D26 | 1N4148 | | LC-SOD-323 | DIODE | 10 |
| D2, D3, D4, D5, D7, D8, D9, D10 | E6C0805UR | DIODE | LC-0805_LED_S1 | DIODE | 8 |
| D11, D12, D13, D14, D15, D16, D17, D18 | LED 3MM NC | DIODE | LED_3mm | DIODE | 8 |
| P1, P2, P3, P4, P11, P12, P16, P17 | KF2510-2P | | KF2510 - 2P - 2.54mm | Header1X2 | 8 |
| P5, P6, P7, P8, P9, P10, P13, P14, P15, P18, P19, P20 | SMA座 | | ANTENNA - duplicate | ANTENNA | 12 |
| Q1, Q2, Q4, Q5, Q6, Q11, Q15, Q19, Q24, Q27, Q31 | 2N3906/2N5401 | | S9013SMD/DIP | MMBT3906 | 11 |
| Q3, Q7, Q8, Q9, Q10, Q12, Q13, Q14, Q16, Q17, Q18, Q20, Q21, Q22, Q23, Q25, Q26, Q28, Q29, Q30, Q32, Q33 | 2N3904/2N5551 | | S9013SMD/DIP | S9013SMD | 22 |
| R1, R21, R30 | 1.5K | | LC-0805_R | R | 3 |
| R2, R7, R23, R31 | 56K | | LC-0805_R | R | 4 |
| R3, R24, R32, R38, R41, R42 | 100R | | LC-0805_R | R | 6 |
| R4, R9, R10, R15, R16, R18, R19, R20, R25, R28, R29, R33, R36, R37 | 470R | | LC-0805_R | R | 14 |
| R5, R6 | 1K | | LC-0805_R | R | 2 |
| R8 | 10R | | LC-0805_R | R | 1 |
| R11, R12, R13, R14, R26, R27, R34, R35 | 68R | | LC-0805_R | R | 8 |
| R17, R22 | 10K | | LC-0805_R | R | 2 |
| R39, R40 | 120K | | LC-0805_R | R | 2 |
| T1, T2, T3, T4, T | TestPoint | | TP - TEST-1 | TestPoint | 23 |
| | | | | | |