全 志 科 技
Allwinner Technology

功放电路CheckList

大纲

- 1 概述
- 2 A23&33 功放电路
- 3 AC100 功放电路

1、概述

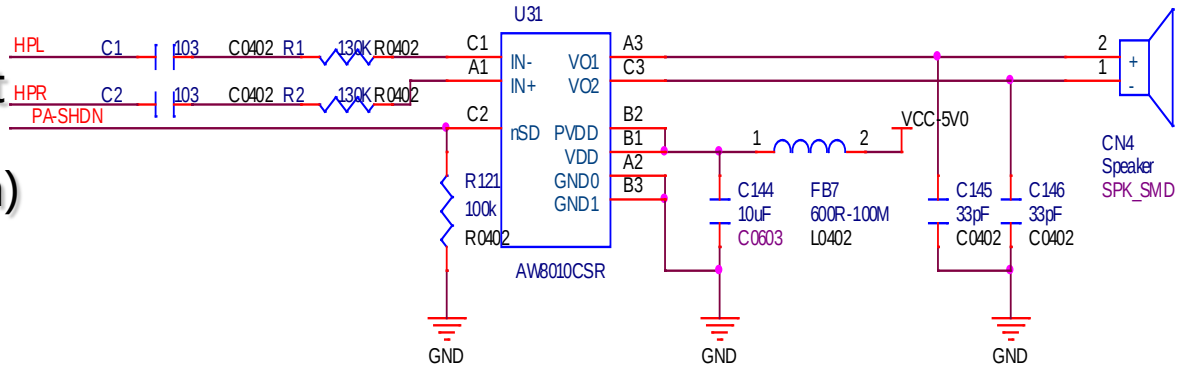
功放功率： -3dB输入信号，8欧姆负载，700mW（Vout = 6.69Vpp）
截止频率： Fs = 150Hz
功放供电： 5V
喇叭模式：单，双喇叭
输入幅度： A23&33 单喇叭-3dB时2.828Vpp
A23&33 双喇叭-3dB时1.414Vpp
AC100 -3dB时2.24Vpp
功放类型： D类带反馈电阻，反馈阻值查看Datasheet
D类固定增益，输入阻值和增益查看Datasheet，输入幅度软件配置
AB类
阻容选择： 据计算结果，选择常规容值最靠近值

术语说明： G --> 增益
Rf --> 反馈电阻
Rin --> 输入阻抗
Cin --> 输入电容
Vout --> 输出电压
Vinmax --> 功放输入最大电压

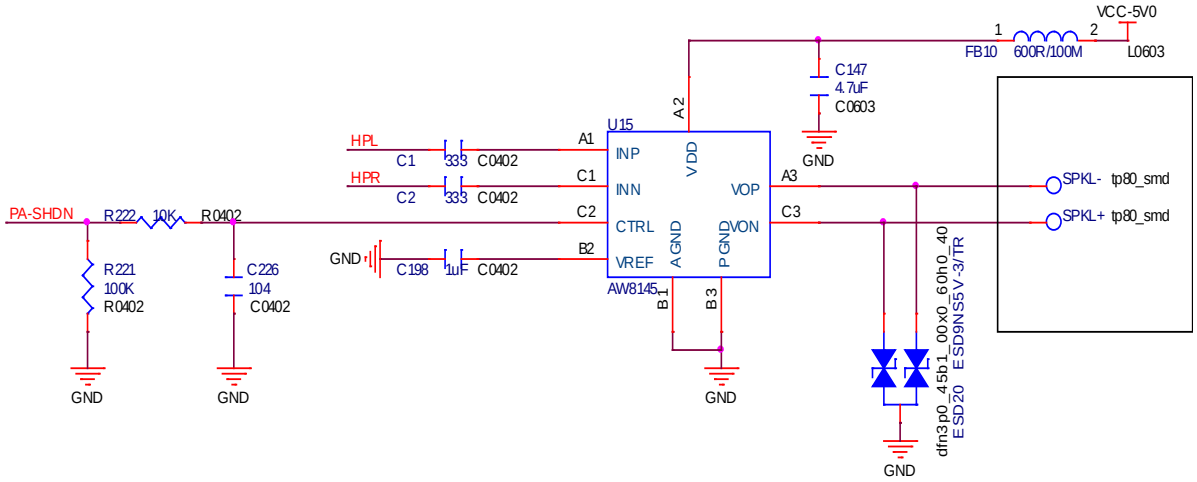
适用范围： AXP813参照AC100

2、A23&33-D类单喇叭

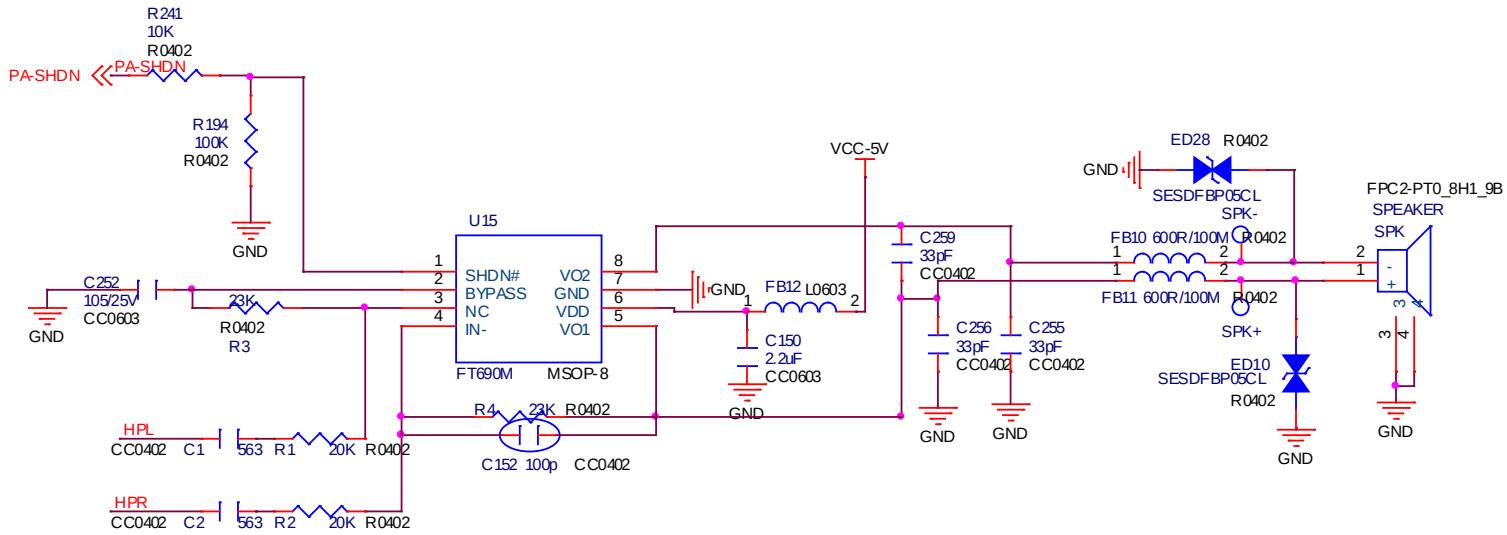
- D类功放带反馈电阻:
- Rin = $R_{1,2}$=(2*Rf*Vin)/Vout
- ≈ 130K
- Cin = $C_{1,2}$ = 1/(2*PI*Fs*Rin)
- ≈ 10nF



- D类功放固定增益:
- Cin = $C_{1,2}$ =1/(2*PI*Fs*Rin)
- ≈ 33nF
- Vinmax = Vout/(G*0.707*2)
- ≈ 0.8Vpp(软件设置)

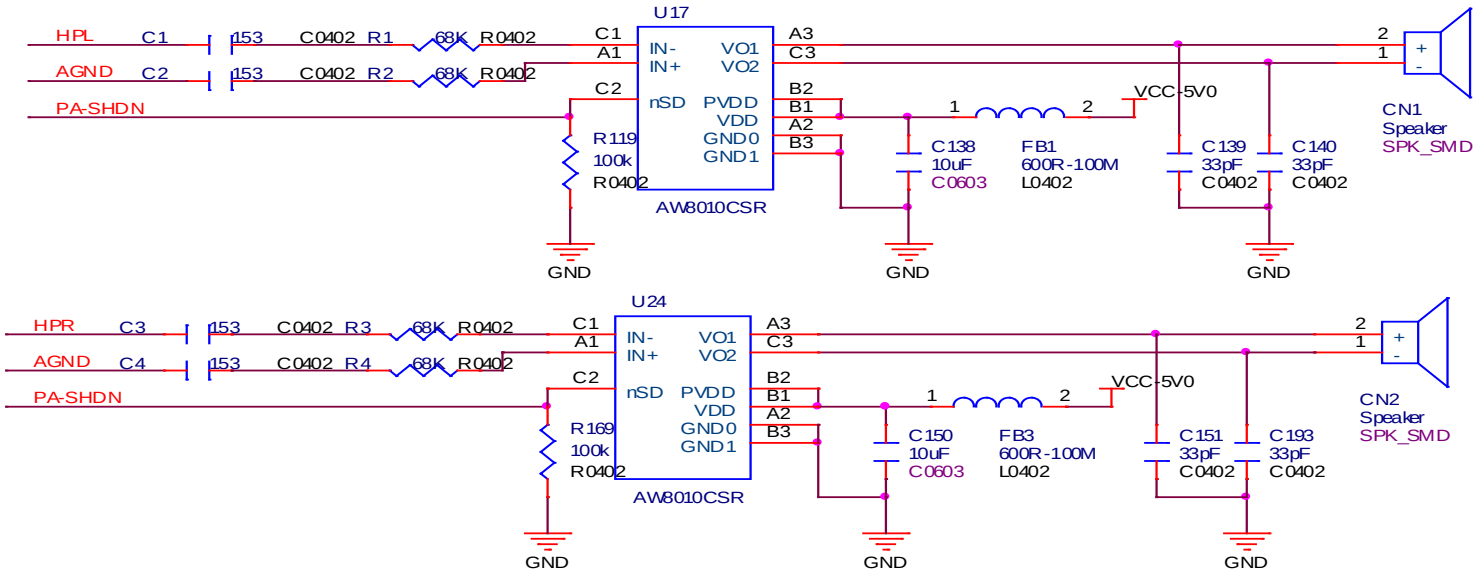


2、A23&33-AB类单喇叭



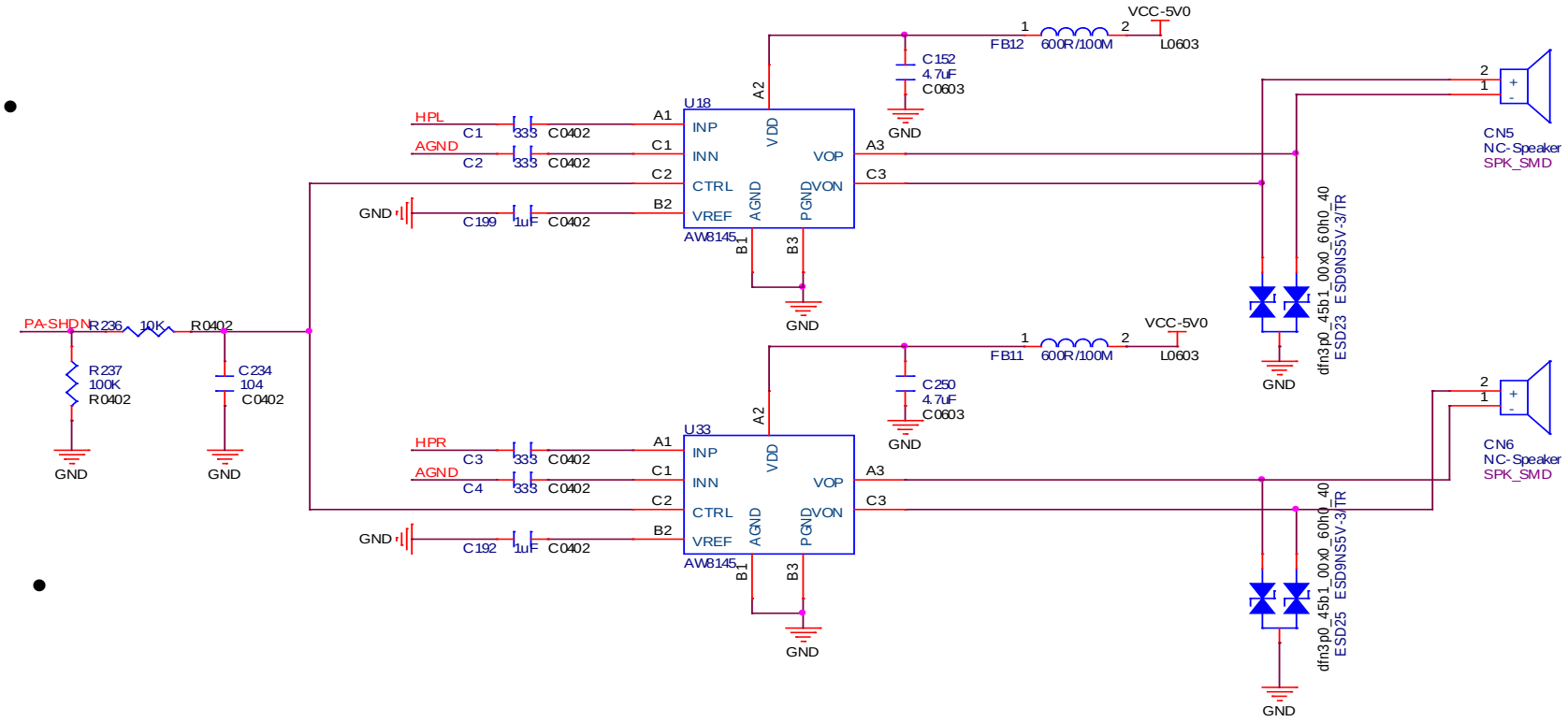
- •AB类:
- •Rf = R3,4 = (2*Rin*Vout)/Vin ≈ 23K
- •Cin = C1,2 = 1/(2*PI*Fs*Rin) ≈ 56nF

2、A23&33-D类带反馈双喇叭



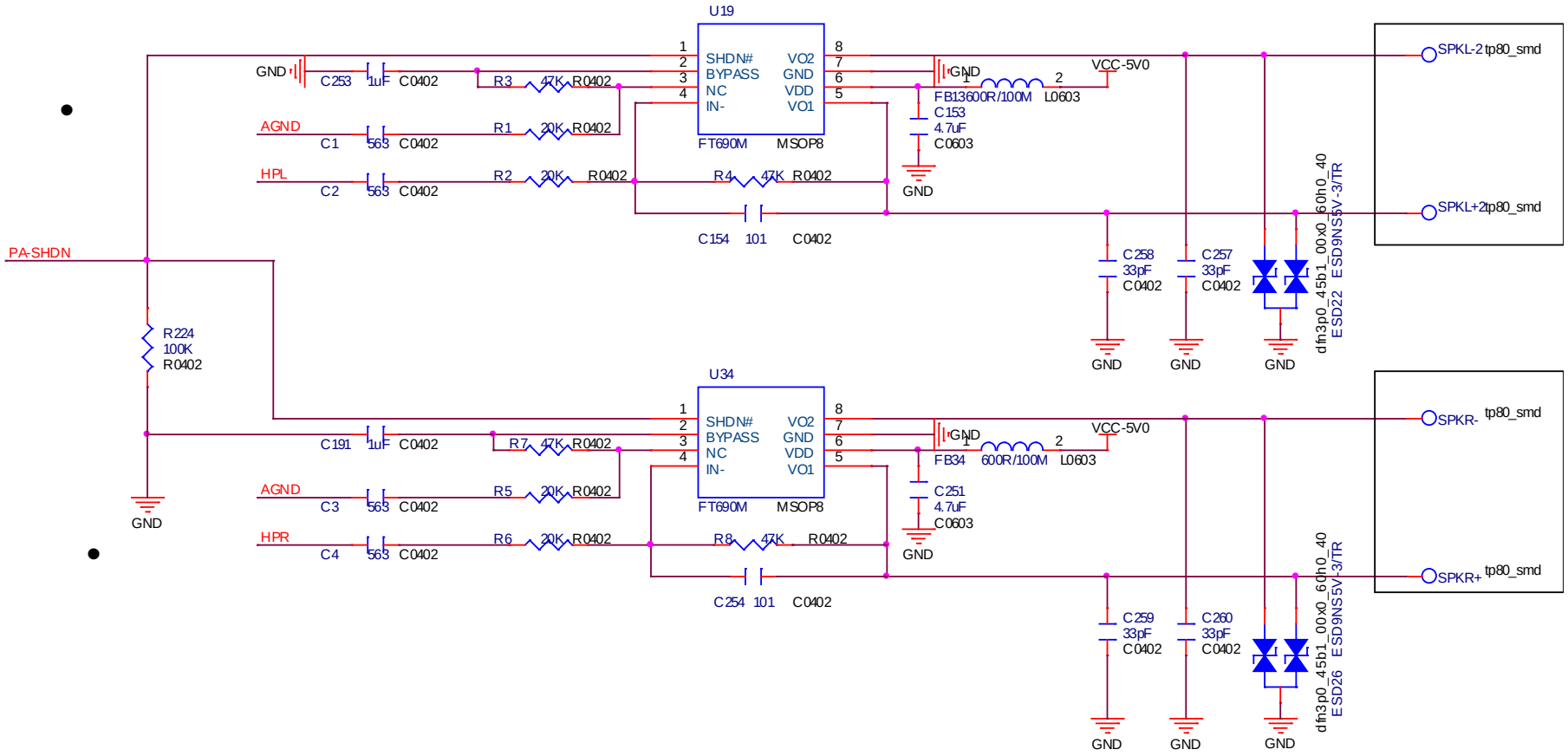
- D类功放带反馈电阻:
- Rin = R1,2 = (2*Rf*Vin)/Vout ≈ 68K
- Cin = C1,2 = 1/(2*PI*Fs*Rin) ≈ 15nF

2、A23&33-D类固定增益双喇叭



- D类功放固定增益:
- Cin = C1,2 = 1/(2*PI*Fs*Rin) ≈ 33nF
- Vinmax = Vout/(G*0.707) ≈ 1.6Vpp(软件设置）

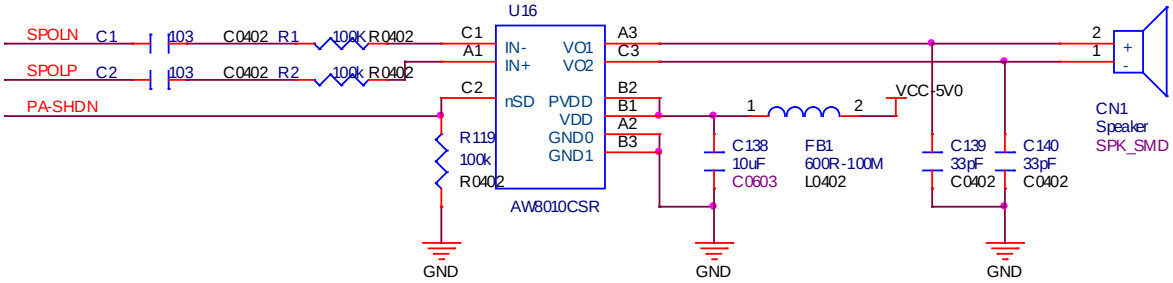
2、A23&33-AB类双喇叭



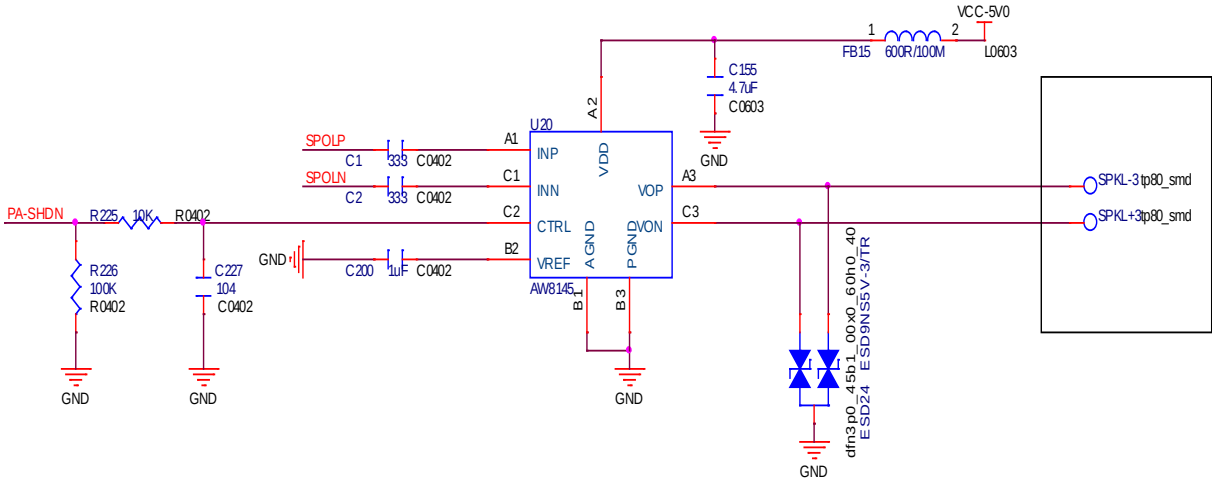
- AB类:
- Rf = R3,4 = (Rin*Vout)/Vin ≈ 47K
- Cin = C1,2 = 1/(2*PI*Fs*Rin) ≈ 56nF

3、AC100-D类单喇叭

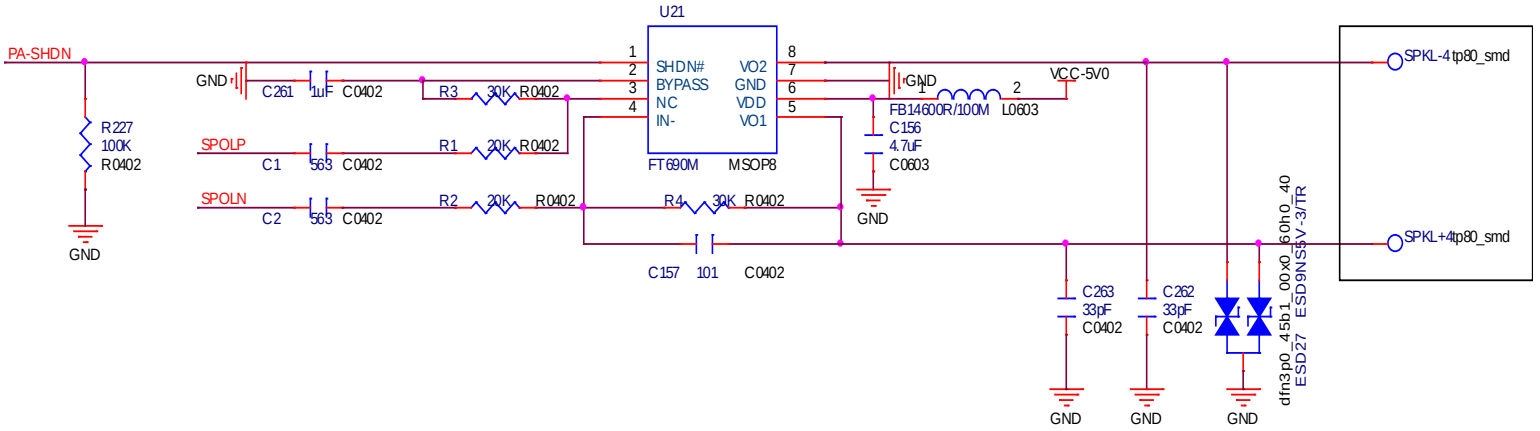
- D类功放带反馈电阻:
- Rin = $R_{1,2}$=(2*Rf*Vin)/Vout
- ≈ 100K
- Cin = $C_{1,2}$ =1/(2*PI*Fs*Rin)
- ≈ 10nF



- D类功放固定增益:
- Cin = $C_{1,2}$ =1/(2*PI*Fs*Rin)
- ≈ 33nF
- Vinmax = Vout/(G*0.707*2)
- ≈ 0.8Vpp(软件设置)

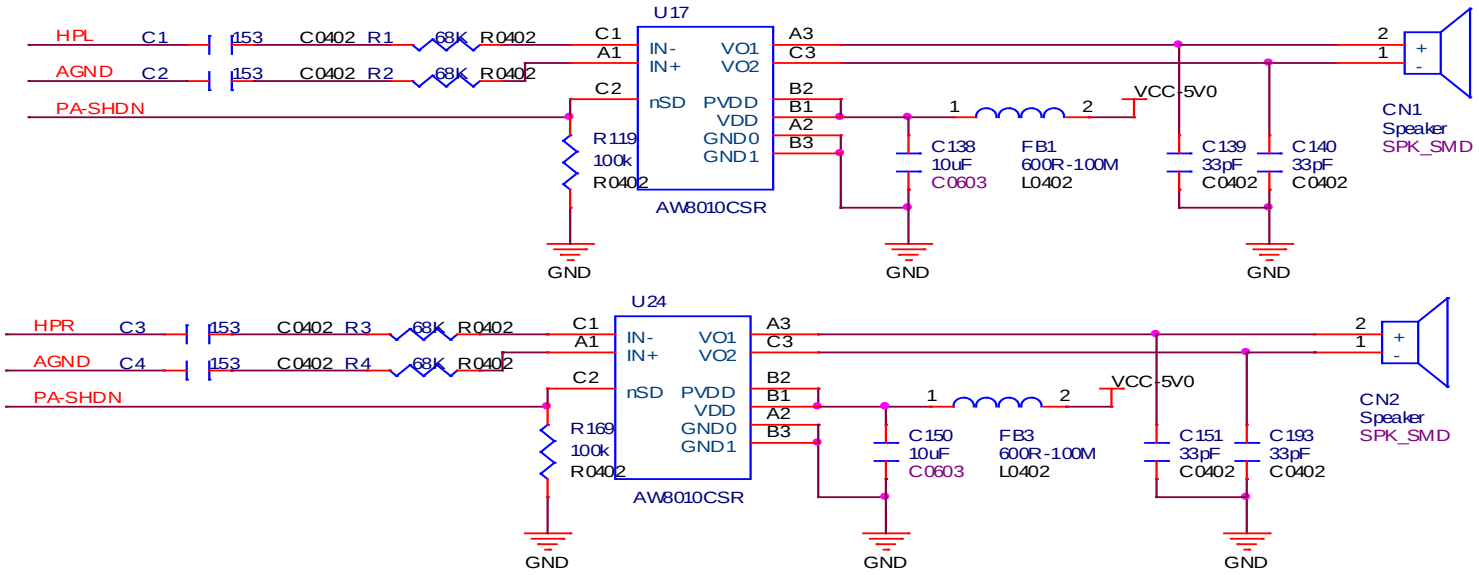


•3、AC100-AB类单喇叭



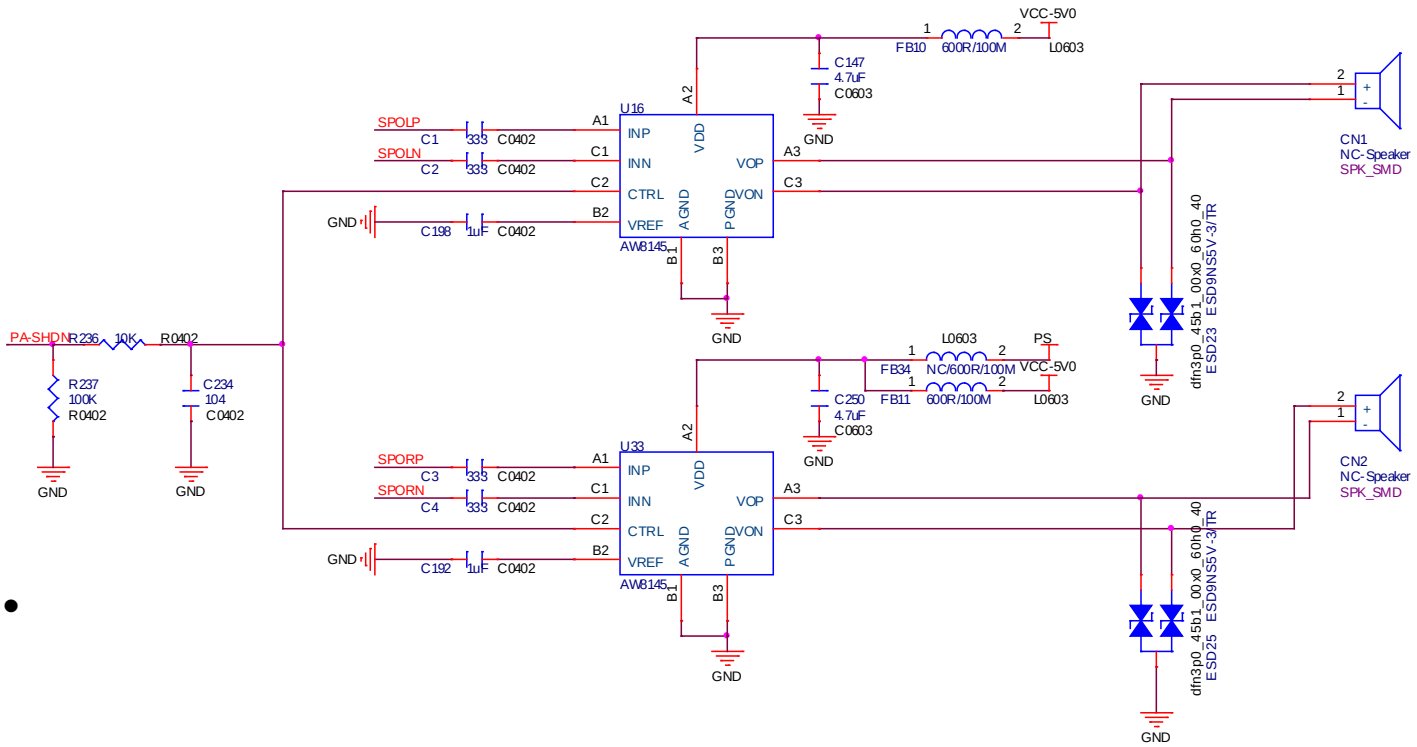
- •AB类:
- •Rf = R3,4 = (2*Rin*Vout)/Vin ≈ 30K
- •Cin = C1,2 = 1/(2*PI*Fs*Rin) ≈ 56nF

3、AC100-D类带反馈双喇叭



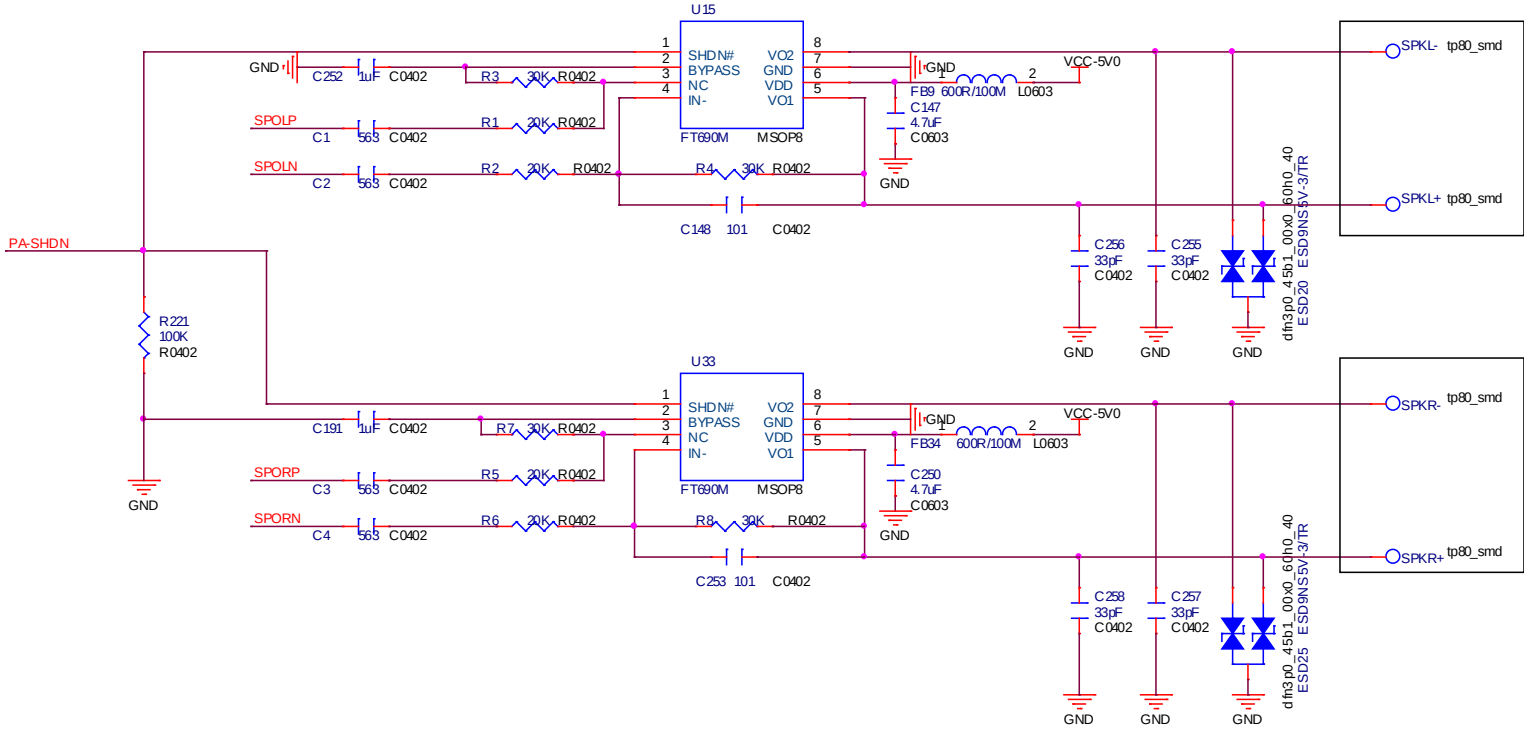
- D类功放带反馈电阻:
- Rin = R1,2 = (2*Rf*Vin)/Vout ≈ 68K
- Cin = C1,2 = 1/(2*PI*Fs*Rin) ≈ 15nF

3、AC100-D类固定增益双喇叭



- D类功放固定增益:
- Cin = C1,2 = 1/(2*PI*Fs*Rin) ≈ 33nF
- Vinmax = Vout/(G*0.707) ≈ 1.6Vpp(软件设置)

3、AC100-AB类双喇叭



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- Rf = R3,4 = (Rin*Vout)/Vin ≈ 30K
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