.temp 70

15p 330ohm 62°PM 107.7dB 1KHz 58.7dB 20KHz
100p 47ohm 56°PM 107.6dB 1KHz 58.7dB 20KHz BC
47p 120ohm 61°PM 107.6dB 1KHz 58.7dB 20KHz
33p 140ohm 62°PM 107.2dB 1KHz 58.6dB 20KHz

Clipping @ 62.3V with 2 5 or 10ohm 470u driver filter
Perfect 70V PSU WO ripple
Signal generated ripple:
Driver ripple 580uV with 10ohm 470u
Driver ripple 1mV with 5ohm 470u
Driver ripple 2.4mV with 2ohm 470u

Original 91
less VAS current fluctuations with 133
Higher VAS helper current

.param RMe 133

.param RL 1k

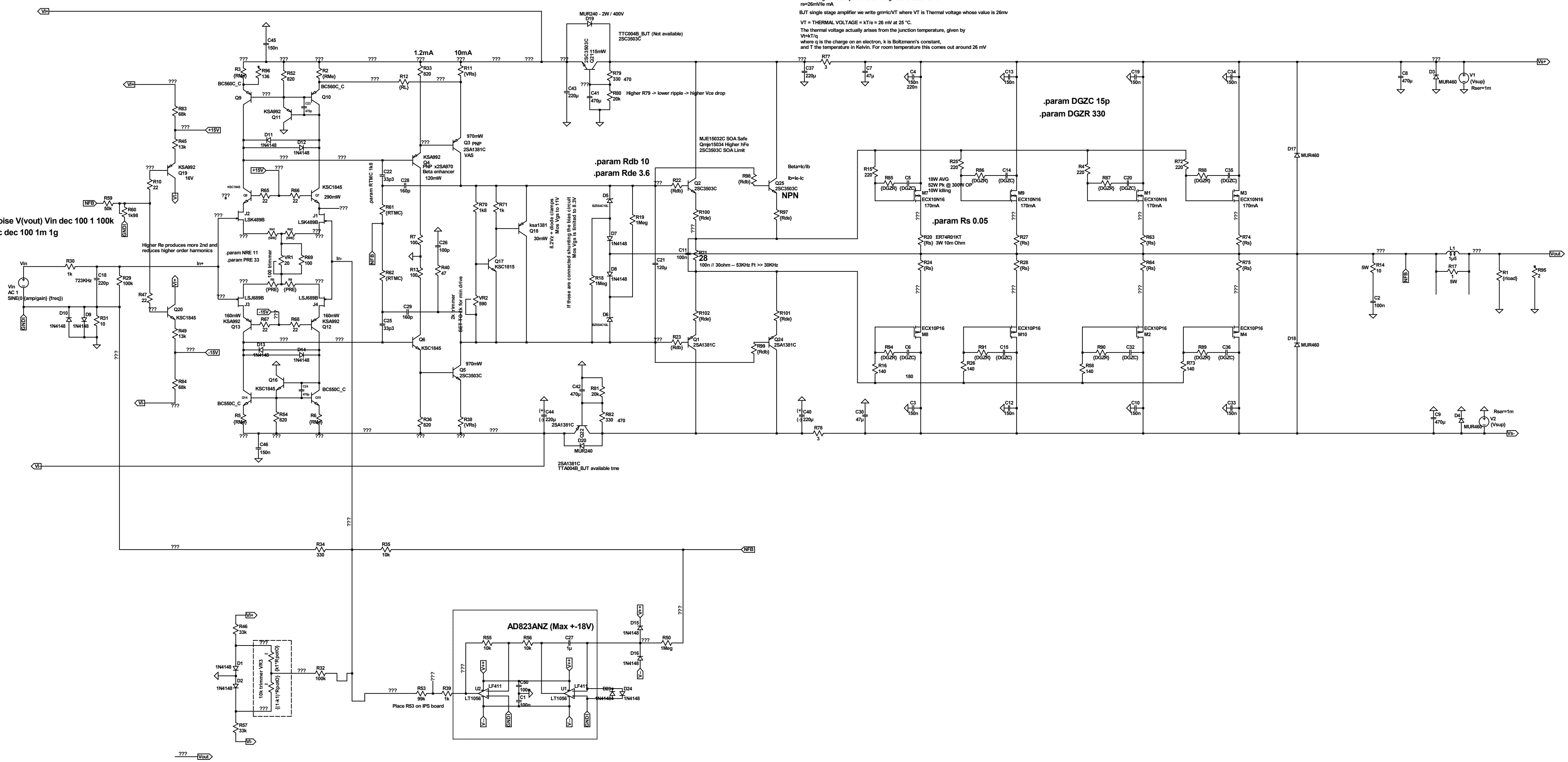
Original 33
.param VRs 47

the base and the emitter have a resistance re in between.
The voltage between the base and the emitter is apparently called "thermal voltage" and at room temperature it is approximately 26mV.
This voltage divided by the bias current gives the resistance re
re=26mV/Ie mA

BJT single stage amplifier we write gm=Ic/VT where VT is Thermal voltage whose value is 26mv

VT = THERMAL VOLTAGE = kT/e ≈ 26 mV at 25 °C.

The thermal voltage actually arises from the junction temperature, given by
Vt=kT/q
where q is the charge on an electron, k is Boltzmann's constant,
and T the temperature in Kelvin. For room temperature this comes out around 26 mV



.param RpotO=10k
.param k1 0.49

Minimize offset before connecting servo

Dual opamp servo reduces LF THD 100times
It can be used with lower output R53 without severe impact in LF THD

Note the connections for the two diodes.
These are sometimes placed in reverse-parallel with C2
(shown as 'alternate connection', in light grey), but this is basically a very bad idea.
The reason is distortion, and this is covered in the following section.
It appears that many people seem not to have noticed that this
can create measurable distortion with high-level, low-frequency amplifier output signals.
The method shown (with diodes in black) is a far better option,
provided the integrator frequency is low enough.
No audio signal should ever be able to drive the opamp's input ouside its linear range.