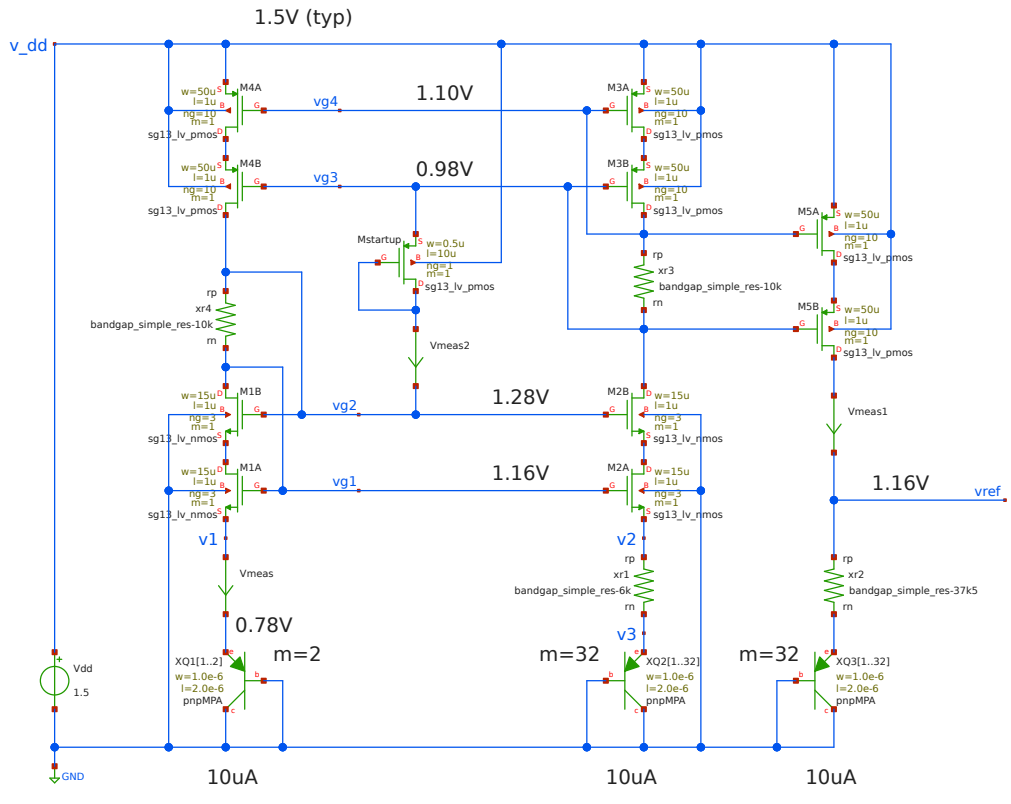

NGSPICE

```
.temp 27
.control
save all
set filetype=ascii
option method=gear

op
write bandgap_simple.raw

dc temp -30 125 1
set appendwrite
write bandgap_simple.raw
plot vref

wrdata bandgap_simple.txt vref
.endc
```

MODEL

```
.lib cornerMOSlv.lib mos_tt
.lib cornerHBT.lib hbt_typ
.lib cornerRES.lib res_typ
```

simulate annotate OP

XSCHEM

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bandgap_simple.sch

2025-07-30 17:07:04