

## NGSPICE

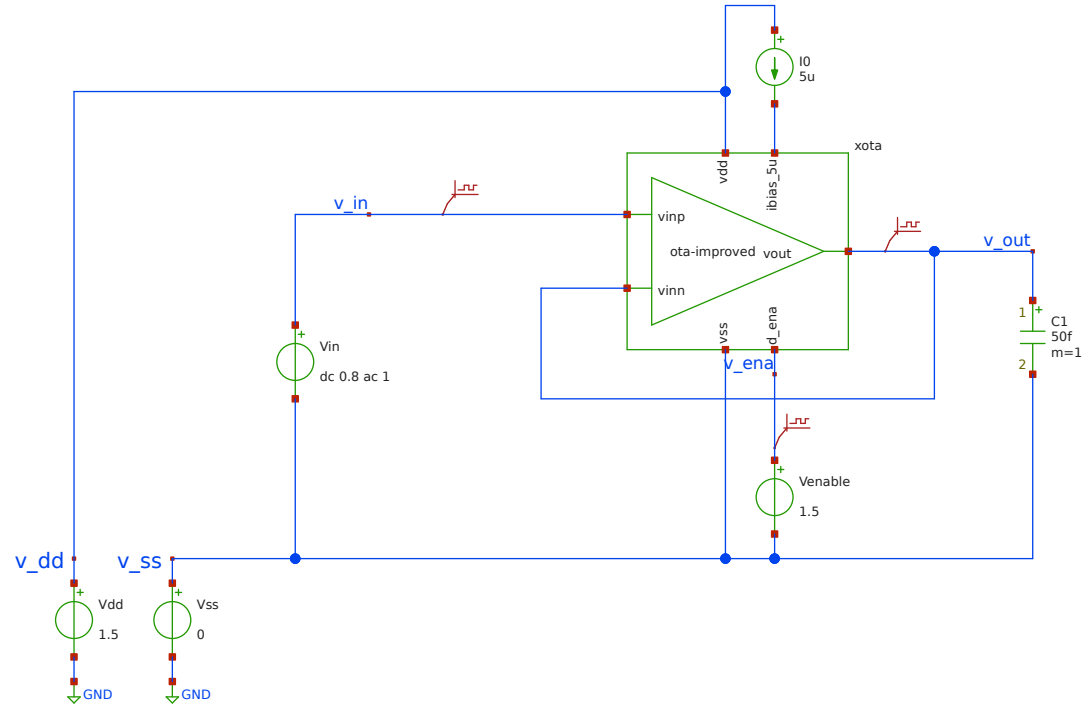
```
.temp 27
.control
option sparse
save all
op
write ota-improved_tb-ac.raw
set appendwrite
```

```
ac dec 101 1k 1G
write ota-improved_tb-ac.raw
plot 20*log10(v_out)
```

```
meas ac dcgain MAX vmag(v_out) FROM=10 T0=10k
let f3db = dcgain/sqrt(2)
meas ac fbw WHEN vmag(v_out)=f3db FALL=1
let gainerror=(dcgain-1)/1
print dcgain
print fbw
print gainerror
```

```
noise v(v_out) Vin dec 101 1k 100MEG 1000
print onoise_total
```

```
.endc
```



## MODEL

```
.lib cornerMOSlv.lib mos_tt
.lib cornerRES.lib res_typ
```

→ simulate

→ annotate OP

