p1
Vp1
dc 0 pulse(0, {vdd}, 5n, 100p, 100p, {per/2-5n}, {per})
GND

p2
Vp2
dc {vdd} pulse({vdd}, 0, 0, 100p, 100p, {per/2+5n}, {per})
GND

VDD
Vsup
dc {vdd}
GND

VSS
Vss
dc 0
GND

resb
Vresb
dc 0 pwl(0, 0, {per/2}, 0, {per/2+100p} {vdd})
GND

NGSPICE

.param temp=27 vdd=1.2 per=1u
.model mysw SW vt={vdd/2} ron=10k roff=10gig
.option method=gear reltol=1e-4

.control
save all
tran 10n 65u
plot vo1 vo2 q
set wr_singlescale
set wr_vecnames
wrdata tb_ideal_idsm2.txt vo1 vo2 q p1 p2
.endc

MODEL

.lib $::SG13G2_MODELS/cornerMOS1v.lib mos_tt
.lib $::SG13G2_MODELS/cornerRES.lib res_typ
.inc /foss/pdks/sg13g2/libs.ref/sg13g2_stdcell/spice/sg13g2_stdcell.spice

vi
Vin
dc 0.075
GND

GND p1
mysw S1
p2 S3
mysw
GND

C1
1p
m=1

GND p2
mysw S2
p1 S4
mysw
GND GND

C2
2p
m=1

E1
-1000
GND GND

vo1

GND p2
mysw S5
p1 S7
mysw
GND GND

C3
1p
m=1

GND p1
mysw S6
p2 S8
mysw
GND GND

C4
2p
m=1

E4
-1000
GND GND

GND p1
mysw S9
vo2

C5
1p
m=1
GND

comparator
vcmp
E2
TABLE {V(vo2,0)} = (-0.1mV, 0V) (0.1mV, {vdd})
GND

flipflop
x1
p2 CLK Q
D sg13g2_dfrbp_1 Q_N
resb RESET_B

q

E3
{1/vdd}
qd
vref scaling
GND

x2
Q CLK p1
Q_N sg13g2_dfrbp_1 D
RESET_B resb

E5
{1/vdd}
vref scaling
GND

X SCHEM

Boris Murmann
2024-05-13 04:37:18
/foss/designs/EE628/5_Design/2_Idealized_circuits/tb_ideal_idsm2.sch