

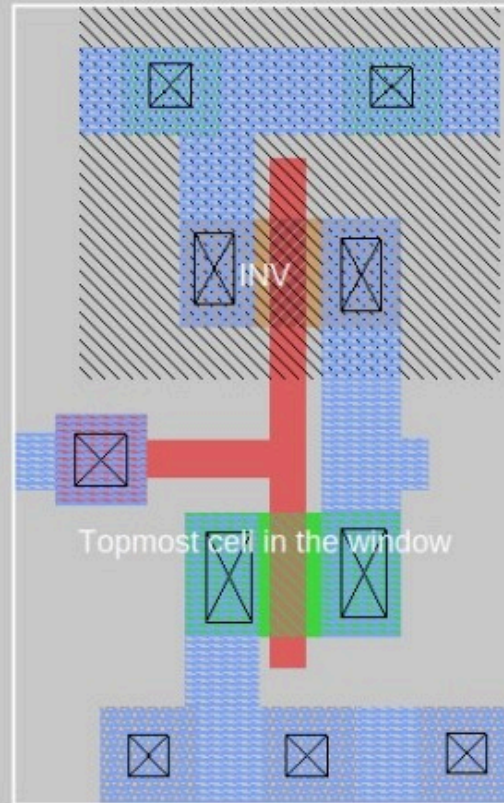
layout1

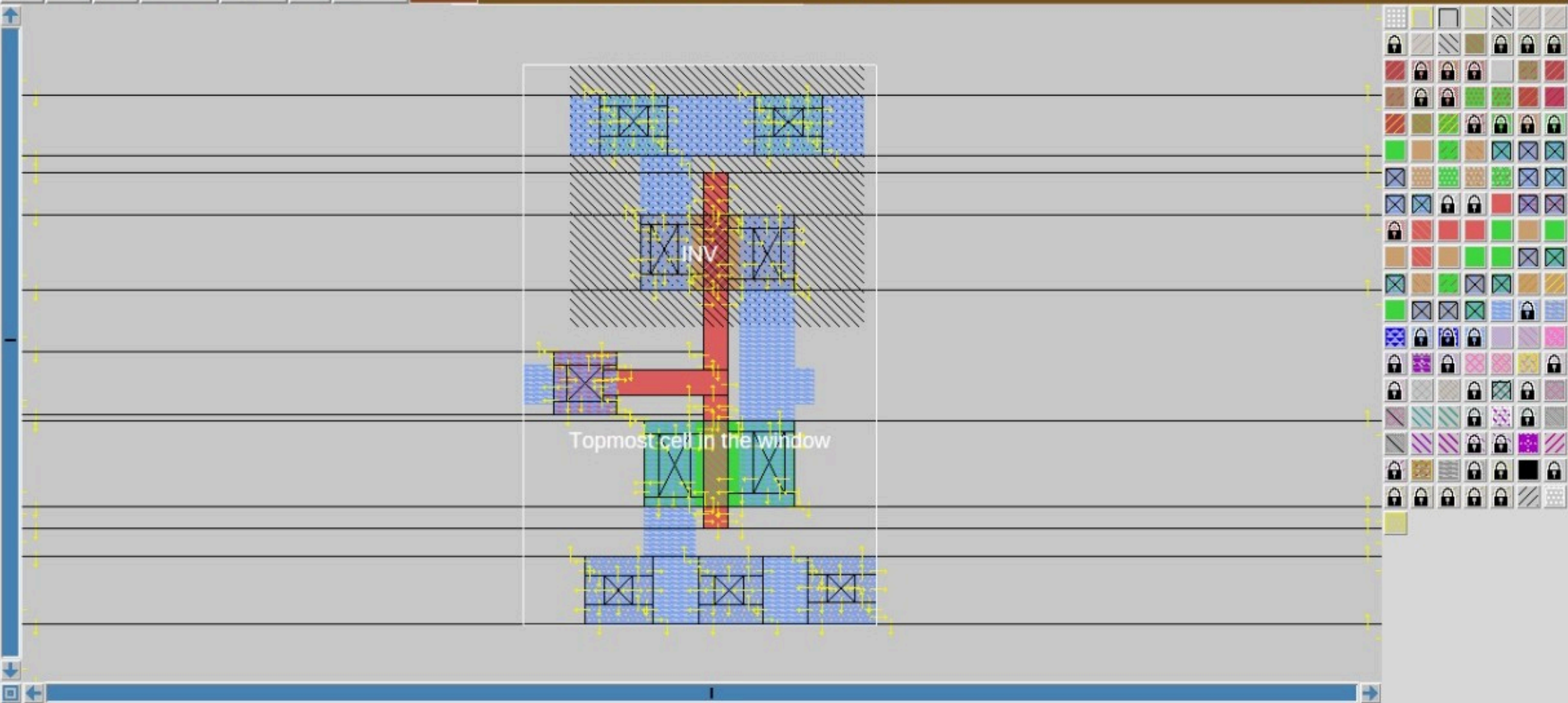
File Edit Cell Window Layers Drc Options

☒ DRC

Loaded: INV Editing: INV Tool: box Technology: sky130A

(-3.06 +2.5) -2 +3.77 microns





Open ▾



***INV.spice**

~/Desktop/Std_cell/Inverter

```
1 * SPICE3 file created from INV.ext - technology: sky130A
2
3 .option scale=10m
4
5 .subckt INV IN VDD GND
6 X0 OUT IN VDD VDD sky130_fd_pr__pfet_01v8 ad=1.8n pd=0.17m as=1.71n ps=0.166m w=45 l=15
7 X1 OUT IN GND GND sky130_fd_pr__nfet_01v8 ad=2.08n pd=0.184m as=1.87n ps=0.176m w=52 l=15
8 C0 IN VDD 0.0277f
9 C1 IN OUT 0.0418f
10 C2 VDD OUT 0.0897f
11 C3 IN GND 0.438f
12 C4 VDD GND 0.604f
13 C5 OUT GND 0.248f **FLOATING
14 .ends
15
16
17
18 |
```



```
1 * SPICE3 file created from INV.ext - technology: sky130A
```

```
2
```

```
3 .option scale=0.01u
```

```
4 .include ./libs/pshort.lib
```

```
5 .include ./libs/nshort.lib
```

```
6
```

```
7 //.subckt INV IN VDD GND
```

```
8 M1000 OUT IN VDD VDD pshort_model.0 ad=1800 pd=170 as=1710 ps=166 w=45 l=15
```

```
9 M1001 OUT IN GND GND nshort_model.0 ad=2080 pd=184 as=1870 ps=176 w=52 l=15
```

```
10
```

```
11 VDD VDD 0 3.3V
```

```
12 VSS VSS 0 0V
```

```
13 Va IN VSS PULSE(0 3.3V 0 0.1ns 0.1ns 2ns 4ns)
```

```
14 C0 IN VDD 0.0277f
```

```
15 C1 IN OUT 0.0418f
```

```
16 C2 VDD OUT 0.0897f
```

```
17 C3 IN GND 0.438f
```

```
18 C4 VDD GND 0.604f
```

```
19 C5 OUT GND 0.248f **FLOATING
```

```
20
```

```
21 //.ends
```

```
22 .tran 1n 20n
```

```
23 .control
```

```
24 run
```

```
25 .endc
```

```
26 .end
```

```
27
```

```
28 |
```

```
vsduser@vsdsquadron:~/Desktop/Std_cell/Inverter$ gedit INV.spice
vsduser@vsdsquadron:~/Desktop/Std_cell/Inverter$ ngspice INV.spice
*****
** ngspice-27 : Circuit level simulation program
** The U. C. Berkeley CAD Group
** Copyright 1985-1994, Regents of the University of California.
** Please get your ngspice manual from http://ngspice.sourceforge.net/docs.html
** Please file your bug-reports at http://ngspice.sourceforge.net/bugrep.html
** Creation Date: Tue Dec 26 17:10:20 UTC 2017
*****
```

Circuit: * spice3 file created from inv.ext - technology: sky130a

Scale set

Error on line 22 :

c5 out 0 0.248f **floating
unknown parameter (*)

Doing analysis at TEMP = 27.000000 and TNOM = 27.000000

Warning: va: no DC value, transient time 0 value used

Initial Transient Solution

Node	Voltage
----	-----
out	3.3
in	0
vdd	3.3
vss	0
va#branch	0
vss#branch	0
vdd#branch	-3.3232e-12

No. of Data Rows : 150

ngspice 1 -> plot out vs time a

tran1: * spice3 file created from Inv.ext - technology: sky130a

