sky130_osu_sc_15T_hs_TT_1P8_25C.ccs Library

Cell Groups
SKY130_OSU_SC_15T_HS__ADDF
SKY130_OSU_SC_15T_HS__ADDH
SKY130_OSU_SC_15T_HS__AND2x
SKY130_OSU_SC_15T_HS__AOI22
SKY130_OSU_SC_15T_HS__BUFx
SKY130_OSU_SC_15T_HS__DFF
SKY130_OSU_SC_15T_HS__INVx
SKY130_OSU_SC_15T_HS__MUX2
SKY130_OSU_SC_15T_HS__NAND2
SKY130_OSU_SC_15T_HS__NOR2
SKY130_OSU_SC_15T_HS__OAI21
SKY130_OSU_SC_15T_HS__OAI22
SKY130_OSU_SC_15T_HS__OR2x
SKY130_OSU_SC_15T_HS__TBUFI
SKY130_OSU_SC_15T_HS__TNBUFI
SKY130_OSU_SC_15T_HS__XNOR2
SKY130_OSU_SC_15T_HS__XOR2
SKY130_OSU_SC_15T_HS_x

SKY130_OSU_SC_15T_HS__ADDF

sky130_osu_sc_15T_hs_TT_1P8_25C.ccs
Cell Library: Process , Voltage 1.80,
Temp 25.00

Truth Table

INPUT			OUTPUT		
A	B	CI	CO	CON	S
0	0	0	0	1	0
0	0	1	0	1	1
0	1	0	0	1	1
0	1	1	1	0	0
1	0	0	0	1	1
1	0	1	1	0	0
1	1	0	1	0	0
1	1	1	1	0	1

Footprint

Cell Name	Area
sky130_osu_sc_15T_hs__addf_1	39.07200

Pin Capacitance Information

Cell Name	Pin Cap(pf)			Max Cap(pf)		
	A	B	CI	CO	CON	S
sky130_osu_sc_15T_hs__addf_1	0.01540	0.01530	0.01184	0.15000	0.05892	0.14299

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
sky130_osu_sc_15T_hs__addf_1	0.00000	0.41158	0.53317

Delay Information

Delay(ns) to CO rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
sky130_osu_sc_15T_hs__addf_1	A->CO (RR)	0.11700	0.37950	1.74542
	B->CO (RR)	0.11287	0.36871	1.69602
	CI->CO (RR)	0.11073	0.38190	1.79115
	CON->CO (FR)	0.02252	0.14999	0.80514

Delay(ns) to CO falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
sky130_osu_sc_15T_hs__addf_1	A->CO (FF)	0.16704	0.50819	2.25894
	B->CO (FF)	0.14719	0.47566	2.15893
	CI->CO (FF)	0.14492	0.48433	2.25202
	CON->CO (RF)	0.01878	0.11513	0.61468

Delay(ns) to CON rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
sky130_osu_sc_15T_hs__addf_1	A->CON (FR)	0.13477	0.26849	0.78582
	B->CON (FR)	0.11637	0.24020	0.75607
	CI->CON (FR)	0.11268	0.24470	0.78521

Delay(ns) to CON falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
sky130_osu_sc_15T_hs__addf_1	A->CON (RF)	0.07326	0.15059	0.44879
	B->CON (RF)	0.07059	0.15208	0.47802
	CI->CON (RF)	0.06700	0.15264	0.49878

Delay(ns) to S rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
sky130_osu_sc_15T_hs__addf_1	A->S (-R)	0.24409	0.55381	2.01054
	B->S (-R)	0.24715	0.55590	1.98007
	CI->S (-R)	0.21994	0.52743	2.00052
	CON->S (RR)	0.06689	0.18213	0.63077

Delay(ns) to S falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
sky130_osu_sc_15T_hs__addf_1	A->S (-F)	0.19274	0.43199	1.46883
	B->S (-F)	0.19561	0.42063	1.42450
	CI->S (-F)	0.18601	0.43286	1.51262
	CON->S (FF)	0.08096	0.20360	0.66088

Power Information

Internal switching power(pJ) to CO rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__addf_1	A	0.00362	0.00349	0.00431
	B	0.00469	0.00469	0.00555
	CI	0.00483	0.00507	0.00617

Internal switching power(pJ) to CO falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__addf_1	A	0.01344	0.01358	0.01491
	B	0.01319	0.01353	0.01492
	CI	0.01163	0.01211	0.01367

Internal switching power(pJ) to CON rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__addf_1	A	0.01341	0.01344	0.01375
	B	0.01317	0.01330	0.01367
	CI	0.01161	0.01186	0.01249

Internal switching power(pJ) to CON falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__addf_1	A	0.00356	0.00338	0.00369
	B	0.00463	0.00456	0.00479
	CI	0.00480	0.00492	0.00541

Internal switching power(pJ) to S rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__addf_1	A	0.01343	0.01357	0.01482
	B	0.01319	0.01352	0.01479
	CI	0.01163	0.01209	0.01354

Internal switching power(pJ) to S falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__addf_1	A	0.02776	0.02780	0.02821
	B	0.02480	0.02432	0.02596
	CI	0.02260	0.02236	0.02288

SKY130_OSU_SC_15T_HS__ADDH

sky130_osu_sc_15T_hs_TT_1P8_25C.ccs
Cell Library: Process , Voltage 1.80,
Temp 25.00

Truth Table

INPUT		OUTPUT		
A	B	CO	CON	S
0	0	0	1	0
0	1	0	0	1
1	0	0	0	1
1	1	1	1	0

Footprint

Cell Name	Area
sky130_osu_sc_15T_hs__addh_1	23.19900

Pin Capacitance Information

Cell Name	Pin Cap(pf)		Max Cap(pf)		
	A	B	CO	CON	S
sky130_osu_sc_15T_hs__addh_1	0.00749	0.00832	0.14741	0.06841	0.15010

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
sky130_osu_sc_15T_hs__addh_1	0.00000	0.45988	0.52595

Delay Information

Delay(ns) to CO rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
sky130_osu_sc_15T_hs__addh_1	A->CO (RR)	0.07956	0.19571	0.64753
	B->CO (RR)	0.08234	0.19276	0.63857

Delay(ns) to CO falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
sky130_osu_sc_15T_hs__addh_1	A->CO (FF)	0.07014	0.18505	0.63563
	B->CO (FF)	0.07519	0.19172	0.65020

Delay(ns) to CON rising (conditional):

Cell Name	Timing Arc(Dir)	When	Delay(ns)		
			First	Mid	Last
sky130_osu_sc_15T_hs__addh_1	A->CON (RR)	B	0.11220	0.18972	0.40853
	A->CON (FR)	!B	0.07271	0.20617	0.77167
	B->CON (RR)	A	0.11467	0.18632	0.39852
	B->CON (FR)	!A	0.08973	0.22433	0.77479

Delay(ns) to CON falling (conditional):

Cell Name	Timing Arc(Dir)	When	Delay(ns)		
			First	Mid	Last
sky130_osu_sc_15T_hs__addh_1	A->CON (FF)	B	0.10650	0.20695	0.54393
	A->CON (RF)	!B	0.04309	0.13105	0.50173
	B->CON (FF)	A	0.10513	0.21090	0.56697
	B->CON (RF)	!A	0.05193	0.13809	0.49427

Delay(ns) to S rising (conditional):

Cell Name	Timing Arc(Dir)	When	Delay(ns)		
			First	Mid	Last
sky130_osu_sc_15T_hs__addh_1	A->S (RR)	!B	0.08223	0.34544	1.72981
	A->S (FR)	B	0.14651	0.41688	1.74545
	B->S (RR)	!A	0.09145	0.34541	1.67595
	B->S (FR)	A	0.14552	0.42776	1.81588
	CON->S (FR)	-	0.02477	0.15455	0.82305

Delay(ns) to S falling (conditional):

Cell Name	Timing Arc(Dir)	When	Delay(ns)		
			First	Mid	Last
sky130_osu_sc_15T_hs__addh_1	A->S (FF)	!B	0.10201	0.41446	2.06508
	A->S (RF)	B	0.13922	0.34573	1.32031
	B->S (FF)	!A	0.11905	0.43307	2.07429
	B->S (RF)	A	0.14168	0.34211	1.30947
	CON->S (RF)	-	0.01771	0.11205	0.60202

Power Information

Internal switching power(pJ) to CO rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__addh_1	A	0.00000	0.00000	0.00000
	A	0.00582	0.00568	0.00610
	B	0.00000	0.00000	0.00000
	B	0.00524	0.00507	0.00536

Internal switching power(pJ) to CO falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__addh_1	A	0.00000	0.00000	0.00000
	A	0.00897	0.00875	0.00946
	B	0.00000	0.00000	0.00000
	B	0.00934	0.00945	0.01036

Internal switching power(pJ) to CON rising (conditional):

Cell Name	Input	When	Power(pJ)		
			first	mid	last
sky130_osu_sc_15T_hs__addh_1	A	B	0.00000	0.00000	0.00000
	A	B	0.00581	0.00566	0.00608
	A	!B	0.00000	0.00000	0.00000
	A	!B	0.00799	0.00798	0.00848
	B	A	0.00000	0.00000	0.00000
	B	A	0.00524	0.00503	0.00534
	B	!A	0.00000	0.00000	0.00000
	B	!A	0.00895	0.00890	0.00910

Internal switching power(pJ) to CON falling (conditional):

Cell Name	Input	When	Power(pJ)		
			first	mid	last
sky130_osu_sc_15T_hs__addh_1	A	B	0.00000	0.00000	0.00000
	A	B	0.00897	0.00877	0.00950
	A	!B	0.00000	0.00000	0.00000
	A	!B	0.00117	0.00119	0.00143
	B	A	0.00000	0.00000	0.00000
	B	A	0.00933	0.00940	0.01031
	B	!A	0.00000	0.00000	0.00000
	B	!A	0.00205	0.00196	0.00221

Internal switching power(pJ) to S rising (conditional):

Cell Name	Input	When	Power(pJ)		
			first	mid	last
sky130_osu_sc_15T_hs__addh_1	A	B	0.00000	0.00000	0.00000
	A	B	0.00898	0.00877	0.00960
	A	!B	0.00000	0.00000	0.00000
	A	!B	0.00118	0.00128	0.00167
	B	A	0.00000	0.00000	0.00000
	B	A	0.00934	0.00947	0.01052
	B	!A	0.00000	0.00000	0.00000
	B	!A	0.00208	0.00203	0.00234

Internal switching power(pJ) to S falling (conditional):

Cell Name	Input	When	Power(pJ)		
			first	mid	last
sky130_osu_sc_15T_hs__addh_1	A	B	0.00000	0.00000	0.00000
	A	B	0.00582	0.00568	0.00613
	A	!B	0.00000	0.00000	0.00000
	A	!B	0.00800	0.00810	0.00867
	B	A	0.00000	0.00000	0.00000
	B	A	0.00525	0.00505	0.00539
	B	!A	0.00000	0.00000	0.00000
	B	!A	0.00898	0.00901	0.00938

SKY130_OSU_SC_15T_HS__AND2x

sky130_osu_sc_15T_hs_TT_1P8_25C.ccs
Cell Library: Process , Voltage 1.80,
Temp 25.00

Truth Table

INPUT		OUTPUT
A	B	Y
0	x	0
1	0	0
1	1	1

Footprint

Cell Name	Area
sky130_osu_sc_15T_hs__and2_1	10.37850
sky130_osu_sc_15T_hs__and2_2	12.82050
sky130_osu_sc_15T_hs__and2_4	17.70450
sky130_osu_sc_15T_hs__and2_6	22.58850
sky130_osu_sc_15T_hs__and2_8	27.47250

Pin Capacitance Information

Cell Name	Pin Cap(pf)		Max Cap(pf)
	A	B	Y
sky130_osu_sc_15T_hs__and2_1	0.00404	0.00416	0.14826
sky130_osu_sc_15T_hs__and2_2	0.00404	0.00416	0.28615
sky130_osu_sc_15T_hs__and2_4	0.00404	0.00416	0.54974
sky130_osu_sc_15T_hs__and2_6	0.00243	0.00245	1.80000
sky130_osu_sc_15T_hs__and2_8	0.00405	0.00417	1.04371

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
sky130_osu_sc_15T_hs__and2_1	0.00000	0.21889	0.34890
sky130_osu_sc_15T_hs__and2_2	0.00000	0.34880	0.35633
sky130_osu_sc_15T_hs__and2_4	0.00000	0.60861	0.69037
sky130_osu_sc_15T_hs__and2_6	0.00000	0.00000	0.00000
sky130_osu_sc_15T_hs__and2_8	0.00000	1.12824	1.37330

Delay Information

Delay(ns) to Y rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
sky130_osu_sc_15T_hs__and2_1	A->Y (RR)	0.06086	0.16687	0.59212
	B->Y (RR)	0.06475	0.16626	0.58616
sky130_osu_sc_15T_hs__and2_2	A->Y (RR)	0.06929	0.16976	0.62607
	B->Y (RR)	0.07318	0.16745	0.61675
sky130_osu_sc_15T_hs__and2_4	A->Y (RR)	0.09492	0.19694	0.70856
	B->Y (RR)	0.09879	0.19370	0.69188
sky130_osu_sc_15T_hs__and2_8	A->Y (RR)	0.14584	0.25122	0.83305
	B->Y (RR)	0.14970	0.24853	0.80658

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
sky130_osu_sc_15T_hs__and2_1	A->Y (FF)	0.05449	0.16038	0.57375
	B->Y (FF)	0.05773	0.16494	0.58610
sky130_osu_sc_15T_hs__and2_2	A->Y (FF)	0.06209	0.16478	0.60795
	B->Y (FF)	0.06564	0.16835	0.61919
sky130_osu_sc_15T_hs__and2_4	A->Y (FF)	0.08568	0.18865	0.68120
	B->Y (FF)	0.08871	0.19204	0.68862
sky130_osu_sc_15T_hs__and2_8	A->Y (FF)	0.13631	0.24165	0.78819
	B->Y (FF)	0.13846	0.24391	0.79243

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__and2_1	A	0.00000	0.00000	0.00000
	A	0.00419	0.00390	0.00585
	B	0.00000	0.00000	0.00000
	B	0.00426	0.00377	0.00499
sky130_osu_sc_15T_hs__and2_2	A	0.00000	0.00000	0.00000
	A	0.00841	0.00831	0.01003
	B	0.00000	0.00000	0.00000
	B	0.00849	0.00826	0.00936
sky130_osu_sc_15T_hs__and2_4	A	0.00000	0.00000	0.00000
	A	0.01800	0.01802	0.01968
	B	0.00000	0.00000	0.00000
	B	0.01804	0.01805	0.01924
sky130_osu_sc_15T_hs__and2_8	A	0.00000	0.00000	0.00000
	A	0.03980	0.03762	0.03974
	B	0.00000	0.00000	0.00000
	B	0.03979	0.03765	0.03926

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__and2_1	A	0.00000	0.00000	0.00000
	A	0.01094	0.01111	0.01392
	B	0.00000	0.00000	0.00000
	B	0.01227	0.01229	0.01488
sky130_osu_sc_15T_hs__and2_2	A	0.00000	0.00000	0.00000
	A	0.01396	0.01451	0.01722
	B	0.00000	0.00000	0.00000
	B	0.01533	0.01561	0.01809
sky130_osu_sc_15T_hs__and2_4	A	0.00000	0.00000	0.00000
	A	0.02214	0.02277	0.02552
	B	0.00000	0.00000	0.00000
	B	0.02347	0.02368	0.02611
sky130_osu_sc_15T_hs__and2_8	A	0.00000	0.00000	0.00000
	A	0.04141	0.03873	0.04270
	B	0.00000	0.00000	0.00000
	B	0.04252	0.03951	0.04257

Passive power(pJ) for A rising (conditional):

Cell Name	When	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__and2_1	(!B * !Y)	0.00000	0.00000	0.00000
	(!B * !Y)	-0.00412	-0.00413	-0.00412
sky130_osu_sc_15T_hs__and2_2	(!B * !Y)	0.00000	0.00000	0.00000
	(!B * !Y)	-0.00412	-0.00415	-0.00412
sky130_osu_sc_15T_hs__and2_4	(!B * !Y)	0.00000	0.00000	0.00000
	(!B * !Y)	-0.00412	-0.00415	-0.00412
sky130_osu_sc_15T_hs__and2_6	B	0.00000	0.00000	0.00000
	B	-0.00045	-0.00045	-0.00045
	!B	0.00000	0.00000	0.00000
	!B	-0.00038	-0.00038	-0.00038
sky130_osu_sc_15T_hs__and2_8	(!B * !Y)	0.00000	0.00000	0.00000
	(!B * !Y)	-0.00412	-0.00415	-0.00412

Passive power(pJ) for A falling (conditional):

Cell Name	When	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__and2_1	(!B * !Y)	0.00000	0.00000	0.00000
	(!B * !Y)	0.00412	0.00415	0.00412
sky130_osu_sc_15T_hs__and2_2	(!B * !Y)	0.00000	0.00000	0.00000
	(!B * !Y)	0.00412	0.00415	0.00412
sky130_osu_sc_15T_hs__and2_4	(!B * !Y)	0.00000	0.00000	0.00000
	(!B * !Y)	0.00412	0.00415	0.00412
sky130_osu_sc_15T_hs__and2_6	B	0.00000	0.00000	0.00000
	B	0.00045	0.00045	0.00045
	!B	0.00000	0.00000	0.00000
	!B	0.00038	0.00038	0.00038
sky130_osu_sc_15T_hs__and2_8	(!B * !Y)	0.00000	0.00000	0.00000
	(!B * !Y)	0.00412	0.00415	0.00412

Passive power(pJ) for B rising (conditional):

Cell Name	When	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__and2_1	(!A * !Y)	0.00000	0.00000	0.00000
	(!A * !Y)	-0.00389	-0.00390	-0.00389
sky130_osu_sc_15T_hs__and2_2	(!A * !Y)	0.00000	0.00000	0.00000
	(!A * !Y)	-0.00389	-0.00392	-0.00390
sky130_osu_sc_15T_hs__and2_4	(!A * !Y)	0.00000	0.00000	0.00000
	(!A * !Y)	-0.00389	-0.00392	-0.00390
sky130_osu_sc_15T_hs__and2_6	A	0.00000	0.00000	0.00000
	A	-0.00044	-0.00044	-0.00044
	!A	0.00000	0.00000	0.00000
	!A	-0.00038	-0.00038	-0.00038
sky130_osu_sc_15T_hs__and2_8	(!A * !Y)	0.00000	0.00000	0.00000
	(!A * !Y)	-0.00389	-0.00392	-0.00389

Passive power(pJ) for B falling (conditional):

Cell Name	When	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__and2_1	**(!A * !Y)**	0.00000	0.00000	0.00000
	(!A * !Y)	0.00392	0.00393	0.00390
sky130_osu_sc_15T_hs__and2_2	**(!A * !Y)**	0.00000	0.00000	0.00000
	(!A * !Y)	0.00392	0.00393	0.00390
sky130_osu_sc_15T_hs__and2_4	**(!A * !Y)**	0.00000	0.00000	0.00000
	(!A * !Y)	0.00392	0.00393	0.00390
sky130_osu_sc_15T_hs__and2_6	**A**	0.00000	0.00000	0.00000
	A	0.00044	0.00044	0.00044
	!A	0.00000	0.00000	0.00000
	!A	0.00038	0.00038	0.00038
sky130_osu_sc_15T_hs__and2_8	**(!A * !Y)**	0.00000	0.00000	0.00000
	(!A * !Y)	0.00392	0.00393	0.00389

SKY130_OSU_SC_15T_HS__AOI22

sky130_osu_sc_15T_hs_TT_1P8_25C.ccs
Cell Library: Process , Voltage 1.80,
Temp 25.00

Truth Table

INPUT				OUTPUT
A0	**A1**	**B0**	**B1**	**Y**
0	**x**	**0**	**x**	**1**
0	**x**	**1**	**0**	**1**
x	**x**	**1**	**1**	**0**
1	**0**	**0**	**x**	**1**
1	**0**	**1**	**0**	**1**
1	**1**	**x**	**x**	**0**

Footprint

Cell Name	Area
sky130_osu_sc_15T_hs__aoi22_l	12.82050

Pin Capacitance Information

Cell Name	Pin Cap(pf)				Max Cap(pf)
	A0	**A1**	**B0**	**B1**	**Y**
sky130_osu_sc_15T_hs__aoi22_l	0.00382	0.00395	0.00410	0.00392	0.06403

Leakage Information

Cell Name	Leakage(nW)		
	Min.	**Avg**	**Max.**
sky130_osu_sc_15T_hs__aoi22_l	0.00000	0.09662	0.34147

Delay Information

Delay(ns) to Y rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
sky130_osu_sc_15T_hs__aoi22_l	A0->Y (FR)	0.08577	0.22792	0.77856
	A1->Y (FR)	0.07686	0.21676	0.76261
	B0->Y (FR)	0.05134	0.18810	0.75603
	B1->Y (FR)	0.06045	0.19919	0.77555

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
sky130_osu_sc_15T_hs__aoi22_l	A0->Y (RF)	0.05155	0.13093	0.43892
	A1->Y (RF)	0.04777	0.13336	0.47605
	B0->Y (RF)	0.02672	0.11070	0.44726
	B1->Y (RF)	0.03037	0.10756	0.41127

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__aoi22_l	A0	0.01174	0.01162	0.01167
	A1	0.01028	0.01009	0.01012
	B0	0.00796	0.00780	0.00848
	B1	0.00938	0.00920	0.00992

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__aoi22_l	A0	0.00396	0.00367	0.00369
	A1	0.00399	0.00372	0.00384
	B0	-0.00071	-0.00079	-0.00047
	B1	-0.00063	-0.00078	-0.00057

Passive power(pJ) for A0 rising (conditional):

Cell Name	When	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__aoi22_l	(A1 * B0 * B1 * !Y)	0.00000	0.00000	0.00000
	(A1 * B0 * B1 * !Y)	-0.00335	-0.00352	-0.00355
	(!A1 * B0 * B1 * !Y)	0.00000	0.00000	0.00000
	(!A1 * B0 * B1 * !Y)	-0.00362	-0.00364	-0.00361
	(!A1 * B0 * !B1 * Y)	0.00000	0.00000	0.00000
	(!A1 * B0 * !B1 * Y)	-0.00361	-0.00362	-0.00361
	(!A1 * !B0 * Y)	0.00000	0.00000	0.00000
	(!A1 * !B0 * Y)	-0.00361	-0.00362	-0.00361

Passive power(pJ) for A0 falling (conditional):

Cell Name	When	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__aoi22_l	(A1 * B0 * B1 * !Y)	0.00000	0.00000	0.00000
	(A1 * B0 * B1 * !Y)	0.00356	0.00357	0.00355
	(!A1 * B0 * B1 * !Y)	0.00000	0.00000	0.00000
	(!A1 * B0 * B1 * !Y)	0.00362	0.00365	0.00362
	(!A1 * B0 * !B1 * Y)	0.00000	0.00000	0.00000
	(!A1 * B0 * !B1 * Y)	0.00363	0.00364	0.00361
	(!A1 * !B0 * Y)	0.00000	0.00000	0.00000
	(!A1 * !B0 * Y)	0.00363	0.00364	0.00361

Passive power(pJ) for A1 rising (conditional):

Cell Name	When	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__aoi22_l	(A0 * B0 * B1 * !Y)	0.00000	0.00000	0.00000
	(A0 * B0 * B1 * !Y)	-0.00330	-0.00346	-0.00349
	(!A0 * B0 * B1 * !Y)	0.00000	0.00000	0.00000
	(!A0 * B0 * B1 * !Y)	-0.00355	-0.00357	-0.00355
	(!A0 * B0 * !B1 * Y)	0.00000	0.00000	0.00000
	(!A0 * B0 * !B1 * Y)	-0.00386	-0.00386	-0.00386
	(!A0 * !B0 * Y)	0.00000	0.00000	0.00000
	(!A0 * !B0 * Y)	-0.00386	-0.00386	-0.00386

Passive power(pJ) for A1 falling (conditional):

Cell Name	When	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__aoi22_l	(A0 * B0 * B1 * !Y)	0.00000	0.00000	0.00000
	(A0 * B0 * B1 * !Y)	0.00349	0.00353	0.00349
	(!A0 * B0 * B1 * !Y)	0.00000	0.00000	0.00000
	(!A0 * B0 * B1 * !Y)	0.00355	0.00359	0.00355
	(!A0 * B0 * !B1 * Y)	0.00000	0.00000	0.00000
	(!A0 * B0 * !B1 * Y)	0.00386	0.00389	0.00386
	(!A0 * !B0 * Y)	0.00000	0.00000	0.00000
	(!A0 * !B0 * Y)	0.00386	0.00389	0.00386

Passive power(pJ) for B0 rising (conditional):

Cell Name	When	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__aoi22_l	(A0 * A1 * B1 * !Y)	0.00000	0.00000	0.00000
	(A0 * A1 * B1 * !Y)	-0.00172	-0.00173	-0.00171
	(A0 * A1 * !B1 * !Y)	0.00000	0.00000	0.00000
	(A0 * A1 * !B1 * !Y)	-0.00171	-0.00171	-0.00171
	(!A1 * !B1 * Y)	0.00000	0.00000	0.00000
	(!A1 * !B1 * Y)	-0.00400	-0.00400	-0.00400
	(!A0 * A1 * !B1 * Y)	0.00000	0.00000	0.00000
	(!A0 * A1 * !B1 * Y)	-0.00400	-0.00400	-0.00399

Passive power(pJ) for B0 falling (conditional):

Cell Name	When	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__aoi22_l	(A0 * A1 * B1 * !Y)	0.00000	0.00000	0.00000
	(A0 * A1 * B1 * !Y)	0.00176	0.00177	0.00173
	(A0 * A1 * !B1 * !Y)	0.00000	0.00000	0.00000
	(A0 * A1 * !B1 * !Y)	0.00171	0.00171	0.00171
	(!A1 * !B1 * Y)	0.00000	0.00000	0.00000
	(!A1 * !B1 * Y)	0.00400	0.00402	0.00400
	(!A0 * A1 * !B1 * Y)	0.00000	0.00000	0.00000
	(!A0 * A1 * !B1 * Y)	0.00400	0.00402	0.00399

Passive power(pJ) for B1 rising (conditional):

Cell Name	When	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__aoi22_l	(A0 * A1 * B0 * !Y)	0.00000	0.00000	0.00000
	(A0 * A1 * B0 * !Y)	-0.00172	-0.00174	-0.00172
	(A0 * A1 * !B0 * !Y)	0.00000	0.00000	0.00000
	(A0 * A1 * !B0 * !Y)	-0.00172	-0.00173	-0.00172
	(!A1 * !B0 * Y)	0.00000	0.00000	0.00000
	(!A1 * !B0 * Y)	-0.00368	-0.00370	-0.00368
	(!A0 * A1 * !B0 * Y)	0.00000	0.00000	0.00000
	(!A0 * A1 * !B0 * Y)	-0.00368	-0.00370	-0.00368

Passive power(pJ) for B1 falling (conditional):

Cell Name	When	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__aoi22_l	(A0 * A1 * B0 * !Y)	0.00000	0.00000	0.00000
	(A0 * A1 * B0 * !Y)	0.00178	0.00178	0.00174
	(A0 * A1 * !B0 * !Y)	0.00000	0.00000	0.00000
	(A0 * A1 * !B0 * !Y)	0.00172	0.00173	0.00172
	(!A1 * !B0 * Y)	0.00000	0.00000	0.00000
	(!A1 * !B0 * Y)	0.00371	0.00371	0.00368
	(!A0 * A1 * !B0 * Y)	0.00000	0.00000	0.00000
	(!A0 * A1 * !B0 * Y)	0.00371	0.00370	0.00368

SKY130_OSU_SC_15T_HS__BUFx

sky130_osu_sc_15T_hs_TT_1P8_25C.ccs
Cell Library: Process , Voltage 1.80,
Temp 25.00

Truth Table

INPUT	OUTPUT
A	Y
0	0
1	1

Footprint

Cell Name	Area
sky130_osu_sc_15T_hs__buf_1	7.93650
sky130_osu_sc_15T_hs__buf_2	10.37850
sky130_osu_sc_15T_hs__buf_4	15.26250
sky130_osu_sc_15T_hs__buf_6	20.14650
sky130_osu_sc_15T_hs__buf_8	25.03050

Pin Capacitance Information

Cell Name	Pin Cap(pf)	Max Cap(pf)
	A	Y
sky130_osu_sc_15T_hs__buf_1	0.00413	0.14620
sky130_osu_sc_15T_hs__buf_2	0.00417	0.28660
sky130_osu_sc_15T_hs__buf_4	0.00417	0.55327
sky130_osu_sc_15T_hs__buf_6	0.00091	1.80000
sky130_osu_sc_15T_hs__buf_8	0.00417	1.06531

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
sky130_osu_sc_15T_hs__buf_1	0.00000	0.17817	0.17817
sky130_osu_sc_15T_hs__buf_2	0.00000	0.26725	0.34890
sky130_osu_sc_15T_hs__buf_4	0.00000	0.44541	0.69037
sky130_osu_sc_15T_hs__buf_6	0.00000	0.00000	0.00000
sky130_osu_sc_15T_hs__buf_8	0.00000	0.80174	1.37330

Delay Information

Delay(ns) to Y rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
sky130_osu_sc_15T_hs__buf_1	**A->Y (RR)**	0.04794	0.15011	0.56093
sky130_osu_sc_15T_hs__buf_2	**A->Y (RR)**	0.05435	0.14979	0.59473
sky130_osu_sc_15T_hs__buf_4	**A->Y (RR)**	0.07330	0.16958	0.66376
sky130_osu_sc_15T_hs__buf_8	**A->Y (RR)**	0.11019	0.21009	0.77168

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
sky130_osu_sc_15T_hs__buf_1	**A->Y (FF)**	0.05149	0.15574	0.56273
sky130_osu_sc_15T_hs__buf_2	**A->Y (FF)**	0.06056	0.16458	0.62229
sky130_osu_sc_15T_hs__buf_4	**A->Y (FF)**	0.08443	0.18892	0.70186
sky130_osu_sc_15T_hs__buf_8	**A->Y (FF)**	0.13513	0.24265	0.81709

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__buf_1	A	0.00000	0.00000	0.00000
	A	0.00393	0.00361	0.00552
sky130_osu_sc_15T_hs__buf_2	A	0.00000	0.00000	0.00000
	A	0.00807	0.00788	0.00945
sky130_osu_sc_15T_hs__buf_4	A	0.00000	0.00000	0.00000
	A	0.01742	0.01759	0.01917
sky130_osu_sc_15T_hs__buf_8	A	0.00000	0.00000	0.00000
	A	0.03754	0.03696	0.03894

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__buf_1	A	0.00000	0.00000	0.00000
	A	0.01048	0.01060	0.01340
sky130_osu_sc_15T_hs__buf_2	A	0.00000	0.00000	0.00000
	A	0.01356	0.01389	0.01649
sky130_osu_sc_15T_hs__buf_4	A	0.00000	0.00000	0.00000
	A	0.02162	0.02207	0.02463
sky130_osu_sc_15T_hs__buf_8	A	0.00000	0.00000	0.00000
	A	0.04071	0.03792	0.04128

Passive power(pJ) for A rising :

Cell Name	Power(pJ)		
	first	mid	last
sky130_osu_sc_15T_hs__buf_6	0.00000	0.00000	0.00000
	-0.00071	-0.00071	-0.00071

Passive power(pJ) for A falling :

Cell Name	Power(pJ)		
	first	mid	last
sky130_osu_sc_15T_hs__buf_6	0.00000	0.00000	0.00000
	0.00071	0.00071	0.00071

SKY130_OSU_SC_15T_HS__DFF

sky130_osu_sc_15T_hs_TT_1P8_25C.ccs
Cell Library: Process , Voltage 1.80,
Temp 25.00

Truth Table

INPUT		OUTPUT	
D	CK	Q	QN
0	R	0	1
1	R	1	0
x	x	IQ	IQN

Footprint

Cell Name	Area
sky130_osu_sc_15T_hs__dff_1	40.29300

Pin Capacitance Information

Cell Name	Pin Cap(pf)		Max Cap(pf)	
	D	CK	Q	QN
sky130_osu_sc_15T_hs__dff_1	0.00408	0.01144	0.15172	0.14722

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
sky130_osu_sc_15T_hs__dff_1	0.00000	0.57306	0.71093

Delay Information

Delay(ns) to Q rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
sky130_osu_sc_15T_hs__dff_1	CK->Q (RR)	0.16352	0.36647	1.30442
	QN->Q (FR)	0.02478	0.16334	0.88066

Delay(ns) to Q falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
sky130_osu_sc_15T_hs__dff_1	CK->Q (RF)	0.23236	0.43720	1.39461
	QN->Q (RF)	0.02083	0.13160	0.70706

Delay(ns) to QN rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
sky130_osu_sc_15T_hs__dff_1	CK->QN (RR)	0.20675	0.31320	0.73102

Delay(ns) to QN falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
sky130_osu_sc_15T_hs__dff_1	CK->QN (RF)	0.13267	0.22404	0.54791

Constraint Information

Constraints(ns) for D rising :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
sky130_osu_sc_15T_hs__dff_1	hold	CK (R)	-0.03555	-0.03912	-0.05209
	setup	CK (R)	0.10705	0.10747	0.20841

Constraints(ns) for D falling :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
sky130_osu_sc_15T_hs__dff_1	hold	CK (R)	-0.09473	-0.15148	-0.46827
	setup	CK (R)	0.11372	0.16133	0.48594

Constraints(ns) for CK rising (conditional):

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
sky130_osu_sc_15T_hs__dff_1	min_pulse_width	CK ()	0.07042	0.11963	0.97290
	min_pulse_width	CK ()	0.12201	0.11963	0.97290

Constraints(ns) for CK falling (conditional):

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
sky130_osu_sc_15T_hs__dff_1	min_pulse_width	CK ()	0.16114	0.17629	0.97290
	min_pulse_width	CK ()	0.08859	0.13296	0.97290

Power Information

Internal switching power(pJ) to Q rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__dff_1	CK	0.00000	0.00000	0.00000
	CK	0.01110	0.01015	0.00881

Internal switching power(pJ) to Q falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__dff_1	CK	0.00000	0.00000	0.00000
	CK	0.01220	0.01173	0.01090

Internal switching power(pJ) to QN rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__dff_1	CK	0.00000	0.00000	0.00000
	CK	0.01219	0.01173	0.01100

Internal switching power(pJ) to QN falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__dff_1	CK	0.00000	0.00000	0.00000
	CK	0.01106	0.01012	0.00879

Passive power(pJ) for D rising (conditional):

Cell Name	When	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__dff_1	CK	0.00000	0.00000	0.00000
	CK	-0.00311	-0.00349	-0.00352
	(!CK * Q * !QN) + (!CK * !Q * QN)	0.00000	0.00000	0.00000
	(!CK * Q * !QN) + (!CK * !Q * QN)	0.01150	0.01105	0.01179

Passive power(pJ) for D falling (conditional):

Cell Name	When	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__dff_1	CK	0.00000	0.00000	0.00000
	CK	0.00352	0.00352	0.00352
	(!CK * Q * !QN) + (!CK * !Q * QN)	0.00000	0.00000	0.00000
	(!CK * Q * !QN) + (!CK * !Q * QN)	0.02162	0.02125	0.02197

Passive power(pJ) for CK rising (conditional):

Cell Name	When	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__dff_1	(D * Q * !QN)	0.00000	0.00000	0.00000
	(D * Q * !QN)	-0.00106	-0.00152	0.00017
	(!D * !Q * QN)	0.00000	0.00000	0.00000
	(!D * !Q * QN)	-0.00128	-0.00174	0.00004

Passive power(pJ) for CK falling (conditional):

Cell Name	When	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__dff_1	(D * Q * !QN)	0.00000	0.00000	0.00000
	(D * Q * !QN)	0.01538	0.01520	0.01802
	(D * !Q * QN)	0.00000	0.00000	0.00000
	(D * !Q * QN)	0.03179	0.03122	0.03335
	(!D * Q * !QN)	0.00000	0.00000	0.00000
	(!D * Q * !QN)	0.03233	0.03175	0.03684
	(!D * !Q * QN)	0.00000	0.00000	0.00000
	(!D * !Q * QN)	0.01722	0.01704	0.01962

SKY130_OSU_SC_15T_HS__INVx

sky130_osu_sc_15T_hs_TT_1P8_25C.ccs
Cell Library: Process , Voltage 1.80,
Temp 25.00

Truth Table

INPUT	OUTPUT
A	Y
0	1
1	0

Footprint

Cell Name	Area
sky130_osu_sc_15T_hs__inv_1	5.49450
sky130_osu_sc_15T_hs__inv_10	27.47250
sky130_osu_sc_15T_hs__inv_2	7.93650
sky130_osu_sc_15T_hs__inv_3	10.37850
sky130_osu_sc_15T_hs__inv_4	12.82050
sky130_osu_sc_15T_hs__inv_6	17.70450
sky130_osu_sc_15T_hs__inv_8	22.58850

Pin Capacitance Information

Cell Name	Pin Cap(pf)	Max Cap(pf)
	A	Y
sky130_osu_sc_15T_hs__inv_1	0.00396	0.14122
sky130_osu_sc_15T_hs__inv_10	0.03633	1.26875
sky130_osu_sc_15T_hs__inv_2	0.00749	0.27931
sky130_osu_sc_15T_hs__inv_3	0.01115	0.39890
sky130_osu_sc_15T_hs__inv_4	0.01472	0.54117
sky130_osu_sc_15T_hs__inv_6	0.02204	0.78659
sky130_osu_sc_15T_hs__inv_8	0.02921	1.04661

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
sky130_osu_sc_15T_hs__inv_1	0.00000	0.08908	0.17073
sky130_osu_sc_15T_hs__inv_10	0.00000	0.89082	1.70733
sky130_osu_sc_15T_hs__inv_2	0.00000	0.17816	0.34147
sky130_osu_sc_15T_hs__inv_3	0.00000	0.26725	0.51220
sky130_osu_sc_15T_hs__inv_4	0.00000	0.35633	0.68293
sky130_osu_sc_15T_hs__inv_6	0.00000	0.53449	1.02440
sky130_osu_sc_15T_hs__inv_8	0.00000	0.71266	1.36587

Delay Information

Delay(ns) to Y rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
sky130_osu_sc_15T_hs__inv_1	A->Y (FR)	0.02371	0.15027	0.79241
sky130_osu_sc_15T_hs__inv_10	A->Y (FR)	0.03490	0.11921	0.80087
sky130_osu_sc_15T_hs__inv_2	A->Y (FR)	0.01923	0.12951	0.78652
sky130_osu_sc_15T_hs__inv_3	A->Y (FR)	0.02143	0.12421	0.78773
sky130_osu_sc_15T_hs__inv_4	A->Y (FR)	0.02201	0.11962	0.79116
sky130_osu_sc_15T_hs__inv_6	A->Y (FR)	0.02518	0.11603	0.78842
sky130_osu_sc_15T_hs__inv_8	A->Y (FR)	0.02969	0.11674	0.79828

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
sky130_osu_sc_15T_hs__inv_1	A->Y (RF)	0.01851	0.11301	0.59392
sky130_osu_sc_15T_hs__inv_10	A->Y (RF)	0.02811	0.08747	0.60032
sky130_osu_sc_15T_hs__inv_2	A->Y (RF)	0.01535	0.09668	0.59211
sky130_osu_sc_15T_hs__inv_3	A->Y (RF)	0.01701	0.09219	0.59720
sky130_osu_sc_15T_hs__inv_4	A->Y (RF)	0.01699	0.08754	0.59957
sky130_osu_sc_15T_hs__inv_6	A->Y (RF)	0.02101	0.08490	0.59853
sky130_osu_sc_15T_hs__inv_8	A->Y (RF)	0.02451	0.08571	0.60518

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__inv_1	A	0.00000	0.00000	0.00000
	A	0.00546	0.00556	0.00618
sky130_osu_sc_15T_hs__inv_10	A	0.00000	0.00000	0.00000
	A	0.04670	0.04934	0.05600
sky130_osu_sc_15T_hs__inv_2	A	0.00000	0.00000	0.00000
	A	0.00962	0.01013	0.01132
sky130_osu_sc_15T_hs__inv_3	A	0.00000	0.00000	0.00000
	A	0.01477	0.01551	0.01738
sky130_osu_sc_15T_hs__inv_4	A	0.00000	0.00000	0.00000
	A	0.01897	0.01988	0.02249
sky130_osu_sc_15T_hs__inv_6	A	0.00000	0.00000	0.00000
	A	0.02808	0.02983	0.03376
sky130_osu_sc_15T_hs__inv_8	A	0.00000	0.00000	0.00000
	A	0.03725	0.03951	0.04485

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__inv_1	**A**	0.00000	0.00000	0.00000
	A	-0.00121	-0.00120	-0.00089
sky130_osu_sc_15T_hs__inv_10	**A**	0.00000	0.00000	0.00000
	A	-0.01784	-0.01786	-0.01312
sky130_osu_sc_15T_hs__inv_2	**A**	0.00000	0.00000	0.00000
	A	-0.00373	-0.00354	-0.00283
sky130_osu_sc_15T_hs__inv_3	**A**	0.00000	0.00000	0.00000
	A	-0.00495	-0.00467	-0.00355
sky130_osu_sc_15T_hs__inv_4	**A**	0.00000	0.00000	0.00000
	A	-0.00747	-0.00713	-0.00546
sky130_osu_sc_15T_hs__inv_6	**A**	0.00000	0.00000	0.00000
	A	-0.01146	-0.01068	-0.00811
sky130_osu_sc_15T_hs__inv_8	**A**	0.00000	0.00000	0.00000
	A	-0.01511	-0.01442	-0.01067

SKY130_OSU_SC_15T_HS__MUX2

sky130_osu_sc_15T_hs_TT_1P8_25C.ccs
Cell Library: Process , Voltage 1.80,
Temp 25.00

Truth Table

INPUT			OUTPUT
A0	**A1**	**S0**	**Y**
0	**0**	**x**	**0**
0	**1**	**0**	**0**
x	**1**	**1**	**1**
1	**x**	**0**	**1**
1	**0**	**1**	**0**

Footprint

Cell Name	Area
sky130_osu_sc_15T_hs__mux2_1	15.26250

Pin Capacitance Information

Cell Name	Pin Cap(pf)			Max Cap(pf)
	A0	**A1**	**S0**	**Y**
sky130_osu_sc_15T_hs__mux2_1	0.04684	0.04673	0.00808	0.04320

Leakage Information

Cell Name	Leakage(nW)		
	Min.	**Avg**	**Max.**
sky130_osu_sc_15T_hs__mux2_1	0.00000	0.17866	0.17866

Delay Information

Delay(ns) to Y rising (conditional):

Cell Name	Timing Arc(Dir)	When	Delay(ns)		
			First	Mid	Last
sky130_osu_sc_15T_hs__mux2_1	A0->Y (RR)	-	0.01085	0.04944	0.17417
	A1->Y (RR)	-	0.01209	0.05101	0.17529
	S0->Y (RR)	(!A0 * A1)	0.03811	0.09386	0.20702
	S0->Y (FR)	(A0 * !A1)	0.03113	0.11024	0.34180

Delay(ns) to Y falling (conditional):

Cell Name	Timing Arc(Dir)	When	Delay(ns)		
			First	Mid	Last
sky130_osu_sc_15T_hs__mux2_1	A0->Y (FF)	-	0.01155	0.05495	0.19529
	A1->Y (FF)	-	0.01088	0.05365	0.19356
	S0->Y (FF)	(!A0 * A1)	0.05122	0.12097	0.32307
	S0->Y (RF)	(A0 * !A1)	0.02134	0.07918	0.23084

Power Information

Internal switching power(pJ) to Y rising (conditional):

Cell Name	Input	When	Power(pJ)		
			first	mid	last
sky130_osu_sc_15T_hs__mux2_1	A0	-	0.00000	0.00000	0.00000
	A0	-	-0.00569	-0.00570	-0.00570
	A1	-	0.00000	0.00000	0.00000
	A1	-	-0.00381	-0.00381	-0.00381
	S0	(A0 * !A1)	0.00000	0.00000	0.00000
	S0	(A0 * !A1)	0.00665	0.00665	0.00975
	S0	(!A0 * A1)	0.00000	0.00000	0.00000
	S0	(!A0 * A1)	-0.00387	-0.00427	-0.00199

Internal switching power(pJ) to Y falling (conditional):

Cell Name	Input	When	Power(pJ)		
			first	mid	last
sky130_osu_sc_15T_hs__mux2_1	A0	-	0.00000	0.00000	0.00000
	A0	-	0.00569	0.00570	0.00570
	A1	-	0.00000	0.00000	0.00000
	A1	-	0.00381	0.00381	0.00381
	S0	(A0 * !A1)	0.00000	0.00000	0.00000
	S0	(A0 * !A1)	0.00100	0.00066	0.00315
	S0	(!A0 * A1)	0.00000	0.00000	0.00000
	S0	(!A0 * A1)	0.01490	0.01480	0.01767

Passive power(pJ) for A0 rising (conditional):

Cell Name	When	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__mux2_1	(A1 * S0 * Y) + (!A1 * S0 * !Y)	0.00000	0.00000	0.00000
	(A1 * S0 * Y) + (!A1 * S0 * !Y)	-0.00137	-0.00136	-0.00136

Passive power(pJ) for A0 falling (conditional):

Cell Name	When	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__mux2_1	(A1 * S0 * Y) + (!A1 * S0 * !Y)	0.00000	0.00000	0.00000
	(A1 * S0 * Y) + (!A1 * S0 * !Y)	0.00137	0.00136	0.00136

Passive power(pJ) for A1 rising (conditional):

Cell Name	When	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__mux2_1	(A0 * !S0 * Y) + (!A0 * !S0 * !Y)	0.00000	0.00000	0.00000
	(A0 * !S0 * Y) + (!A0 * !S0 * !Y)	-0.00163	-0.00162	-0.00163

Passive power(pJ) for A1 falling (conditional):

Cell Name	When	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__mux2_1	(A0 * !S0 * Y) + (!A0 * !S0 * !Y)	0.00000	0.00000	0.00000
	(A0 * !S0 * Y) + (!A0 * !S0 * !Y)	0.00163	0.00162	0.00163

Passive power(pJ) for S0 rising (conditional):

Cell Name	When	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__mux2_1	(A0 * A1 * Y)	0.00000	0.00000	0.00000
	(A0 * A1 * Y)	-0.00145	-0.00181	0.00063
	(!A0 * !A1 * !Y)	0.00000	0.00000	0.00000
	(!A0 * !A1 * !Y)	-0.00142	-0.00182	0.00057

Passive power(pJ) for S0 falling (conditional):

Cell Name	When	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__mux2_1	(A0 * A1 * Y)	0.00000	0.00000	0.00000
	(A0 * A1 * Y)	0.01125	0.01114	0.01407
	(!A0 * !A1 * !Y)	0.00000	0.00000	0.00000
	(!A0 * !A1 * !Y)	0.01030	0.01029	0.01341

SKY130_OSU_SC_15T_HS__NAND2

sky130_osu_sc_15T_hs_TT_1P8_25C.ccs
Cell Library: Process , Voltage 1.80,
Temp 25.00

Truth Table

INPUT		OUTPUT
A	B	Y
0	x	1
1	0	1
1	1	0

Footprint

Cell Name	Area
sky130_osu_sc_15T_hs__nand2_1	7.93650

Pin Capacitance Information

Cell Name	Pin Cap(pf)		Max Cap(pf)
	A	B	Y
sky130_osu_sc_15T_hs__nand2_1	0.00396	0.00395	0.13977

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
sky130_osu_sc_15T_hs__nand2_1	0.00000	0.08898	0.34147

Delay Information

Delay(ns) to Y rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
sky130_osu_sc_15T_hs__nand2_1	A->Y (FR)	0.02446	0.15136	0.79307
	B->Y (FR)	0.02883	0.15343	0.78403

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
sky130_osu_sc_15T_hs__nand2_1	A->Y (RF)	0.02568	0.14122	0.73591
	B->Y (RF)	0.02935	0.13937	0.70195

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__nand2_1	A	0.00000	0.00000	0.00000
	A	0.00581	0.00589	0.00645
	B	0.00000	0.00000	0.00000
	B	0.00733	0.00731	0.00785

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__nand2_1	A	0.00000	0.00000	0.00000
	A	-0.00085	-0.00088	-0.00064
	B	0.00000	0.00000	0.00000
	B	-0.00080	-0.00091	-0.00071

Passive power(pJ) for A rising (conditional):

Cell Name	When	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__nand2_1	(!B * Y)	0.00000	0.00000	0.00000
	(!B * Y)	-0.00403	-0.00404	-0.00403

Passive power(pJ) for A falling (conditional):

Cell Name	When	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__nand2_1	(!B * Y)	0.00000	0.00000	0.00000
	(!B * Y)	0.00403	0.00407	0.00403

Passive power(pJ) for B rising (conditional):

Cell Name	When	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__nand2_1	(!A * Y)	0.00000	0.00000	0.00000
	(!A * Y)	-0.00374	-0.00373	-0.00373

Passive power(pJ) for B falling (conditional):

Cell Name	When	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__nand2_1	(!A * Y)	0.00000	0.00000	0.00000
	(!A * Y)	0.00376	0.00377	0.00373

SKY130_OSU_SC_15T_HS__NOR2

sky130_osu_sc_15T_hs_TT_1P8_25C.ccs
Cell Library: Process , Voltage 1.80,
Temp 25.00

Truth Table

INPUT		OUTPUT
A	B	Y
0	0	1
x	1	0
1	x	0

Footprint

Cell Name	Area
sky130_osu_sc_15T_hs__nor2_1	7.93650

Pin Capacitance Information

Cell Name	Pin Cap(pf)		Max Cap(pf)
	A	B	Y
sky130_osu_sc_15T_hs__nor2_1	0.00393	0.00422	0.07316

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
sky130_osu_sc_15T_hs__nor2_1	0.00000	0.06565	0.17073

Delay Information

Delay(ns) to Y rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
sky130_osu_sc_15T_hs__nor2_1	A->Y (FR)	0.05104	0.19120	0.77278
	B->Y (FR)	0.03857	0.17773	0.77336

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
sky130_osu_sc_15T_hs__nor2_1	A->Y (RF)	0.02505	0.10152	0.40958
	B->Y (RF)	0.01972	0.09350	0.39852

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__nor2_1	A	0.00000	0.00000	0.00000
	A	0.00783	0.00772	0.00792
	B	0.00000	0.00000	0.00000
	B	0.00590	0.00589	0.00665

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__nor2_1	A	0.00000	0.00000	0.00000
	A	0.00073	0.00052	0.00077
	B	0.00000	0.00000	0.00000
	B	-0.00094	-0.00093	-0.00061

Passive power(pJ) for A rising (conditional):

Cell Name	When	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__nor2_1	(B * !Y)	0.00000	0.00000	0.00000
	(B * !Y)	-0.00313	-0.00351	-0.00354

Passive power(pJ) for A falling (conditional):

Cell Name	When	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__nor2_1	(B * !Y)	0.00000	0.00000	0.00000
	(B * !Y)	0.00354	0.00358	0.00354

Passive power(pJ) for B rising (conditional):

Cell Name	When	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__nor2_1	(A * !Y)	0.00000	0.00000	0.00000
	(A * !Y)	-0.00172	-0.00173	-0.00171

Passive power(pJ) for B falling (conditional):

Cell Name	When	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__nor2_1	(A * !Y)	0.00000	0.00000	0.00000
	(A * !Y)	0.00174	0.00175	0.00173

SKY130_OSU_SC_15T_HS__OAI21

sky130_osu_sc_15T_hs_TT_1P8_25C.ccs
Cell Library: Process , Voltage 1.80,
Temp 25.00

Truth Table

INPUT			OUTPUT
A0	A1	B0	Y
0	0	x	1
x	1	0	1
x	1	1	0
1	x	0	1
1	x	1	0

Footprint

Cell Name	Area
sky130_osu_sc_15T_hs__oai21_l	10.37850

Pin Capacitance Information

Cell Name	Pin Cap(pf)			Max Cap(pf)
	A0	A1	B0	Y
sky130_osu_sc_15T_hs__oai21_l	0.00398	0.00406	0.00335	0.06878

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
sky130_osu_sc_15T_hs__oai21_l	0.00000	0.04526	0.19694

Delay Information

Delay(ns) to Y rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
sky130_osu_sc_15T_hs__oai21_l	A0->Y (FR)	0.05450	0.19253	0.77420
	A1->Y (FR)	0.07035	0.21000	0.77865
	B0->Y (FR)	0.03804	0.16516	0.70916

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
sky130_osu_sc_15T_hs__oai21_l	A0->Y (RF)	0.03598	0.11869	0.45153
	A1->Y (RF)	0.04260	0.12489	0.45371
	B0->Y (RF)	0.02780	0.12028	0.50702

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__oai21_l	A0	0.00000	0.00000	0.00000
	A0	0.00813	0.00799	0.00863
	A1	0.00000	0.00000	0.00000
	A1	0.01005	0.00989	0.01003
	B0	0.00671	0.00661	0.00706

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__oai21_l	A0	0.00000	0.00000	0.00000
	A0	0.00016	0.00000	0.00016
	A1	0.00000	0.00000	0.00000
	A1	0.00185	0.00155	0.00164
	B0	0.00263	0.00253	0.00271

Passive power(pJ) for A0 rising (conditional):

Cell Name	When	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__oai21_l	(A1 * B0 * !Y)	0.00000	0.00000	0.00000
	(A1 * B0 * !Y)	-0.00173	-0.00174	-0.00173
	(A1 * !B0 * Y)	0.00000	0.00000	0.00000
	(A1 * !B0 * Y)	-0.00345	-0.00355	-0.00358
	(!A1 * !B0 * Y)	0.00000	0.00000	0.00000
	(!A1 * !B0 * Y)	-0.00363	-0.00364	-0.00363

Passive power(pJ) for A0 falling (conditional):

Cell Name	When	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__oai21_l	(A1 * B0 * !Y)	0.00000	0.00000	0.00000
	(A1 * B0 * !Y)	0.00175	0.00176	0.00173
	(A1 * !B0 * Y)	0.00000	0.00000	0.00000
	(A1 * !B0 * Y)	0.00358	0.00359	0.00358
	(!A1 * !B0 * Y)	0.00000	0.00000	0.00000
	(!A1 * !B0 * Y)	0.00363	0.00366	0.00363

Passive power(pJ) for A1 rising (conditional):

Cell Name	When	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__oai21_l	(A0 * B0 * !Y)	0.00000	0.00000	0.00000
	(A0 * B0 * !Y)	-0.00304	-0.00343	-0.00346
	(A0 * !B0 * Y)	0.00000	0.00000	0.00000
	(A0 * !B0 * Y)	-0.00341	-0.00352	-0.00353
	(!A0 * !B0 * Y)	0.00000	0.00000	0.00000
	(!A0 * !B0 * Y)	-0.00359	-0.00359	-0.00359

Passive power(pJ) for A1 falling (conditional):

Cell Name	When	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__oai21_l	(A0 * B0 * !Y)	0.00000	0.00000	0.00000
	(A0 * B0 * !Y)	0.00347	0.00347	0.00347
	(A0 * !B0 * Y)	0.00000	0.00000	0.00000
	(A0 * !B0 * Y)	0.00353	0.00353	0.00353
	(!A0 * !B0 * Y)	0.00000	0.00000	0.00000
	(!A0 * !B0 * Y)	0.00359	0.00361	0.00359

Passive power(pJ) for B0 rising (conditional):

Cell Name	When	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__oai21_l	(!A0 * !A1 * Y)	0.00000	0.00000	0.00000
	(!A0 * !A1 * Y)	-0.00290	-0.00290	-0.00290

Passive power(pJ) for B0 falling (conditional):

Cell Name	When	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__oai21_l	(!A0 * !A1 * Y)	0.00000	0.00000	0.00000
	(!A0 * !A1 * Y)	0.00290	0.00292	0.00290

SKY130_OSU_SC_15T_HS__OAI22

sky130_osu_sc_15T_hs_TT_1P8_25C.ccs
Cell Library: Process , Voltage 1.80,
Temp 25.00

Truth Table

INPUT				OUTPUT
A0	A1	B0	B1	Y
0	0	x	x	1
x	1	0	0	1
x	1	x	1	0
x	1	1	x	0
1	x	0	0	1
1	x	x	1	0
1	x	1	x	0

Footprint

Cell Name	Area
sky130_osu_sc_15T_hs__oai22_l	12.82050

Pin Capacitance Information

Cell Name	Pin Cap(pf)				Max Cap(pf)
	A0	A1	B0	B1	Y
sky130_osu_sc_15T_hs__oai22_l	0.00384	0.00407	0.00417	0.00407	0.06830

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
sky130_osu_sc_15T_hs__oai22_l	0.00000	0.09806	0.34147

Delay Information

Delay(ns) to Y rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
sky130_osu_sc_15T_hs__oai22_l	A0->Y (FR)	0.07529	0.21199	0.76729
	A1->Y (FR)	0.06278	0.19700	0.76687
	B0->Y (FR)	0.04392	0.17916	0.74909
	B1->Y (FR)	0.05735	0.19384	0.74985

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
sky130_osu_sc_15T_hs__oai22_l	A0->Y (RF)	0.06091	0.14712	0.48351
	A1->Y (RF)	0.04868	0.13389	0.46692
	B0->Y (RF)	0.04106	0.13508	0.52306
	B1->Y (RF)	0.05382	0.14912	0.54422

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__oai22_l	A0	0.01301	0.01286	0.01299
	A1	0.01105	0.01081	0.01150
	B0	0.00822	0.00816	0.00878
	B1	0.01027	0.01011	0.01025

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__oai22_l	A0	0.00305	0.00278	0.00282
	A1	0.00154	0.00138	0.00142
	B0	0.00154	0.00142	0.00156
	B1	0.00309	0.00282	0.00297

Passive power(pJ) for A0 rising (conditional):

Cell Name	When	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__oai22_l	(A1 * B0 * !Y)	0.00000	0.00000	0.00000
	(A1 * B0 * !Y)	-0.00312	-0.00351	-0.00354
	(A1 * !B0 * B1 * !Y)	0.00000	0.00000	0.00000
	(A1 * !B0 * B1 * !Y)	-0.00312	-0.00351	-0.00354
	(A1 * !B0 * !B1 * Y)	0.00000	0.00000	0.00000
	(A1 * !B0 * !B1 * Y)	-0.00342	-0.00353	-0.00355
	(!A1 * !B0 * !B1 * Y)	0.00000	0.00000	0.00000
	(!A1 * !B0 * !B1 * Y)	-0.00359	-0.00359	-0.00360

Passive power(pJ) for A0 falling (conditional):

Cell Name	When	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__oai22_l	(A1 * B0 * !Y)	0.00000	0.00000	0.00000
	(A1 * B0 * !Y)	0.00354	0.00358	0.00354
	(A1 * !B0 * B1 * !Y)	0.00000	0.00000	0.00000
	(A1 * !B0 * B1 * !Y)	0.00354	0.00358	0.00354
	(A1 * !B0 * !B1 * Y)	0.00000	0.00000	0.00000
	(A1 * !B0 * !B1 * Y)	0.00354	0.00354	0.00356
	(!A1 * !B0 * !B1 * Y)	0.00000	0.00000	0.00000
	(!A1 * !B0 * !B1 * Y)	0.00359	0.00363	0.00360

Passive power(pJ) for A1 rising (conditional):

Cell Name	When	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__oai22_l	(A0 * B0 * !Y)	0.00000	0.00000	0.00000
	(A0 * B0 * !Y)	-0.00171	-0.00172	-0.00170
	(A0 * !B0 * B1 * !Y)	0.00000	0.00000	0.00000
	(A0 * !B0 * B1 * !Y)	-0.00171	-0.00172	-0.00170
	(A0 * !B0 * !B1 * Y)	0.00000	0.00000	0.00000
	(A0 * !B0 * !B1 * Y)	-0.00338	-0.00347	-0.00350
	(!A0 * !B0 * !B1 * Y)	0.00000	0.00000	0.00000
	(!A0 * !B0 * !B1 * Y)	-0.00357	-0.00358	-0.00357

Passive power(pJ) for A1 falling (conditional):

Cell Name	When	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__oai22_l	(A0 * B0 * !Y)	0.00000	0.00000	0.00000
	(A0 * B0 * !Y)	0.00172	0.00174	0.00171
	(A0 * !B0 * B1 * !Y)	0.00000	0.00000	0.00000
	(A0 * !B0 * B1 * !Y)	0.00172	0.00174	0.00171
	(A0 * !B0 * !B1 * Y)	0.00000	0.00000	0.00000
	(A0 * !B0 * !B1 * Y)	0.00351	0.00353	0.00350
	(!A0 * !B0 * !B1 * Y)	0.00000	0.00000	0.00000
	(!A0 * !B0 * !B1 * Y)	0.00357	0.00360	0.00357

Passive power(pJ) for B0 rising (conditional):

Cell Name	When	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__oai22_l	(A1 * B1 * !Y)	0.00000	0.00000	0.00000
	(A1 * B1 * !Y)	-0.00170	-0.00170	-0.00169
	(A0 * !A1 * B1 * !Y)	0.00000	0.00000	0.00000
	(A0 * !A1 * B1 * !Y)	-0.00170	-0.00170	-0.00169
	(!A0 * !A1 * B1 * Y)	0.00000	0.00000	0.00000
	(!A0 * !A1 * B1 * Y)	-0.00378	-0.00387	-0.00389
	(!A0 * !A1 * !B1 * Y)	0.00000	0.00000	0.00000
	(!A0 * !A1 * !B1 * Y)	-0.00397	-0.00397	-0.00397

Passive power(pJ) for B0 falling (conditional):

Cell Name	When	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__oai22_l	(A1 * B1 * !Y)	0.00000	0.00000	0.00000
	(A1 * B1 * !Y)	0.00171	0.00172	0.00170
	(A0 * !A1 * B1 * !Y)	0.00000	0.00000	0.00000
	(A0 * !A1 * B1 * !Y)	0.00171	0.00171	0.00170
	(!A0 * !A1 * B1 * Y)	0.00000	0.00000	0.00000
	(!A0 * !A1 * B1 * Y)	0.00391	0.00393	0.00389
	(!A0 * !A1 * !B1 * Y)	0.00000	0.00000	0.00000
	(!A0 * !A1 * !B1 * Y)	0.00397	0.00400	0.00397

Passive power(pJ) for B1 rising (conditional):

Cell Name	When	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__oai22_l	(A1 * B0 * !Y)	0.00000	0.00000	0.00000
	(A1 * B0 * !Y)	-0.00306	-0.00344	-0.00347
	(A0 * !A1 * B0 * !Y)	0.00000	0.00000	0.00000
	(A0 * !A1 * B0 * !Y)	-0.00306	-0.00344	-0.00347
	(!A0 * !A1 * B0 * Y)	0.00000	0.00000	0.00000
	(!A0 * !A1 * B0 * Y)	-0.00387	-0.00398	-0.00400
	(!A0 * !A1 * !B0 * Y)	0.00000	0.00000	0.00000
	(!A0 * !A1 * !B0 * Y)	-0.00405	-0.00407	-0.00405

Passive power(pJ) for B1 falling (conditional):

Cell Name	When	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__oai22_l	(A1 * B0 * !Y)	0.00000	0.00000	0.00000
	(A1 * B0 * !Y)	0.00348	0.00347	0.00348
	(A0 * !A1 * B0 * !Y)	0.00000	0.00000	0.00000
	(A0 * !A1 * B0 * !Y)	0.00348	0.00351	0.00348
	(!A0 * !A1 * B0 * Y)	0.00000	0.00000	0.00000
	(!A0 * !A1 * B0 * Y)	0.00399	0.00403	0.00401
	(!A0 * !A1 * !B0 * Y)	0.00000	0.00000	0.00000
	(!A0 * !A1 * !B0 * Y)	0.00405	0.00408	0.00405

SKY130_OSU_SC_15T_HS__OR2x

sky130_osu_sc_15T_hs_TT_1P8_25C.ccs
Cell Library: Process , Voltage 1.80,
Temp 25.00

Truth Table

INPUT		OUTPUT
A	B	Y
0	0	0
x	1	1
1	x	1

Footprint

Cell Name	Area
sky130_osu_sc_15T_hs__or2_1	10.37850
sky130_osu_sc_15T_hs__or2_2	12.82050
sky130_osu_sc_15T_hs__or2_4	17.70450
sky130_osu_sc_15T_hs__or2_8	27.47250

Pin Capacitance Information

Cell Name	Pin Cap(pf)		Max Cap(pf)
	A	B	Y
sky130_osu_sc_15T_hs__or2_1	0.00427	0.00405	0.14513
sky130_osu_sc_15T_hs__or2_2	0.00427	0.00405	0.28545
sky130_osu_sc_15T_hs__or2_4	0.00426	0.00405	0.54827
sky130_osu_sc_15T_hs__or2_8	0.00427	0.00406	1.04956

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
sky130_osu_sc_15T_hs__or2_1	0.00000	0.11391	0.18560
sky130_osu_sc_15T_hs__or2_2	0.00000	0.16216	0.35633
sky130_osu_sc_15T_hs__or2_4	0.00000	0.25867	0.69780
sky130_osu_sc_15T_hs__or2_8	0.00000	0.45170	1.38073

Delay Information

Delay(ns) to Y rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
sky130_osu_sc_15T_hs__or2_1	A->Y (RR)	0.05829	0.16678	0.58994
	B->Y (RR)	0.05087	0.15519	0.56367
sky130_osu_sc_15T_hs__or2_2	A->Y (RR)	0.06390	0.16377	0.62069
	B->Y (RR)	0.05611	0.15322	0.59666
sky130_osu_sc_15T_hs__or2_4	A->Y (RR)	0.08318	0.18112	0.68615
	B->Y (RR)	0.07522	0.17263	0.66617
sky130_osu_sc_15T_hs__or2_8	A->Y (RR)	0.12019	0.22019	0.78946
	B->Y (RR)	0.11209	0.21257	0.77434

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
sky130_osu_sc_15T_hs__or2_1	A->Y (FF)	0.09418	0.20650	0.64595
	B->Y (FF)	0.07733	0.19076	0.63176
sky130_osu_sc_15T_hs__or2_2	A->Y (FF)	0.11161	0.22236	0.69788
	B->Y (FF)	0.09488	0.20500	0.69044
sky130_osu_sc_15T_hs__or2_4	A->Y (FF)	0.15728	0.26996	0.79582
	B->Y (FF)	0.14063	0.25253	0.79699
sky130_osu_sc_15T_hs__or2_8	A->Y (FF)	0.25220	0.36808	0.95178
	B->Y (FF)	0.23561	0.35017	0.95686

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__or2_1	A	0.00000	0.00000	0.00000
	A	0.00584	0.00522	0.00622
	B	0.00000	0.00000	0.00000
	B	0.00431	0.00418	0.00583
sky130_osu_sc_15T_hs__or2_2	A	0.00000	0.00000	0.00000
	A	0.01007	0.00973	0.01064
	B	0.00000	0.00000	0.00000
	B	0.00844	0.00871	0.01027
sky130_osu_sc_15T_hs__or2_4	A	0.00000	0.00000	0.00000
	A	0.01942	0.01926	0.02050
	B	0.00000	0.00000	0.00000
	B	0.01778	0.01857	0.02036
sky130_osu_sc_15T_hs__or2_8	A	0.00000	0.00000	0.00000
	A	0.03977	0.03879	0.04046
	B	0.00000	0.00000	0.00000
	B	0.03794	0.03793	0.04094

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__or2_1	A	0.00000	0.00000	0.00000
	A	0.01295	0.01265	0.01346
	B	0.00000	0.00000	0.00000
	B	0.01069	0.01082	0.01317
sky130_osu_sc_15T_hs__or2_2	A	0.00000	0.00000	0.00000
	A	0.01613	0.01601	0.01685
	B	0.00000	0.00000	0.00000
	B	0.01387	0.01417	0.01637
sky130_osu_sc_15T_hs__or2_4	A	0.00000	0.00000	0.00000
	A	0.02534	0.02407	0.02513
	B	0.00000	0.00000	0.00000
	B	0.02308	0.02196	0.02448
sky130_osu_sc_15T_hs__or2_8	A	0.00000	0.00000	0.00000
	A	0.05036	0.04161	0.04194
	B	0.00000	0.00000	0.00000
	B	0.04809	0.03937	0.04095

Passive power(pJ) for A rising (conditional):

Cell Name	When	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__or2_1	(B * Y)	0.00000	0.00000	0.00000
	(B * Y)	-0.00316	-0.00353	-0.00356
sky130_osu_sc_15T_hs__or2_2	(B * Y)	0.00000	0.00000	0.00000
	(B * Y)	-0.00316	-0.00353	-0.00356
sky130_osu_sc_15T_hs__or2_4	(B * Y)	0.00000	0.00000	0.00000
	(B * Y)	-0.00316	-0.00353	-0.00356
sky130_osu_sc_15T_hs__or2_8	(B * Y)	0.00000	0.00000	0.00000
	(B * Y)	-0.00316	-0.00353	-0.00356

Passive power(pJ) for A falling (conditional):

Cell Name	When	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__or2_1	(B * Y)	0.00000	0.00000	0.00000
	(B * Y)	0.00356	0.00360	0.00356
sky130_osu_sc_15T_hs__or2_2	(B * Y)	0.00000	0.00000	0.00000
	(B * Y)	0.00356	0.00360	0.00356
sky130_osu_sc_15T_hs__or2_4	(B * Y)	0.00000	0.00000	0.00000
	(B * Y)	0.00356	0.00360	0.00356
sky130_osu_sc_15T_hs__or2_8	(B * Y)	0.00000	0.00000	0.00000
	(B * Y)	0.00356	0.00356	0.00357

Passive power(pJ) for B rising (conditional):

Cell Name	When	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__or2_1	(A * Y)	0.00000	0.00000	0.00000
	(A * Y)	-0.00172	-0.00174	-0.00173
sky130_osu_sc_15T_hs__or2_2	(A * Y)	0.00000	0.00000	0.00000
	(A * Y)	-0.00172	-0.00174	-0.00173
sky130_osu_sc_15T_hs__or2_4	(A * Y)	0.00000	0.00000	0.00000
	(A * Y)	-0.00172	-0.00174	-0.00173
sky130_osu_sc_15T_hs__or2_8	(A * Y)	0.00000	0.00000	0.00000
	(A * Y)	-0.00172	-0.00174	-0.00173

Passive power(pJ) for B falling (conditional):

Cell Name	When	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__or2_1	**(A * Y)**	0.00000	0.00000	0.00000
	(A * Y)	0.00175	0.00175	0.00173
sky130_osu_sc_15T_hs__or2_2	**(A * Y)**	0.00000	0.00000	0.00000
	(A * Y)	0.00175	0.00175	0.00173
sky130_osu_sc_15T_hs__or2_4	**(A * Y)**	0.00000	0.00000	0.00000
	(A * Y)	0.00175	0.00175	0.00174
sky130_osu_sc_15T_hs__or2_8	**(A * Y)**	0.00000	0.00000	0.00000
	(A * Y)	0.00175	0.00175	0.00174

SKY130_OSU_SC_15T_HS__TBUFI

sky130_osu_sc_15T_hs_TT_1P8_25C.ccs
Cell Library: Process , Voltage 1.80,
Temp 25.00

Truth Table

INPUT		OUTPUT
A	OE	Y
-	0	HiZ
0	1	1
1	1	0

Footprint

Cell Name	Area
sky130_osu_sc_15T_hs__tbufi_1	10.37850

Pin Capacitance Information

Cell Name	Pin Cap(pf)		Max Cap(pf)
	A	OE	Y
sky130_osu_sc_15T_hs__tbufi_1	0.00420	0.00539	0.07416

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
sky130_osu_sc_15T_hs__tbufi_1	0.00000	0.09246	0.34147

Delay Information

Delay(ns) to Y rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
sky130_osu_sc_15T_hs__tbufi_1	A->Y (FR)	0.03688	0.17552	0.77372
	OE->Y (FR)	0.04173	0.08907	0.37253
	OE->Y (RR)	0.06768	0.18364	0.55330

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
sky130_osu_sc_15T_hs__tbufi_1	A->Y (RF)	0.02516	0.11465	0.49457
	OE->Y (FF)	0.04235	0.08930	0.37250
	OE->Y (RF)	0.02407	0.10852	0.45407

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__tbufi_1	A	0.00000	0.00000	0.00000
	A	0.00558	0.00550	0.00623
	OE	0.00000	0.00000	0.00000
	OE	0.00555	0.00521	0.00753

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__tbufi_1	A	0.00000	0.00000	0.00000
	A	-0.00095	-0.00095	-0.00068
	OE	0.00000	0.00000	0.00000
	OE	0.00362	0.00325	0.00577

Passive power(pJ) for A rising (conditional):

Cell Name	When	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__tbufi_1	(!OE * Y)	0.00000	0.00000	0.00000
	(!OE * Y)	-0.00285	-0.00287	-0.00285
	(!OE * !Y)	0.00000	0.00000	0.00000
	(!OE * !Y)	-0.00254	-0.00256	-0.00254

Passive power(pJ) for A falling (conditional):

Cell Name	When	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__tbufi_1	(!OE * Y)	0.00000	0.00000	0.00000
	(!OE * Y)	0.00285	0.00287	0.00285
	(!OE * !Y)	0.00000	0.00000	0.00000
	(!OE * !Y)	0.00256	0.00258	0.00255

Passive power(pJ) for OE rising (conditional):

Cell Name	When	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__tbufi_1	(A * !Y)	0.00000	0.00000	0.00000
	(A * !Y)	0.00218	0.00189	0.00445
	(!A * Y)	0.00000	0.00000	0.00000
	(!A * Y)	0.00193	0.00162	0.00420

Passive power(pJ) for OE falling (conditional):

Cell Name	When	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__tbufi_1	(A * !Y)	0.00000	0.00000	0.00000
	(A * !Y)	0.00651	0.00632	0.00933
	(!A * Y)	0.00000	0.00000	0.00000
	(!A * Y)	0.00663	0.00651	0.00951

SKY130_OSU_SC_15T_HS__TNBUFI

sky130_osu_sc_15T_hs_TT_1P8_25C.ccs
Cell Library: Process , Voltage 1.80,
Temp 25.00

Truth Table

INPUT		OUTPUT
A	OE	Y
0	0	1
1	0	0
-	1	HiZ

Footprint

Cell Name	Area
sky130_osu_sc_15T_hs__tnbufi_1	10.37850

Pin Capacitance Information

Cell Name	Pin Cap(pf)		Max Cap(pf)
	A	OE	Y
sky130_osu_sc_15T_hs__tnbufi_1	0.00419	0.00645	0.07570

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
sky130_osu_sc_15T_hs__tnbufi_1	0.00000	0.14689	0.17816

Delay Information

Delay(ns) to Y rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
sky130_osu_sc_15T_hs__tnbufi_1	A->Y (FR)	0.03721	0.17685	0.78344
	OE->Y (RR)	0.02413	0.07062	0.37305
	OE->Y (FR)	0.04787	0.19049	0.78194

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
sky130_osu_sc_15T_hs__tnbufi_1	A->Y (RF)	0.02476	0.11523	0.50082
	OE->Y (RF)	0.02381	0.07061	0.37305
	OE->Y (FF)	0.04499	0.13772	0.44612

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__tnbufi_1	A	0.00000	0.00000	0.00000
	A	0.00575	0.00566	0.00639
	OE	0.00000	0.00000	0.00000
	OE	0.01400	0.01422	0.01770

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__tnbufi_1	A	0.00000	0.00000	0.00000
	A	-0.00117	-0.00115	-0.00089
	OE	0.00000	0.00000	0.00000
	OE	0.01230	0.01263	0.01579

Passive power(pJ) for A rising (conditional):

Cell Name	When	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__tnbufi_1	(OE * Y)	0.00000	0.00000	0.00000
	(OE * Y)	-0.00243	-0.00244	-0.00242
	(OE * !Y)	0.00000	0.00000	0.00000
	(OE * !Y)	-0.00214	-0.00216	-0.00214

Passive power(pJ) for A falling (conditional):

Cell Name	When	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__tnbufi_1	(OE * Y)	0.00000	0.00000	0.00000
	(OE * Y)	0.00243	0.00244	0.00242
	(OE * !Y)	0.00000	0.00000	0.00000
	(OE * !Y)	0.00216	0.00217	0.00216

Passive power(pJ) for OE rising (conditional):

Cell Name	When	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__tnbufi_1	(A * !Y)	0.00000	0.00000	0.00000
	(A * !Y)	-0.00425	-0.00493	-0.00210
	(!A * Y)	0.00000	0.00000	0.00000
	(!A * Y)	-0.00417	-0.00476	-0.00205

Passive power(pJ) for OE falling (conditional):

Cell Name	When	Power(pJ)		
		first	mid	last
sky130_osu_sc_15T_hs__tnbufi_1	(A * !Y)	0.00000	0.00000	0.00000
	(A * !Y)	0.01060	0.01090	0.01432
	(!A * Y)	0.00000	0.00000	0.00000
	(!A * Y)	0.01045	0.01074	0.01418

SKY130_OSU_SC_15T_HS__XNOR2

sky130_osu_sc_15T_hs_TT_1P8_25C.ccs
Cell Library: Process , Voltage 1.80,
Temp 25.00

Truth Table

INPUT		OUTPUT
A	**B**	**Y**
0	**0**	**1**
0	**1**	**0**
1	**0**	**0**
1	**1**	**1**

Footprint

Cell Name	Area
sky130_osu_sc_15T_hs__xnor2_l	17.70450

Pin Capacitance Information

Cell Name	Pin Cap(pf)		Max Cap(pf)
	A	**B**	**Y**
sky130_osu_sc_15T_hs__xnor2_l	0.00835	0.00743	0.07382

Leakage Information

Cell Name	Leakage(nW)		
	Min.	**Avg**	**Max.**
sky130_osu_sc_15T_hs__xnor2_l	0.00000	0.30742	0.51963

Delay Information

Delay(ns) to Y rising (conditional):

Cell Name	Timing Arc(Dir)	When	Delay(ns)		
			First	Mid	Last
sky130_osu_sc_15T_hs__xnor2_1	A->Y (RR)	B	0.08485	0.20353	0.57750
	A->Y (FR)	!B	0.04831	0.18561	0.77755
	B->Y (RR)	A	0.06716	0.18686	0.56114
	B->Y (FR)	!A	0.06502	0.20410	0.78166

Delay(ns) to Y falling (conditional):

Cell Name	Timing Arc(Dir)	When	Delay(ns)		
			First	Mid	Last
sky130_osu_sc_15T_hs__xnor2_1	A->Y (FF)	B	0.07814	0.17807	0.50519
	A->Y (RF)	!B	0.03459	0.11730	0.46192
	B->Y (FF)	A	0.06851	0.16867	0.49535
	B->Y (RF)	!A	0.04321	0.12706	0.47429

Power Information

Internal switching power(pJ) to Y rising (conditional):

Cell Name	Input	When	Power(pJ)		
			first	mid	last
sky130_osu_sc_15T_hs__xnor2_l	A	B	0.00000	0.00000	0.00000
	A	B	0.00546	0.00502	0.00710
	A	!B	0.00000	0.00000	0.00000
	A	!B	0.01356	0.01346	0.01699
	B	A	0.00000	0.00000	0.00000
	B	A	0.00184	0.00171	0.00410
	B	!A	0.00000	0.00000	0.00000
	B	!A	0.01482	0.01467	0.01792

Internal switching power(pJ) to Y falling (conditional):

Cell Name	Input	When	Power(pJ)		
			first	mid	last
sky130_osu_sc_15T_hs__xnor2_l	A	B	0.00000	0.00000	0.00000
	A	B	0.01689	0.01650	0.01914
	A	!B	0.00000	0.00000	0.00000
	A	!B	0.00375	0.00324	0.00576
	B	A	0.00000	0.00000	0.00000
	B	A	0.01543	0.01557	0.01858
	B	!A	0.00000	0.00000	0.00000
	B	!A	0.00481	0.00418	0.00672

SKY130_OSU_SC_15T_HS__XOR2

sky130_osu_sc_15T_hs_TT_1P8_25C.ccs
Cell Library: Process , Voltage 1.80,
Temp 25.00

Truth Table

INPUT		OUTPUT
A	B	Y
0	0	0
0	1	1
1	0	1
1	1	0

Footprint

Cell Name	Area
sky130_osu_sc_15T_hs__xor2_1	17.70450

Pin Capacitance Information

Cell Name	Pin Cap(pf)		Max Cap(pf)
	A	B	Y
sky130_osu_sc_15T_hs__xor2_1	0.00834	0.00748	0.07294

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
sky130_osu_sc_15T_hs__xor2_1	0.00000	0.30742	0.48995

Delay Information

Delay(ns) to Y rising (conditional):

Cell Name	Timing Arc(Dir)	When	Delay(ns)		
			First	Mid	Last
sky130_osu_sc_15T_hs__xor2_1	A->Y (RR)	!B	0.08266	0.19781	0.57070
	A->Y (FR)	B	0.06160	0.20097	0.78138
	B->Y (RR)	!A	0.07098	0.19165	0.56806
	B->Y (FR)	A	0.06634	0.20590	0.78556

Delay(ns) to Y falling (conditional):

Cell Name	Timing Arc(Dir)	When	Delay(ns)		
			First	Mid	Last
sky130_osu_sc_15T_hs__xor2_1	A->Y (FF)	!B	0.07002	0.17062	0.49555
	A->Y (RF)	B	0.03534	0.12713	0.50640
	B->Y (FF)	!A	0.06614	0.16745	0.49398
	B->Y (RF)	A	0.04274	0.12780	0.47288

Power Information

Internal switching power(pJ) to Y rising (conditional):

Cell Name	Input	When	Power(pJ)		
			first	mid	last
sky130_osu_sc_15T_hs__xor2_l	A	B	0.00000	0.00000	0.00000
	A	B	0.01621	0.01612	0.01940
	A	!B	0.00000	0.00000	0.00000
	A	!B	0.00262	0.00163	0.00361
	B	A	0.00000	0.00000	0.00000
	B	A	0.01646	0.01638	0.01967
	B	!A	0.00000	0.00000	0.00000
	B	!A	0.00163	0.00141	0.00373

Internal switching power(pJ) to Y falling (conditional):

Cell Name	Input	When	Power(pJ)		
			first	mid	last
sky130_osu_sc_15T_hs__xor2_l	A	B	0.00000	0.00000	0.00000
	A	B	0.00297	0.00227	0.00472
	A	!B	0.00000	0.00000	0.00000
	A	!B	0.01762	0.01771	0.02061
	B	A	0.00000	0.00000	0.00000
	B	A	0.00303	0.00232	0.00475
	B	!A	0.00000	0.00000	0.00000
	B	!A	0.01568	0.01596	0.01896

SKY130_OSU_SC_15T_HS_x

sky130_osu_sc_15T_hs_TT_1P8_25C.ccs
Cell Library: Process , Voltage 1.80,
Temp 25.00

Footprint

Cell Name	Area
sky130_osu_sc_15T_hs__tiehi	5.49450
sky130_osu_sc_15T_hs__tielo	5.49450

Pin Capacitance Information

Cell Name	Max Cap(pf)
	Y
sky130_osu_sc_15T_hs__tiehi	0.34649
sky130_osu_sc_15T_hs__tielo	0.57261

Leakage Information

Cell Name	Leakage(nW)		
	Min.	**Avg**	**Max.**
sky130_osu_sc_15T_hs__tiehi	0.00000	0.00000	0.00000
sky130_osu_sc_15T_hs__tielo	0.00000	0.00000	0.00000