sky130_rhbd_tt_1P8_25C.ccs Library

Cell Groups
AND2X1
AND3X1
AO3X1
AOA4X1
AOAI4X1
AOI3X1
BUFX1
DFFQNX1
DFFQX1
DFFRNQNX1
DFFRNQX1
DFFRNX1
DFFSNQNX1
DFFSNQX1
DFFSNRNQNX1
DFFSNRNQX1
DFFSNRNX1
DFFSNX1
DFFX1
DLATCHN
DLATCH
FA
HA

INVX1
NAND2X1
NAND3X1
NOR2X1
OR2X1
TIEHI
TIELO
VOTER3X1
VOTERN3X1
XNOR2X1
XOR2X1

AND2X1

sky130_rhbd_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
AND2X1	41.07000

Pin Capacitance Information

Cell Name	Pin Cap(pf)		Max Cap(pf)
	A	B	Y
AND2X1	0.01053	0.01062	5.78537

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
AND2X1	0.00000	7.37293	13.28960

Delay Information

Delay(ns) to Y rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
AND2X1	A->Y (RR)	0.07520	0.64316	7.29331
	B->Y (RR)	0.06823	0.64452	7.30330

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
AND2X1	A->Y (FF)	0.06314	0.55002	6.14370
	B->Y (FF)	0.05999	0.55037	5.96550

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
AND2X1	A	0.00000	0.00000	0.00000
	A	8.25057	8.26365	8.55442
	B	0.00000	0.00000	0.00000
	B	8.25184	8.26649	8.56389

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
AND2X1	A	0.00000	0.00000	0.00000
	A	2.39169	2.41253	2.75400
	B	0.00000	0.00000	0.00000
	B	2.38328	2.39834	2.66565

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

Cell Name	When	Power(pJ)		
		first	mid	last
AND2X1	(!B * !Y)	0.00000	0.00000	0.00000
	(!B * !Y)	2.55830	2.55684	2.55772

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

Cell Name	When	Power(pJ)		
		first	mid	last
AND2X1	(!B * !Y)	0.00000	0.00000	0.00000
	(!B * !Y)	3.15035	3.14972	3.14976

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

Cell Name	When	Power(pJ)		
		first	mid	last
AND2X1	(!A * !Y)	0.00000	0.00000	0.00000
	(!A * !Y)	2.55978	2.55913	2.55962

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

Cell Name	When	Power(pJ)		
		first	mid	last
AND2X1	(!A * !Y)	0.00000	0.00000	0.00000
	(!A * !Y)	3.15104	3.15105	3.15141

AND3X1

sky130_rhbd_tt_1P8_25C.ccs Cell Library: Process , Voltage 1.80, Temp 25.00

Truth Table

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

Footprint

Cell Name	Area
AND3X1	35.59400

Pin Capacitance Information

Cell Name	Pin Cap(pf)			Max Cap(pf)
	A	B	C	Y
AND3X1	0.01056	0.01034	0.01054	5.79379

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
AND3X1	0.00000	6.97633	20.76290

Delay Information

Delay(ns) to Y rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
AND3X1	A->Y (RR)	0.10360	0.67901	7.47680
	B->Y (RR)	0.09648	0.68545	7.50046
	C->Y (RR)	0.08730	0.68922	7.56114

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
AND3X1	A->Y (FF)	0.07150	0.56964	6.18892
	B->Y (FF)	0.06857	0.56309	5.91757
	C->Y (FF)	0.06397	0.56294	5.89390

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
AND3X1	A	0.00000	0.00000	0.00000
	A	13.03860	13.04780	13.31240
	B	0.00000	0.00000	0.00000
	B	13.03910	13.04890	13.31150
	C	0.00000	0.00000	0.00000
	C	13.04040	13.05080	13.31700

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
AND3X1	A	0.00000	0.00000	0.00000
	A	1.66263	1.68127	2.01456
	B	0.00000	0.00000	0.00000
	B	1.65458	1.66813	1.94043
	C	0.00000	0.00000	0.00000
	C	1.64626	1.65797	1.87951

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

Cell Name	When	Power(pJ)		
		first	mid	last
AND3X1	(B * !C * !Y)	0.00000	0.00000	0.00000
	(B * !C * !Y)	2.22186	2.22156	2.22122
	(!B * C * !Y)	0.00000	0.00000	0.00000
	(!B * C * !Y)	2.22469	2.22440	2.22424
	(!B * !C * !Y)	0.00000	0.00000	0.00000
	(!B * !C * !Y)	2.22060	2.22062	2.22057

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

Cell Name	When	Power(pJ)		
		first	mid	last
AND3X1	(B * !C * !Y)	0.00000	0.00000	0.00000
	(B * !C * !Y)	2.78054	2.77960	2.77976
	(!B * C * !Y)	0.00000	0.00000	0.00000
	(!B * C * !Y)	2.78192	2.78121	2.78121
	(!B * !C * !Y)	0.00000	0.00000	0.00000
	(!B * !C * !Y)	2.77892	2.77867	2.77875

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

Cell Name	When	Power(pJ)		
		first	mid	last
AND3X1	(A * !C * !Y)	0.00000	0.00000	0.00000
	(A * !C * !Y)	2.22181	2.22166	2.22163
	(!A * C * !Y)	0.00000	0.00000	0.00000
	(!A * C * !Y)	2.22745	2.22708	2.22663
	(!A * !C * !Y)	0.00000	0.00000	0.00000
	(!A * !C * !Y)	2.22089	2.22014	2.22061

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

Cell Name	When	Power(pJ)		
		first	mid	last
AND3X1	(A * !C * !Y)	0.00000	0.00000	0.00000
	(A * !C * !Y)	2.77994	2.77915	2.77927
	(!A * C * !Y)	0.00000	0.00000	0.00000
	(!A * C * !Y)	2.78203	2.78228	2.78212
	(!A * !C * !Y)	0.00000	0.00000	0.00000
	(!A * !C * !Y)	2.78019	2.77990	2.78037

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

Cell Name	When	Power(pJ)		
		first	mid	last
AND3X1	(!B * !Y)	0.00000	0.00000	0.00000
	(!B * !Y)	2.22432	2.22339	2.22389
	(!A * B * !Y)	0.00000	0.00000	0.00000
	(!A * B * !Y)	2.22803	2.22658	2.22757

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

Cell Name	When	Power(pJ)		
		first	mid	last
AND3X1	(!B * !Y)	0.00000	0.00000	0.00000
	(!B * !Y)	2.78090	2.78136	2.78092
	(!A * B * !Y)	0.00000	0.00000	0.00000
	(!A * B * !Y)	2.78030	2.77994	2.78003

AO3X1

sky130_rhbd_tt_1P8_25C.ccs Cell Library: Process , Voltage 1.80, Temp 25.00

Truth Table

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

Footprint

Cell Name	Area
AO3X1	65.71200

Pin Capacitance Information

Cell Name	Pin Cap(pf)			Max Cap(pf)
	A	B	C	Y
AO3X1	0.01015	0.01038	0.01039	5.46311

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
AO3X1	0.00000	5.28276	19.23110

Delay Information

Delay(ns) to Y rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
AO3X1	A->Y (FR)	0.10883	0.73986	7.45034
	B->Y (FR)	0.10366	0.71403	7.11274
	C->Y (RR)	0.05515	0.60685	6.60788

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
AO3X1	A->Y (RF)	0.15116	0.59539	4.93559
	B->Y (RF)	0.14270	0.58433	4.83967
	C->Y (FF)	0.08381	0.59718	6.06613

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
AO3X1	A	0.00000	0.00000	0.00000
	A	1.49598	1.51246	1.76974
	B	0.00000	0.00000	0.00000
	B	1.48625	1.50006	1.72386
	C	0.00000	0.00000	0.00000
	C	11.37920	11.38940	11.61050

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
AO3X1	A	0.00000	0.00000	0.00000
	A	10.20410	10.21380	10.39790
	B	0.00000	0.00000	0.00000
	B	10.20670	10.21580	10.41000
	C	0.00000	0.00000	0.00000
	C	11.39270	11.40650	11.62910

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

Cell Name	When	Power(pJ)		
		first	mid	last
AO3X1	(B * C * Y)	0.00000	0.00000	0.00000
	(B * C * Y)	11.81680	11.82500	12.05330
	(!B * Y)	0.00000	0.00000	0.00000
	(!B * Y)	0.03478	0.03475	0.03473

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

Cell Name	When	Power(pJ)		
		first	mid	last
AO3X1	(B * C * Y)	0.00000	0.00000	0.00000
	(B * C * Y)	0.06885	0.08306	0.34015
	(!B * Y)	0.00000	0.00000	0.00000
	(!B * Y)	0.05831	0.05788	0.05783

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

Cell Name	When	Power(pJ)		
		first	mid	last
AO3X1	(A * C * Y)	0.00000	0.00000	0.00000
	(A * C * Y)	11.81770	11.82690	12.06040
	(!A * Y)	0.00000	0.00000	0.00000
	(!A * Y)	0.03743	0.03741	0.03740

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

Cell Name	When	Power(pJ)		
		first	mid	last
AO3X1	(A * C * Y)	0.00000	0.00000	0.00000
	(A * C * Y)	0.05989	0.07171	0.29063
	(!A * Y)	0.00000	0.00000	0.00000
	(!A * Y)	0.05804	0.05825	0.05819

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

Cell Name	When	Power(pJ)		
		first	mid	last
AO3X1	(A * !B * Y) + (!A * Y)	0.00000	0.00000	0.00000
	(A * !B * Y) + (!A * Y)	0.02403	0.02402	0.02398

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

Cell Name	When	Power(pJ)		
		first	mid	last
AO3X1	(A * !B * Y) + (!A * Y)	0.00000	0.00000	0.00000
	(A * !B * Y) + (!A * Y)	1.47366	1.47362	1.47376

AOA4X1

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Truth Table

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

Footprint

Cell Name	Area
AOA4X1	90.35400

Pin Capacitance Information

Cell Name	Pin Cap(pf)				Max Cap(pf)
	A	B	C	D	Y
AOA4X1	0.01014	0.01034	0.01031	0.01037	5.34524

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
AOA4X1	0.00000	10.36610	25.24330

Delay Information

Delay(ns) to Y rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
AOA4X1	A->Y (RR)	0.20975	0.77816	6.69796
	B->Y (RR)	0.20147	0.78130	6.79936
	C->Y (FR)	0.14127	0.77832	7.61564
	D->Y (RR)	0.07077	0.64857	6.94452

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
AOA4X1	A->Y (FF)	0.15024	0.62423	5.28898
	B->Y (FF)	0.14541	0.61306	5.17013
	C->Y (RF)	0.09622	0.49976	4.23365
	D->Y (FF)	0.06131	0.54474	5.58218

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
AOA4X1	A	0.00000	0.00000	0.00000
	A	14.30630	14.31190	14.53210
	B	0.00000	0.00000	0.00000
	B	14.30740	14.31460	14.54430
	C	0.00000	0.00000	0.00000
	C	15.16010	15.17210	15.37340
	D	0.00000	0.00000	0.00000
	D	15.24170	15.25140	15.49120

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
AOA4X1	A	0.00000	0.00000	0.00000
	A	4.88014	4.89479	5.18737
	B	0.00000	0.00000	0.00000
	B	4.87156	4.88419	5.13918
	C	0.00000	0.00000	0.00000
	C	14.49890	14.50670	14.70480
	D	0.00000	0.00000	0.00000
	D	9.30752	9.32084	9.54750

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

Cell Name	When	Power(pJ)		
		first	mid	last
AOA4X1	(B * C * !Y)	0.00000	0.00000	0.00000
	(B * C * !Y)	15.38090	15.38830	15.61250
	(B * !C * !D * !Y)	0.00000	0.00000	0.00000
	(B * !C * !D * !Y)	8.11298	8.11858	8.29789
	(!B * !Y)	0.00000	0.00000	0.00000
	(!B * !Y)	2.75282	2.75246	2.75264

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

Cell Name	When	Power(pJ)		
		first	mid	last
AOA4X1	(B * C * !Y)	0.00000	0.00000	0.00000
	(B * C * !Y)	2.51219	2.52558	2.77695
	(B * !C * !D * !Y)	0.00000	0.00000	0.00000
	(B * !C * !D * !Y)	5.02217	5.03546	5.27042
	(!B * !Y)	0.00000	0.00000	0.00000
	(!B * !Y)	3.06258	3.06221	3.06212

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

Cell Name	When	Power(pJ)		
		first	mid	last
AOA4X1	(A * C * !Y)	0.00000	0.00000	0.00000
	(A * C * !Y)	15.37860	15.38910	15.61730
	(A * !C * !D * !Y)	0.00000	0.00000	0.00000
	(A * !C * !D * !Y)	8.11549	8.11873	8.30540
	(!A * !Y)	0.00000	0.00000	0.00000
	(!A * !Y)	2.75437	2.75403	2.75445

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

Cell Name	When	Power(pJ)		
		first	mid	last
AOA4X1	(A * C * !Y)	0.00000	0.00000	0.00000
	(A * C * !Y)	2.50206	2.51496	2.73631
	(A * !C * !D * !Y)	0.00000	0.00000	0.00000
	(A * !C * !D * !Y)	5.01426	5.02594	5.23703
	(!A * !Y)	0.00000	0.00000	0.00000
	(!A * !Y)	3.06279	3.06292	3.06297

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

Cell Name	When	Power(pJ)		
		first	mid	last
AOA4X1	(A * B * !D * !Y)	0.00000	0.00000	0.00000
	(A * B * !D * !Y)	15.21250	15.22000	15.42250
	(A * !B * !Y) + (!A * !Y)	0.00000	0.00000	0.00000
	(A * !B * !Y) + (!A * !Y)	1.97847	1.97816	1.97832

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

Cell Name	When	Power(pJ)		
		first	mid	last
AOA4X1	(A * B * !D * !Y)	0.00000	0.00000	0.00000
	(A * B * !D * !Y)	9.30606	9.31630	9.51351
	(A * !B * !Y) + (!A * !Y)	0.00000	0.00000	0.00000
	(A * !B * !Y) + (!A * !Y)	5.00993	5.00970	5.00999

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

Cell Name	When	Power(pJ)		
		first	mid	last
AOA4X1	(A * B * C * !Y) + (A * !B * !Y) + (!A * !Y)	0.00000	0.00000	0.00000
	(A * B * C * !Y) + (A * !B * !Y) + (!A * !Y)	14.46370	14.46330	14.46360

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

Cell Name	When	Power(pJ)		
		first	mid	last
AOA4X1	(A * B * C * !Y) + (A * !B * !Y) + (!A * !Y)	0.00000	0.00000	0.00000
	(A * B * C * !Y) + (A * !B * !Y) + (!A * !Y)	15.10360	15.10370	15.10340

AOAI4X1

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Truth Table

INPUT				OUTPUT
A	B	C	D	YN
0	x	x	x	1
1	0	x	x	1
1	1	x	0	1
1	1	0	1	0
1	1	1	1	1

Footprint

Cell Name	Area
AOAI4X1	73.92600

Pin Capacitance Information

Cell Name	Pin Cap(pf)				Max Cap(pf)
	A	B	C	D	YN
AOAI4X1	0.01012	0.01034	0.01035	0.01034	4.84974

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
AOAI4X1	0.00000	5.05154	26.53960

Delay Information

Delay(ns) to YN rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
AOAI4X1	A->YN (FR)	0.11942	0.71987	6.75988
	B->YN (FR)	0.11359	0.69439	6.45566
	C->YN (RR)	0.06448	0.58906	5.94709
	D->YN (FR)	0.03103	0.77256	9.73657

Delay(ns) to YN falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
AOAI4X1	A->YN (RF)	0.17081	0.81085	7.33978
	B->YN (RF)	0.16208	0.79172	7.16278
	C->YN (FF)	0.10266	0.80752	8.28664
	D->YN (RF)	0.03389	0.80520	10.09610

Power Information

Internal switching power(pJ) to YN rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
AOAI4X1	A	0.00000	0.00000	0.00000
	A	1.33409	1.34863	1.60014
	B	0.00000	0.00000	0.00000
	B	1.32549	1.33829	1.56397
	C	0.00000	0.00000	0.00000
	C	9.89320	9.90189	10.11460
	D	0.00000	0.00000	0.00000
	D	5.16879	5.17161	5.21974

Internal switching power(pJ) to YN falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
AOAI4X1	A	0.00000	0.00000	0.00000
	A	15.43960	15.44550	15.63430
	B	0.00000	0.00000	0.00000
	B	15.44080	15.44970	15.64820
	C	0.00000	0.00000	0.00000
	C	16.30540	16.31820	16.52900
	D	0.00000	0.00000	0.00000
	D	16.33040	16.33170	16.35100

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

Cell Name	When	Power(pJ)		
		first	mid	last
AOAI4X1	(B * C * YN)	0.00000	0.00000	0.00000
	(B * C * YN)	10.88400	10.89180	11.11090
	(B * !C * !D * YN)	0.00000	0.00000	0.00000
	(B * !C * !D * YN)	4.22286	4.22639	4.40152
	(!B * YN)	0.00000	0.00000	0.00000
	(!B * YN)	0.03324	0.03322	0.03320

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

Cell Name	When	Power(pJ)		
		first	mid	last
AOAI4X1	(B * C * YN)	0.00000	0.00000	0.00000
	(B * C * YN)	0.07025	0.08488	0.34732
	(B * !C * !D * YN)	0.00000	0.00000	0.00000
	(B * !C * !D * YN)	1.40980	1.42373	1.66158
	(!B * YN)	0.00000	0.00000	0.00000
	(!B * YN)	0.05452	0.05407	0.05406

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

Cell Name	When	Power(pJ)		
		first	mid	last
AOAI4X1	(A * C * YN)	0.00000	0.00000	0.00000
	(A * C * YN)	10.88350	10.89270	11.11860
	(A * !C * !D * YN)	0.00000	0.00000	0.00000
	(A * !C * !D * YN)	4.22527	4.22796	4.41115
	(!A * YN)	0.00000	0.00000	0.00000
	(!A * YN)	0.03529	0.03527	0.03531

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

Cell Name	When	Power(pJ)		
		first	mid	last
AOAI4X1	(A * C * YN)	0.00000	0.00000	0.00000
	(A * C * YN)	0.06189	0.07415	0.29928
	(A * !C * !D * YN)	0.00000	0.00000	0.00000
	(A * !C * !D * YN)	1.40164	1.41349	1.62389
	(!A * YN)	0.00000	0.00000	0.00000
	(!A * YN)	0.05438	0.05458	0.05452

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

Cell Name	When	Power(pJ)		
		first	mid	last
AOAI4X1	(A * B * !D * YN)	0.00000	0.00000	0.00000
	(A * B * !D * YN)	10.82320	10.83080	11.03450
	(A * !B * YN) + (!A * YN)	0.00000	0.00000	0.00000
	(A * !B * YN) + (!A * YN)	0.02654	0.02647	0.02651

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

Cell Name	When	Power(pJ)		
		first	mid	last
AOAI4X1	(A * B * !D * YN)	0.00000	0.00000	0.00000
	(A * B * !D * YN)	5.42236	5.43311	5.63358
	(A * !B * YN) + (!A * YN)	0.00000	0.00000	0.00000
	(A * !B * YN) + (!A * YN)	1.37261	1.37251	1.37266

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

Cell Name	When	Power(pJ)		
		first	mid	last
AOAI4X1	(A * B * C * YN) + (A * !B * YN) + (!A * YN)	0.00000	0.00000	0.00000
	(A * B * C * YN) + (A * !B * YN) + (!A * YN)	10.13050	10.12860	10.13040

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

Cell Name	When	Power(pJ)		
		first	mid	last
AOAI4X1	(A * B * C * YN) + (A * !B * YN) + (!A * YN)	0.00000	0.00000	0.00000
	(A * B * C * YN) + (A * !B * YN) + (!A * YN)	10.75610	10.75610	10.75600

AOI3X1

sky130_rhbd_tt_1P8_25C.ccs Cell Library: Process , Voltage 1.80, Temp 25.00

Truth Table

INPUT			OUTPUT
A	B	C	YN
0	x	x	0
1	0	x	0
1	1	0	1
1	1	1	0

Footprint

Cell Name	Area
AOI3X1	49.28400

Pin Capacitance Information

Cell Name	Pin Cap(pf)			Max Cap(pf)
	A	B	C	YN
AOI3X1	0.01023	0.01045	0.01033	2.77528

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
AOI3X1	0.00000	4.61707	20.74570

Delay Information

Delay(ns) to YN rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
AOI3X1	A->YN (RR)	0.11117	0.85503	7.21197
	B->YN (RR)	0.10473	0.86197	7.29297
	C->YN (FR)	0.04641	0.92849	9.99585

Delay(ns) to YN falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
AOI3X1	A->YN (FF)	0.07376	0.45154	3.72334
	B->YN (FF)	0.06952	0.43977	3.47332
	C->YN (RF)	0.02397	0.50027	5.47174

Power Information

Internal switching power(pJ) to YN rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
AOI3X1	A	0.00000	0.00000	0.00000
	A	5.57935	5.58811	5.81729
	B	0.00000	0.00000	0.00000
	B	5.58152	5.59141	5.82458
	C	0.00000	0.00000	0.00000
	C	6.78378	6.78657	6.84183

Internal switching power(pJ) to YN falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
AOI3X1	A	0.00000	0.00000	0.00000
	A	1.63289	1.65012	1.95899
	B	0.00000	0.00000	0.00000
	B	1.62411	1.63785	1.88609
	C	0.00000	0.00000	0.00000
	C	12.73890	12.73990	12.77120

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

Cell Name	When	Power(pJ)		
		first	mid	last
AOI3X1	(B * C * !YN)	0.00000	0.00000	0.00000
	(B * C * !YN)	13.00760	13.01650	13.26510
	(!B * !YN)	0.00000	0.00000	0.00000
	(!B * !YN)	0.03504	0.03501	0.03499

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

Cell Name	When	Power(pJ)		
		first	mid	last
AOI3X1	(B * C * !YN)	0.00000	0.00000	0.00000
	(B * C * !YN)	0.06303	0.07604	0.31844
	(!B * !YN)	0.00000	0.00000	0.00000
	(!B * !YN)	0.06079	0.06037	0.06031

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

Cell Name	When	Power(pJ)		
		first	mid	last
AOI3X1	(A * C * !YN)	0.00000	0.00000	0.00000
	(A * C * !YN)	13.00670	13.01790	13.26660
	(!A * !YN)	0.00000	0.00000	0.00000
	(!A * !YN)	0.03704	0.03700	0.03698

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

Cell Name	When	Power(pJ)		
		first	mid	last
AOI3X1	(A * C * !YN)	0.00000	0.00000	0.00000
	(A * C * !YN)	0.05460	0.06518	0.26758
	(!A * !YN)	0.00000	0.00000	0.00000
	(!A * !YN)	0.06082	0.06102	0.06098

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

Cell Name	When	Power(pJ)		
		first	mid	last
AOI3X1	(A * !B * !YN) + (!A * !YN)	0.00000	0.00000	0.00000
	(A * !B * !YN) + (!A * !YN)	0.01828	0.01825	0.01823

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

Cell Name	When	Power(pJ)		
		first	mid	last
AOI3X1	(A * !B * !YN) + (!A * !YN)	0.00000	0.00000	0.00000
	(A * !B * !YN) + (!A * !YN)	1.60667	1.60646	1.60669

BUFX1

sky130_rhbd_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
BUFX1	32.85600

Pin Capacitance Information

Cell Name	Pin Cap(pf)	Max Cap(pf)
	A	Y
BUFX1	0.01061	5.63816

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
BUFX1	0.00000	6.07077	6.07078

Delay Information

Delay(ns) to Y rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
BUFX1	A->Y (RR)	0.05115	0.58643	6.79717

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
BUFX1	A->Y (FF)	0.05538	0.53069	6.00500

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
BUFX1	A	0.00000	0.00000	0.00000
	A	3.51977	3.53908	3.87472

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
BUFX1	A	0.00000	0.00000	0.00000
	A	3.53695	3.55853	3.90558

DFFQNX1

sky130_rhbd_tt_1P8_25C.ccs Cell Library: Process , Voltage 1.80, Temp 25.00

Truth Table

INPUT		OUTPUT
D	CLK	QN
0	R	1
1	R	0
x	x	IQN

Footprint

Cell Name	Area
DFFQNX1	158.80400

Pin Capacitance Information

Cell Name	Pin Cap(pf)		Max Cap(pf)
	D	CLK	QN
DFFQNX1	0.01036	0.02273	4.97652

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
DFFQNX1	0.00000	28.46890	43.32340

Delay Information

Delay(ns) to QN rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
DFFQNX1	CLK->QN (RR)	0.16350	0.76380	6.82941

Delay(ns) to QN falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
DFFQNX1	CLK->QN (RF)	0.18455	0.88284	7.70866

Constraint Information

Constraints(ns) for D rising :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
DFFQNX1	hold	CLK (R)	0.04997	0.08072	0.74946
	setup	CLK (R)	0.10650	0.16614	0.74738

Constraints(ns) for D falling :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
DFFQNX1	hold	CLK (R)	-0.03612	-0.08681	-0.69289
	setup	CLK (R)	0.06503	0.13171	1.51970

Constraints(ns) for CLK rising (conditional):

Cell Name	Timing Check	Ref Pin(trans)	When	Reference Slew Rate(ns)		
				first	mid	last
DFFQNX1	min_pulse_width	CLK ()	D	0.11560	0.65796	16.50020
	min_pulse_width	CLK ()	!D	0.15012	0.65796	16.50020

Constraints(ns) for CLK falling (conditional):

Cell Name	Timing Check	Ref Pin(trans)	When	Reference Slew Rate(ns)		
				first	mid	last
DFFQNX1	min_pulse_width	CLK ()	D	0.19449	0.65796	16.50020
	min_pulse_width	CLK ()	!D	0.09835	0.65796	16.50020

Power Information

Internal switching power(pJ) to QN rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
DFFQNX1	CLK	0.00000	0.00000	0.00000
	CLK	26.25490	26.26330	26.59800

Internal switching power(pJ) to QN falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
DFFQNX1	CLK	0.00000	0.00000	0.00000
	CLK	21.12960	21.13340	21.34430

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFQNX1	(CLK * QN)	0.00000	0.00000	0.00000
	(CLK * QN)	24.93600	24.93630	24.93730
	(CLK * !QN)	0.00000	0.00000	0.00000
	(CLK * !QN)	21.09450	21.10050	21.31180
	!CLK	0.00000	0.00000	0.00000
	!CLK	11.29600	11.30180	11.51230

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFQNX1	(CLK * QN)	0.00000	0.00000	0.00000
	(CLK * QN)	25.56920	25.56880	25.56880
	(CLK * !QN)	0.00000	0.00000	0.00000
	(CLK * !QN)	10.10140	10.10990	10.33950
	!CLK	0.00000	0.00000	0.00000
	!CLK	11.30930	11.31810	11.53240

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFQNX1	(D * !QN)	0.00000	0.00000	0.00000
	(D * !QN)	21.09710	21.09870	21.30380
	(!D * QN)	0.00000	0.00000	0.00000
	(!D * QN)	26.21430	26.21740	26.41230

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFQNX1	(D * QN)	0.00000	0.00000	0.00000
	(D * QN)	10.33030	10.33440	10.54020
	(D * !QN)	0.00000	0.00000	0.00000
	(D * !QN)	10.11540	10.12140	10.34480
	(!D * QN)	0.00000	0.00000	0.00000
	(!D * QN)	9.90820	9.91206	10.11390
	(!D * !QN)	0.00000	0.00000	0.00000
	(!D * !QN)	11.32220	11.33000	11.54150

DFFQX1

sky130_rhbd_tt_1P8_25C.ccs Cell Library: Process , Voltage 1.80, Temp 25.00

Truth Table

INPUT		OUTPUT
D	CLK	Q
0	R	0
1	R	1
x	x	IQ

Footprint

Cell Name	Area
DFFQX1	158.80400

Pin Capacitance Information

Cell Name	Pin Cap(pf)		Max Cap(pf)
	D	CLK	Q
DFFQX1	0.01036	0.02273	5.01013

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
DFFQX1	0.00000	28.46890	43.32350

Delay Information

Delay(ns) to Q rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
DFFQX1	CLK->Q (RR)	0.13775	0.76244	6.81226

Delay(ns) to Q falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
DFFQX1	CLK->Q (RF)	0.21714	0.88966	7.69179

Constraint Information

Constraints(ns) for D rising :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
DFFQX1	hold	CLK (R)	0.04594	0.07672	0.71031
	setup	CLK (R)	0.11287	0.17783	0.77929

Constraints(ns) for D falling :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
DFFQX1	hold	CLK (R)	-0.03569	-0.08777	-0.69129
	setup	CLK (R)	0.05982	0.12308	1.49100

Constraints(ns) for CLK rising (conditional):

Cell Name	Timing Check	Ref Pin(trans)	When	Reference Slew Rate(ns)		
				first	mid	last
DFFQX1	min_pulse_width	CLK ()	D	0.12300	0.65796	16.50020
	min_pulse_width	CLK ()	!D	0.14026	0.65796	16.50020

Constraints(ns) for CLK falling (conditional):

Cell Name	Timing Check	Ref Pin(trans)	When	Reference Slew Rate(ns)		
				first	mid	last
DFFQX1	min_pulse_width	CLK ()	D	0.19942	0.65796	16.50020
	min_pulse_width	CLK ()	!D	0.09588	0.65796	16.50020

Power Information

Internal switching power(pJ) to Q rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
DFFQX1	CLK	0.00000	0.00000	0.00000
	CLK	21.12910	21.13900	21.47740

Internal switching power(pJ) to Q falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
DFFQX1	CLK	0.00000	0.00000	0.00000
	CLK	26.25590	26.26250	26.46340

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFQX1	(CLK * Q)	0.00000	0.00000	0.00000
	(CLK * Q)	21.09400	21.10050	21.31180
	(CLK * !Q)	0.00000	0.00000	0.00000
	(CLK * !Q)	24.93660	24.93680	24.93780
	!CLK	0.00000	0.00000	0.00000
	!CLK	11.29430	11.30050	11.50710

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFQX1	(CLK * Q)	0.00000	0.00000	0.00000
	(CLK * Q)	10.10180	10.11140	10.34010
	(CLK * !Q)	0.00000	0.00000	0.00000
	(CLK * !Q)	25.56900	25.56880	25.56870
	!CLK	0.00000	0.00000	0.00000
	!CLK	11.30720	11.31620	11.52670

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFQX1	(D * Q)	0.00000	0.00000	0.00000
	(D * Q)	21.09630	21.09810	21.30340
	(!D * !Q)	0.00000	0.00000	0.00000
	(!D * !Q)	26.21470	26.21750	26.41250

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFQX1	(D * Q)	0.00000	0.00000	0.00000
	(D * Q)	10.11640	10.12180	10.34460
	(D * !Q)	0.00000	0.00000	0.00000
	(D * !Q)	10.32810	10.33390	10.54010
	(!D * Q)	0.00000	0.00000	0.00000
	(!D * Q)	11.32130	11.33090	11.54150
	(!D * !Q)	0.00000	0.00000	0.00000
	(!D * !Q)	9.90965	9.91370	10.11540

DFFRNQNX1

sky130_rhbd_tt_1P8_25C.ccs Cell Library:
Process , Voltage 1.80, Temp 25.00

Truth Table

INPUT			OUTPUT
D	RN	CLK	QN
0	1	R	1
1	1	R	0
x	0	x	1
x	1	x	IQN

Footprint

Cell Name	Area
DFFRNQNX1	191.66000

Pin Capacitance Information

Cell Name	Pin Cap(pf)			Max Cap(pf)
	D	RN	CLK	QN
DFFRNQNX1	0.00999	0.03067	0.02305	3.50045

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
DFFRNQNX1	0.00000	33.25990	56.43530

Delay Information

Delay(ns) to QN rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
DFFRNQNX1	CLK->QN (RR)	0.17726	0.69450	5.11869
	RN->QN (FR)	0.04967	0.73100	8.34462

Delay(ns) to QN falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
DFFRNQNX1	CLK->QN (RF)	0.25361	1.02183	7.84576

Constraint Information

Constraints(ns) for D rising :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
DFFRNQNX1	hold	CLK (R)	0.04220	0.06099	0.80144
	setup	CLK (R)	0.13814	0.18044	0.60471

Constraints(ns) for D falling :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
DFFRNQNX1	hold	CLK (R)	-0.02402	-0.08072	-0.66594
	setup	CLK (R)	0.07256	0.14378	1.83059

Constraints(ns) for D rising (conditional):

Cell Name	Timing Check	Ref Pin(trans)	When	Reference Slew Rate(ns)		
				first	mid	last
DFFRNQNX1	hold	CLK (R)	RN	0.04220	0.06099	0.80144
	setup	CLK (R)	RN	0.13814	0.18044	0.60471

Constraints(ns) for D falling (conditional):

Cell Name	Timing Check	Ref Pin(trans)	When	Reference Slew Rate(ns)		
				first	mid	last
DFFRNQNX1	hold	CLK (R)	RN	-0.02402	-0.08072	-0.66594
	setup	CLK (R)	RN	0.07256	0.14378	1.83059

Constraints(ns) for RN rising :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
DFFRNQNX1	recovery	CLK (R)	0.12702	0.19948	6.88984
	removal	CLK (R)	0.03583	0.04036	0.02090

Constraints(ns) for RN rising (conditional):

Cell Name	Timing Check	Ref Pin(trans)	When	Reference Slew Rate(ns)		
				first	mid	last
DFFRNQNX1	recovery	CLK (R)	D	0.12702	0.19948	6.88984
	removal	CLK (R)	D	0.03583	0.04036	0.02090

Constraints(ns) for RN falling (conditional):

Cell Name	Timing Check	Ref Pin(trans)	When	Reference Slew Rate(ns)		
				first	mid	last
DFFRNQNX1	min_pulse_width	RN ()	(CLK * D)	0.12546	0.65796	16.50020
	min_pulse_width	RN ()	(CLK * !D)	0.09342	0.65796	16.50020
	min_pulse_width	RN ()	(!CLK * D)	0.07123	0.65796	16.50020
	min_pulse_width	RN ()	(!CLK * !D)	0.07123	0.65796	16.50020

Constraints(ns) for CLK rising (conditional):

Cell Name	Timing Check	Ref Pin(trans)	When	Reference Slew Rate(ns)		
				first	mid	last
DFFRNQNX1	min_pulse_width	CLK ()	(D * RN)	0.16984	0.65796	16.50020
	min_pulse_width	CLK ()	(!D * RN)	0.15998	0.65796	16.50020

Constraints(ns) for CLK falling (conditional):

Cell Name	Timing Check	Ref Pin(trans)	When	Reference Slew Rate(ns)		
				first	mid	last
DFFRNQNX1	min_pulse_width	CLK ()	(D * RN)	0.22654	0.65796	16.50020
	min_pulse_width	CLK ()	(!D * RN)	0.10821	0.65796	16.50020

Power Information

Internal switching power(pJ) to QN rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
DFFRNQNX1	CLK	0.00000	0.00000	0.00000
	CLK	23.78220	23.78820	24.08020
	RN	24.22840	24.23960	24.50670

Internal switching power(pJ) to QN falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
DFFRNQNX1	CLK	0.00000	0.00000	0.00000
	CLK	34.51500	34.51610	34.70260

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFRNQNX1	(CLK * RN * QN)	0.00000	0.00000	0.00000
	(CLK * RN * QN)	22.75450	22.75620	22.75770
	(CLK * RN * !QN)	0.00000	0.00000	0.00000
	(CLK * RN * !QN)	34.32530	34.32780	34.51870
	(CLK * !RN * QN)	0.00000	0.00000	0.00000
	(CLK * !RN * QN)	22.74100	22.74320	22.74380
	(!CLK * RN)	0.00000	0.00000	0.00000
	(!CLK * RN)	18.84180	18.84520	19.03410
	(!CLK * !RN * QN)	0.00000	0.00000	0.00000
	(!CLK * !RN * QN)	9.86068	9.86067	9.86100

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFRNQNX1	(CLK * RN * QN)	0.00000	0.00000	0.00000
	(CLK * RN * QN)	23.36830	23.36900	23.36900
	(CLK * RN * !QN)	0.00000	0.00000	0.00000
	(CLK * RN * !QN)	16.53590	16.54200	16.75750
	(CLK * !RN * QN)	0.00000	0.00000	0.00000
	(CLK * !RN * QN)	23.36090	23.36130	23.36160
	(!CLK * RN)	0.00000	0.00000	0.00000
	(!CLK * RN)	13.88340	13.89120	14.10150
	(!CLK * !RN * QN)	0.00000	0.00000	0.00000
	(!CLK * !RN * QN)	10.42940	10.42850	10.42850

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFRNQNX1	(CLK * D * QN)	0.00000	0.00000	0.00000
	(CLK * D * QN)	22.01570	22.01390	22.01470
	(CLK * !D * QN)	0.00000	0.00000	0.00000
	(CLK * !D * QN)	22.00800	22.00460	22.00860
	(!CLK * D * QN)	0.00000	0.00000	0.00000
	(!CLK * D * QN)	13.81860	13.82170	14.01630
	(!CLK * !D * QN)	0.00000	0.00000	0.00000
	(!CLK * !D * QN)	9.22412	9.22413	9.22416

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFRNQNX1	(CLK * D * QN)	0.00000	0.00000	0.00000
	(CLK * D * QN)	23.84910	23.85200	23.85240
	(CLK * !D * QN)	0.00000	0.00000	0.00000
	(CLK * !D * QN)	23.84920	23.85310	23.85350
	(!CLK * D * QN)	0.00000	0.00000	0.00000
	(!CLK * D * QN)	10.54120	10.54870	10.74080
	(!CLK * !D * QN)	0.00000	0.00000	0.00000
	(!CLK * !D * QN)	10.91290	10.91240	10.91220

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFRNQNX1	(D * RN * !QN)	0.00000	0.00000	0.00000
	(D * RN * !QN)	34.32600	34.32490	34.50840
	(D * !RN * QN)	0.00000	0.00000	0.00000
	(D * !RN * QN)	23.89330	23.89590	24.07880
	(!D * RN * QN)	0.00000	0.00000	0.00000
	(!D * RN * QN)	23.90630	23.90890	24.09610
	(!D * !RN * QN)	0.00000	0.00000	0.00000
	(!D * !RN * QN)	23.89150	23.89360	24.07900

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFRNQNX1	(D * RN * QN)	0.00000	0.00000	0.00000
	(D * RN * QN)	13.80640	13.81010	13.99430
	(D * RN * !QN)	0.00000	0.00000	0.00000
	(D * RN * !QN)	16.55220	16.55320	16.76290
	(D * !RN * QN)	0.00000	0.00000	0.00000
	(D * !RN * QN)	9.21345	9.21996	9.41021
	(!D * RN * QN)	0.00000	0.00000	0.00000
	(!D * RN * QN)	9.21834	9.22542	9.42190
	(!D * RN * !QN)	0.00000	0.00000	0.00000
	(!D * RN * !QN)	13.90360	13.91000	14.12730
	(!D * !RN * QN)	0.00000	0.00000	0.00000
	(!D * !RN * QN)	9.21489	9.22055	9.41610

DFFRNQX1

sky130_rhbd_tt_1P8_25C.ccs Cell Library: Process , Voltage 1.80, Temp 25.00

Truth Table

INPUT			OUTPUT
D	RN	CLK	Q
0	1	R	0
1	1	R	1
x	0	x	0
x	1	x	IQ

Footprint

Cell Name	Area
DFFRNQX1	191.66000

Pin Capacitance Information

Cell Name	Pin Cap(pf)			Max Cap(pf)
	D	RN	CLK	Q
DFFRNQX1	0.00999	0.03125	0.02305	4.99211

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
DFFRNQX1	0.00000	33.25990	56.43520

Delay Information

Delay(ns) to Q rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
DFFRNQX1	CLK->Q (RR)	0.18702	0.81502	6.96608

Delay(ns) to Q falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
DFFRNQX1	CLK->Q (RF)	0.23296	0.89921	7.59292
	RN->Q (FF)	0.14131	0.93088	8.37248

Constraint Information

Constraints(ns) for D rising :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
DFFRNQX1	hold	CLK (R)	0.03816	0.05528	0.75404
	setup	CLK (R)	0.14818	0.19958	0.62682

Constraints(ns) for D falling :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
DFFRNQX1	hold	CLK (R)	-0.02463	-0.08072	-0.66355
	setup	CLK (R)	0.06718	0.13767	1.78737

Constraints(ns) for D rising (conditional):

Cell Name	Timing Check	Ref Pin(trans)	When	Reference Slew Rate(ns)		
				first	mid	last
DFFRNQX1	hold	CLK (R)	RN	0.03816	0.05528	0.75404
	setup	CLK (R)	RN	0.14818	0.19958	0.62682

Constraints(ns) for D falling (conditional):

Cell Name	Timing Check	Ref Pin(trans)	When	Reference Slew Rate(ns)		
				first	mid	last
DFFRNQX1	hold	CLK (R)	RN	-0.02463	-0.08072	-0.66355
	setup	CLK (R)	RN	0.06718	0.13767	1.78737

Constraints(ns) for RN rising :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
DFFRNQX1	recovery	CLK (R)	0.13395	0.21870	7.04564
	removal	CLK (R)	0.03583	0.04036	0.02090

Constraints(ns) for RN rising (conditional):

Cell Name	Timing Check	Ref Pin(trans)	When	Reference Slew Rate(ns)		
				first	mid	last
DFFRNQX1	recovery	CLK (R)	D	0.13395	0.21870	7.04564
	removal	CLK (R)	D	0.03583	0.04036	0.02090

Constraints(ns) for RN falling (conditional):

Cell Name	Timing Check	Ref Pin(trans)	When	Reference Slew Rate(ns)		
				first	mid	last
DFFRNQX1	min_pulse_width	RN ()	(CLK * D)	0.12546	0.65796	16.50020
	min_pulse_width	RN ()	(CLK * !D)	0.10081	0.65796	16.50020
	min_pulse_width	RN ()	(!CLK * D)	0.06630	0.65796	16.50020
	min_pulse_width	RN ()	(!CLK * !D)	0.06630	0.65796	16.50020

Constraints(ns) for CLK rising (conditional):

Cell Name	Timing Check	Ref Pin(trans)	When	Reference Slew Rate(ns)		
				first	mid	last
DFFRNQX1	min_pulse_width	CLK ()	(D * RN)	0.17970	0.65796	16.50020
	min_pulse_width	CLK ()	(!D * RN)	0.15258	0.65796	16.50020

Constraints(ns) for CLK falling (conditional):

Cell Name	Timing Check	Ref Pin(trans)	When	Reference Slew Rate(ns)		
				first	mid	last
DFFRNQX1	min_pulse_width	CLK ()	(D * RN)	0.23394	0.65796	16.50020
	min_pulse_width	CLK ()	(!D * RN)	0.10574	0.65796	16.50020

Power Information

Internal switching power(pJ) to Q rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
DFFRNQX1	CLK	0.00000	0.00000	0.00000
	CLK	34.51420	34.52060	34.82120

Internal switching power(pJ) to Q falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
DFFRNQX1	CLK	0.00000	0.00000	0.00000
	CLK	23.78310	23.78920	23.98500
	RN	-0.01396	-0.63480	-8.08719
	RN	24.22860	24.25110	24.59280

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFRNQX1	(CLK * RN * Q)	0.00000	0.00000	0.00000
	(CLK * RN * Q)	34.32520	34.32780	34.51850
	(CLK * RN * !Q)	0.00000	0.00000	0.00000
	(CLK * RN * !Q)	22.75430	22.75600	22.75750
	(CLK * !RN * !Q)	0.00000	0.00000	0.00000
	(CLK * !RN * !Q)	22.74100	22.74320	22.74390
	(!CLK * RN)	0.00000	0.00000	0.00000
	(!CLK * RN)	14.42770	14.43160	14.61390
	(!CLK * !RN * !Q)	0.00000	0.00000	0.00000
	(!CLK * !RN * !Q)	9.86072	9.86068	9.86101

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFRNQX1	(CLK * RN * Q)	0.00000	0.00000	0.00000
	(CLK * RN * Q)	16.53590	16.54200	16.75750
	(CLK * RN * !Q)	0.00000	0.00000	0.00000
	(CLK * RN * !Q)	23.36830	23.36900	23.36900
	(CLK * !RN * !Q)	0.00000	0.00000	0.00000
	(CLK * !RN * !Q)	23.36090	23.36130	23.36160
	(!CLK * RN)	0.00000	0.00000	0.00000
	(!CLK * RN)	9.99302	10.00220	10.20590
	(!CLK * !RN * !Q)	0.00000	0.00000	0.00000
	(!CLK * !RN * !Q)	10.42950	10.42850	10.42850

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFRNQX1	(CLK * D * !Q)	0.00000	0.00000	0.00000
	(CLK * D * !Q)	22.01660	22.01410	22.01480
	(CLK * !D * !Q)	0.00000	0.00000	0.00000
	(CLK * !D * !Q)	22.00900	22.00490	22.00900
	(!CLK * D * !Q)	0.00000	0.00000	0.00000
	(!CLK * D * !Q)	13.81870	13.82170	14.01640
	(!CLK * !D * !Q)	0.00000	0.00000	0.00000
	(!CLK * !D * !Q)	9.22447	9.22416	9.22390

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFRNQX1	(CLK * D * !Q)	0.00000	0.00000	0.00000
	(CLK * D * !Q)	23.84990	23.85200	23.85240
	(CLK * !D * !Q)	0.00000	0.00000	0.00000
	(CLK * !D * !Q)	23.84770	23.85310	23.85350
	(!CLK * D * !Q)	0.00000	0.00000	0.00000
	(!CLK * D * !Q)	10.54190	10.54930	10.74090
	(!CLK * !D * !Q)	0.00000	0.00000	0.00000
	(!CLK * !D * !Q)	10.91290	10.91230	10.91210

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFRNQX1	(D * RN * Q)	0.00000	0.00000	0.00000
	(D * RN * Q)	34.32610	34.32470	34.50810
	(D * !RN * !Q)	0.00000	0.00000	0.00000
	(D * !RN * !Q)	23.89330	23.89610	24.07890
	(!D * RN * !Q)	0.00000	0.00000	0.00000
	(!D * RN * !Q)	23.90630	23.90850	24.09560
	(!D * !RN * !Q)	0.00000	0.00000	0.00000
	(!D * !RN * !Q)	23.89140	23.89350	24.07880

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFRNQX1	(D * RN * Q)	0.00000	0.00000	0.00000
	(D * RN * Q)	16.55220	16.55360	16.76250
	(D * RN * !Q)	0.00000	0.00000	0.00000
	(D * RN * !Q)	13.80630	13.81000	13.99420
	(D * !RN * !Q)	0.00000	0.00000	0.00000
	(D * !RN * !Q)	9.21318	9.22089	9.40993
	(!D * RN * Q)	0.00000	0.00000	0.00000
	(!D * RN * Q)	13.90320	13.90970	14.12800
	(!D * RN * !Q)	0.00000	0.00000	0.00000
	(!D * RN * !Q)	9.21790	9.22513	9.42164
	(!D * !RN * !Q)	0.00000	0.00000	0.00000
	(!D * !RN * !Q)	9.21485	9.22006	9.41604

DFFRNX1

sky130_rhbd_tt_1P8_25C.ccs Cell Library: Process , Voltage 1.80, Temp 25.00

Truth Table

INPUT			OUTPUT	
D	RN	CLK	Q	QN
0	1	R	0	1
1	1	R	1	0
x	0	x	0	1
x	1	x	IQ	IQN

Footprint

Cell Name	Area
DFFRNX1	191.66000

Pin Capacitance Information

Cell Name	Pin Cap(pf)			Max Cap(pf)	
	D	RN	CLK	Q	QN
DFFRNX1	0.00999	0.03117	0.02305	5.03807	3.49569

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
DFFRNX1	0.00000	33.26000	56.43530

Delay Information

Delay(ns) to Q rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
DFFRNX1	CLK->Q (RR)	0.18628	0.81598	7.02408
	QN->Q (FR)	0.05086	0.81474	10.12990

Delay(ns) to Q falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
DFFRNX1	CLK->Q (RF)	0.24919	1.63362	17.17470
	QN->Q (RF)	0.05761	0.79740	9.78222
	RN->Q (FF)	0.12235	1.69686	20.73080

Delay(ns) to QN rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
DFFRNX1	CLK->QN (RR)	0.17726	0.69315	5.12906
	Q->QN (FR)	0.04741	0.71305	8.21550
	RN->QN (FR)	0.05042	0.72998	8.34608

Delay(ns) to QN falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
DFFRNX1	CLK->QN (RF)	0.27650	1.69235	15.20130
	Q->QN (RF)	0.06900	0.90432	10.00300

Constraint Information

Constraints(ns) for D rising :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
DFFRNX1	hold	CLK (R)	0.03629	0.05497	0.72090
	setup	CLK (R)	0.14411	0.19923	0.62626

Constraints(ns) for D falling :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
DFFRNX1	hold	CLK (R)	-0.02370	-0.08072	-0.66520
	setup	CLK (R)	0.06429	0.13521	1.75258

Constraints(ns) for D rising (conditional):

Cell Name	Timing Check	Ref Pin(trans)	When	Reference Slew Rate(ns)		
				first	mid	last
DFFRNX1	hold	CLK (R)	RN	0.03629	0.05497	0.72090
	setup	CLK (R)	RN	0.14411	0.19923	0.62626

Constraints(ns) for D falling (conditional):

Cell Name	Timing Check	Ref Pin(trans)	When	Reference Slew Rate(ns)		
				first	mid	last
DFFRNX1	hold	CLK (R)	RN	-0.02370	-0.08072	-0.66520
	setup	CLK (R)	RN	0.06429	0.13521	1.75258

Constraints(ns) for RN rising :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
DFFRNX1	recovery	CLK (R)	0.13740	0.21927	7.11596
	removal	CLK (R)	0.03735	0.04036	0.02090

Constraints(ns) for RN rising (conditional):

Cell Name	Timing Check	Ref Pin(trans)	When	Reference Slew Rate(ns)		
				first	mid	last
DFFRNX1	recovery	CLK (R)	D	0.13740	0.21927	7.11596
	removal	CLK (R)	D	0.03735	0.04036	0.02090

Constraints(ns) for RN falling (conditional):

Cell Name	Timing Check	Ref Pin(trans)	When	Reference Slew Rate(ns)		
				first	mid	last
DFFRNX1	min_pulse_width	RN ()	(CLK * D)	0.12546	0.65796	16.50020
	min_pulse_width	RN ()	(CLK * !D)	0.10328	0.65796	16.50020
	min_pulse_width	RN ()	(!CLK * D)	0.07863	0.65796	16.50020
	min_pulse_width	RN ()	(!CLK * !D)	0.07863	0.65796	16.50020

Constraints(ns) for CLK rising (conditional):

Cell Name	Timing Check	Ref Pin(trans)	When	Reference Slew Rate(ns)		
				first	mid	last
DFFRNX1	min_pulse_width	CLK ()	(D * RN)	0.18463	0.65796	16.50020
	min_pulse_width	CLK ()	(!D * RN)	0.16491	0.65796	16.50020

Constraints(ns) for CLK falling (conditional):

Cell Name	Timing Check	Ref Pin(trans)	When	Reference Slew Rate(ns)		
				first	mid	last
DFFRNX1	min_pulse_width	CLK ()	(D * RN)	0.23394	0.65796	16.50020
	min_pulse_width	CLK ()	(!D * RN)	0.10574	0.65796	16.50020

Power Information

Internal switching power(pJ) to Q rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
DFFRNX1	CLK	0.00000	0.00000	0.00000
	CLK	17.25740	17.25840	17.34940

Internal switching power(pJ) to Q falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
DFFRNX1	CLK	0.00000	0.00000	0.00000
	CLK	11.89160	11.89410	11.99520
	RN	-0.00698	-0.31915	-4.08082
	RN	12.11500	12.12060	12.22030

Internal switching power(pJ) to QN rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
DFFRNX1	CLK	0.00000	0.00000	0.00000
	CLK	11.89130	11.89390	11.99420
	RN	-0.00698	-0.25631	-2.83150
	RN	12.11520	12.12070	12.22250

Internal switching power(pJ) to QN falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
DFFRNX1	CLK	0.00000	0.00000	0.00000
	CLK	17.25750	17.25850	17.35270

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFRNX1	(CLK * RN * Q * !QN)	0.00000	0.00000	0.00000
	(CLK * RN * Q * !QN)	34.32500	34.32820	34.51870
	(CLK * RN * !Q * QN)	0.00000	0.00000	0.00000
	(CLK * RN * !Q * QN)	22.75570	22.75590	22.75740
	(CLK * !RN * !Q * QN)	0.00000	0.00000	0.00000
	(CLK * !RN * !Q * QN)	22.74100	22.74300	22.74390
	(!CLK * RN * Q * !QN) + (!CLK * RN * !Q * QN)	0.00000	0.00000	0.00000
	(!CLK * RN * Q * !QN) + (!CLK * RN * !Q * QN)	18.84180	18.84560	19.03400
	(!CLK * !RN * !Q * QN)	0.00000	0.00000	0.00000
	(!CLK * !RN * !Q * QN)	9.85929	9.85924	9.85956

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFRNX1	(CLK * RN * Q * !QN)	0.00000	0.00000	0.00000
	(CLK * RN * Q * !QN)	16.53600	16.54350	16.75820
	(CLK * RN * !Q * QN)	0.00000	0.00000	0.00000
	(CLK * RN * !Q * QN)	23.36850	23.36890	23.36900
	(CLK * !RN * !Q * QN)	0.00000	0.00000	0.00000
	(CLK * !RN * !Q * QN)	23.36090	23.36130	23.36160
	(!CLK * RN * Q * !QN) + (!CLK * RN * !Q * QN)	0.00000	0.00000	0.00000
	(!CLK * RN * Q * !QN) + (!CLK * RN * !Q * QN)	13.88320	13.89130	14.10180
	(!CLK * !RN * !Q * QN)	0.00000	0.00000	0.00000
	(!CLK * !RN * !Q * QN)	10.43010	10.42900	10.42920

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFRNX1	(CLK * D * !Q * QN)	0.00000	0.00000	0.00000
	(CLK * D * !Q * QN)	22.01520	22.01420	22.01410
	(CLK * !D * !Q * QN)	0.00000	0.00000	0.00000
	(CLK * !D * !Q * QN)	22.00600	22.00430	22.00640
	(!CLK * D * !Q * QN)	0.00000	0.00000	0.00000
	(!CLK * D * !Q * QN)	13.81900	13.82320	14.01660
	(!CLK * !D * !Q * QN)	0.00000	0.00000	0.00000
	(!CLK * !D * !Q * QN)	9.22448	9.22442	9.22416

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFRNX1	(CLK * D * !Q * QN)	0.00000	0.00000	0.00000
	(CLK * D * !Q * QN)	23.85090	23.85210	23.85260
	(CLK * !D * !Q * QN)	0.00000	0.00000	0.00000
	(CLK * !D * !Q * QN)	23.84790	23.85260	23.85340
	(!CLK * D * !Q * QN)	0.00000	0.00000	0.00000
	(!CLK * D * !Q * QN)	10.54210	10.54970	10.74120
	(!CLK * !D * !Q * QN)	0.00000	0.00000	0.00000
	(!CLK * !D * !Q * QN)	10.91230	10.91210	10.91150

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFRNX1	(D * RN * Q * !QN)	0.00000	0.00000	0.00000
	(D * RN * Q * !QN)	34.32570	34.32480	34.50840
	(D * !RN * !Q * QN)	0.00000	0.00000	0.00000
	(D * !RN * !Q * QN)	23.89390	23.89600	24.07910
	(!D * RN * !Q * QN)	0.00000	0.00000	0.00000
	(!D * RN * !Q * QN)	23.90590	23.90800	24.09520
	(!D * !RN * !Q * QN)	0.00000	0.00000	0.00000
	(!D * !RN * !Q * QN)	23.89140	23.89350	24.07890

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFRNX1	(D * RN * Q * !QN)	0.00000	0.00000	0.00000
	(D * RN * Q * !QN)	16.55250	16.55410	16.76340
	(D * RN * !Q * QN)	0.00000	0.00000	0.00000
	(D * RN * !Q * QN)	13.80620	13.80980	13.99400
	(D * !RN * !Q * QN)	0.00000	0.00000	0.00000
	(D * !RN * !Q * QN)	9.21286	9.22014	9.40968
	(!D * RN * Q * !QN)	0.00000	0.00000	0.00000
	(!D * RN * Q * !QN)	13.90240	13.90920	14.12660
	(!D * RN * !Q * QN)	0.00000	0.00000	0.00000
	(!D * RN * !Q * QN)	9.21817	9.22532	9.42185
	(!D * !RN * !Q * QN)	0.00000	0.00000	0.00000
	(!D * !RN * !Q * QN)	9.21388	9.21917	9.41527

DFFSNQNX1

sky130_rhbd_tt_1P8_25C.ccs Cell Library:
Process , Voltage 1.80, Temp 25.00

Truth Table

INPUT			OUTPUT
D	SN	CLK	QN
0	1	R	1
1	1	R	0
x	0	x	0
x	1	x	IQN

Footprint

Cell Name	Area
DFFSNQNX1	180.70799

Pin Capacitance Information

Cell Name	Pin Cap(pf)			Max Cap(pf)
	D	SN	CLK	QN
DFFSNQNX1	0.01000	0.02184	0.02197	4.79232

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
DFFSNQNX1	0.00000	30.10440	57.62640

Delay Information

Delay(ns) to QN rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
DFFSNQNX1	CLK->QN (RR)	0.16135	0.75109	6.63806

Delay(ns) to QN falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
DFFSNQNX1	CLK->QN (RF)	0.18105	0.85345	7.32145
	SN->QN (FF)	0.27485	0.98832	8.20454

Constraint Information

Constraints(ns) for D rising :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
DFFSNQNX1	hold	CLK (R)	0.01514	0.02018	0.87334
	setup	CLK (R)	0.13173	0.19440	1.15026

Constraints(ns) for D falling :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
DFFSNQNX1	hold	CLK (R)	-0.07218	-0.15135	-1.11108
	setup	CLK (R)	0.10991	0.19727	1.61119

Constraints(ns) for D rising (conditional):

Cell Name	Timing Check	Ref Pin(trans)	When	Reference Slew Rate(ns)		
				first	mid	last
DFFSNQNX1	hold	CLK (R)	SN	0.01514	0.02018	0.87334
	setup	CLK (R)	SN	0.13173	0.19440	1.15026

Constraints(ns) for D falling (conditional):

Cell Name	Timing Check	Ref Pin(trans)	When	Reference Slew Rate(ns)		
				first	mid	last
DFFSNQNX1	hold	CLK (R)	SN	-0.07218	-0.15135	-1.11108
	setup	CLK (R)	SN	0.10991	0.19727	1.61119

Constraints(ns) for SN rising :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
DFFSNQNX1	recovery	CLK (R)	0.03969	0.03636	0.30368
	removal	CLK (R)	-0.01538	-0.01261	-0.11359

Constraints(ns) for SN rising (conditional):

Cell Name	Timing Check	Ref Pin(trans)	When	Reference Slew Rate(ns)		
				first	mid	last
DFFSNQNX1	recovery	CLK (R)	!D	0.03969	0.03636	0.30368
	removal	CLK (R)	!D	-0.01538	-0.01261	-0.11359

Constraints(ns) for SN falling (conditional):

Cell Name	Timing Check	Ref Pin(trans)	When	Reference Slew Rate(ns)		
				first	mid	last
DFFSNQNX1	min_pulse_width	SN ()	(CLK * D)	0.07616	0.65796	16.50020
	min_pulse_width	SN ()	(CLK * !D)	0.07616	0.65796	16.50020
	min_pulse_width	SN ()	(!CLK * D)	0.07370	0.65796	16.50020
	min_pulse_width	SN ()	(!CLK * !D)	0.07123	0.65796	16.50020

Constraints(ns) for CLK rising (conditional):

Cell Name	Timing Check	Ref Pin(trans)	When	Reference Slew Rate(ns)		
				first	mid	last
DFFSNQNX1	min_pulse_width	CLK ()	(D * SN)	0.11067	0.65796	16.50020
	min_pulse_width	CLK ()	(!D * SN)	0.15012	0.65796	16.50020

Constraints(ns) for CLK falling (conditional):

Cell Name	Timing Check	Ref Pin(trans)	When	Reference Slew Rate(ns)		
				first	mid	last
DFFSNQNX1	min_pulse_width	CLK ()	(D * SN)	0.20682	0.65796	16.50020
	min_pulse_width	CLK ()	(!D * SN)	0.11560	0.65796	16.50020

Power Information

Internal switching power(pJ) to QN rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
DFFSNQNX1	CLK	0.00000	0.00000	0.00000
	CLK	35.36060	35.36760	35.68930

Internal switching power(pJ) to QN falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
DFFSNQNX1	CLK	0.00000	0.00000	0.00000
	CLK	19.63920	19.64470	19.86100
	SN	-0.01396	-0.61943	-7.76353
	SN	18.99480	19.01650	19.35320

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFSNQNX1	(CLK * SN * QN)	0.00000	0.00000	0.00000
	(CLK * SN * QN)	33.71230	33.71300	33.71370
	(CLK * SN * !QN) + (!CLK * !SN * !QN)	0.00000	0.00000	0.00000
	(CLK * SN * !QN) + (!CLK * !SN * !QN)	19.80210	19.80580	20.00200
	(CLK * !SN * !QN)	0.00000	0.00000	0.00000
	(CLK * !SN * !QN)	19.79860	19.80260	20.00020
	(!CLK * SN)	0.00000	0.00000	0.00000
	(!CLK * SN)	10.28540	10.28940	10.48730

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFSNQNX1	(CLK * SN * QN)	0.00000	0.00000	0.00000
	(CLK * SN * QN)	34.35890	34.35970	34.35940
	(CLK * SN * !QN) + (!CLK * !SN * !QN)	0.00000	0.00000	0.00000
	(CLK * SN * !QN) + (!CLK * !SN * !QN)	9.55574	9.56381	9.76786
	(CLK * !SN * !QN)	0.00000	0.00000	0.00000
	(CLK * !SN * !QN)	9.55952	9.56761	9.77881
	(!CLK * SN)	0.00000	0.00000	0.00000
	(!CLK * SN)	14.91810	14.92930	15.13530

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFSNQNX1	(CLK * D * !QN)	0.00000	0.00000	0.00000
	(CLK * D * !QN)	18.32440	18.32760	18.33270
	(CLK * !D * !QN)	0.00000	0.00000	0.00000
	(CLK * !D * !QN)	9.86750	9.87110	9.87243
	(!CLK * D * !QN)	0.00000	0.00000	0.00000
	(!CLK * D * !QN)	9.87670	9.87898	9.88027
	(!CLK * !D * !QN)	0.00000	0.00000	0.00000
	(!CLK * !D * !QN)	14.40790	14.41340	14.60080

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFSNQNX1	(CLK * D * !QN)	0.00000	0.00000	0.00000
	(CLK * D * !QN)	19.55200	19.55640	19.55730
	(CLK * !D * !QN)	0.00000	0.00000	0.00000
	(CLK * !D * !QN)	11.02470	11.02670	11.02710
	(!CLK * D * !QN)	0.00000	0.00000	0.00000
	(!CLK * D * !QN)	11.02790	11.02740	11.02740
	(!CLK * !D * !QN)	0.00000	0.00000	0.00000
	(!CLK * !D * !QN)	3.67456	3.68392	3.88757

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFSNQNX1	(D * SN * !QN)	0.00000	0.00000	0.00000
	(D * SN * !QN)	19.79730	19.80130	20.01610
	(D * !SN * !QN)	0.00000	0.00000	0.00000
	(D * !SN * !QN)	19.79400	19.79830	20.01090
	(!D * SN * QN)	0.00000	0.00000	0.00000
	(!D * SN * QN)	35.13990	35.14310	35.33850
	(!D * !SN * !QN)	0.00000	0.00000	0.00000
	(!D * !SN * !QN)	10.63700	10.65200	10.90800

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFSNQNX1	(D * SN * QN)	0.00000	0.00000	0.00000
	(D * SN * QN)	13.00190	13.00590	13.24110
	(D * SN * !QN)	0.00000	0.00000	0.00000
	(D * SN * !QN)	9.56930	9.58348	9.84258
	(D * !SN * !QN)	0.00000	0.00000	0.00000
	(D * !SN * !QN)	9.55895	9.57476	9.81192
	(!D * SN * QN)	0.00000	0.00000	0.00000
	(!D * SN * QN)	17.39120	17.39380	17.60400
	(!D * SN * !QN)	0.00000	0.00000	0.00000
	(!D * SN * !QN)	14.92450	14.93380	15.17430
	(!D * !SN * !QN)	0.00000	0.00000	0.00000
	(!D * !SN * !QN)	3.48972	3.50023	3.79535

DFFSNQX1

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Truth Table

INPUT			OUTPUT
D	SN	CLK	Q
0	1	R	0
1	1	R	1
x	0	x	1
x	1	x	IQ

Footprint

Cell Name	Area
DFFSNQX1	180.70799

Pin Capacitance Information

Cell Name	Pin Cap(pf)			Max Cap(pf)
	D	SN	CLK	Q
DFFSNQX1	0.01000	0.02134	0.02197	3.45696

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
DFFSNQX1	0.00000	30.10450	57.62650

Delay Information

Delay(ns) to Q rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
DFFSNQX1	CLK->Q (RR)	0.13165	0.65069	4.89264
	SN->Q (FR)	0.05093	0.73629	8.38951

Delay(ns) to Q falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
DFFSNQX1	CLK->Q (RF)	0.24580	0.99661	7.66020

Constraint Information

Constraints(ns) for D rising :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
DFFSNQX1	hold	CLK (R)	0.00942	0.01618	0.76385
	setup	CLK (R)	0.13983	0.20845	1.98462

Constraints(ns) for D falling :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
DFFSNQX1	hold	CLK (R)	-0.07218	-0.15135	-1.11235
	setup	CLK (R)	0.10321	0.18894	1.56798

Constraints(ns) for D rising (conditional):

Cell Name	Timing Check	Ref Pin(trans)	When	Reference Slew Rate(ns)		
				first	mid	last
DFFSNQX1	hold	CLK (R)	SN	0.00942	0.01618	0.76385
	setup	CLK (R)	SN	0.13983	0.20845	1.98462

Constraints(ns) for D falling (conditional):

Cell Name	Timing Check	Ref Pin(trans)	When	Reference Slew Rate(ns)		
				first	mid	last
DFFSNQX1	hold	CLK (R)	SN	-0.07218	-0.15135	-1.11235
	setup	CLK (R)	SN	0.10321	0.18894	1.56798

Constraints(ns) for SN rising :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
DFFSNQX1	recovery	CLK (R)	0.03457	0.03066	4.43081
	removal	CLK (R)	-0.01538	-0.01261	-0.11408

Constraints(ns) for SN rising (conditional):

Cell Name	Timing Check	Ref Pin(trans)	When	Reference Slew Rate(ns)		
				first	mid	last
DFFSNQX1	recovery	CLK (R)	!D	0.03457	0.03066	4.43081
	removal	CLK (R)	!D	-0.01538	-0.01261	-0.11408

Constraints(ns) for SN falling (conditional):

Cell Name	Timing Check	Ref Pin(trans)	When	Reference Slew Rate(ns)		
				first	mid	last
DFFSNQX1	min_pulse_width	SN ()	(CLK * D)	0.07370	0.65796	16.50020
	min_pulse_width	SN ()	(CLK * !D)	0.07370	0.65796	16.50020
	min_pulse_width	SN ()	(!CLK * D)	0.07863	0.65796	16.50020
	min_pulse_width	SN ()	(!CLK * !D)	0.07863	0.65796	16.50020

Constraints(ns) for CLK rising (conditional):

Cell Name	Timing Check	Ref Pin(trans)	When	Reference Slew Rate(ns)		
				first	mid	last
DFFSNQX1	min_pulse_width	CLK ()	(D * SN)	0.11807	0.65796	16.50020
	min_pulse_width	CLK ()	(!D * SN)	0.14519	0.65796	16.50020

Constraints(ns) for CLK falling (conditional):

Cell Name	Timing Check	Ref Pin(trans)	When	Reference Slew Rate(ns)		
				first	mid	last
DFFSNQX1	min_pulse_width	CLK ()	(D * SN)	0.21421	0.65796	16.50020
	min_pulse_width	CLK ()	(!D * SN)	0.10821	0.65796	16.50020

Power Information

Internal switching power(pJ) to Q rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
DFFSNQX1	CLK	0.00000	0.00000	0.00000
	CLK	19.63930	19.64970	19.95190
	SN	18.99510	19.00920	19.26150

Internal switching power(pJ) to Q falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
DFFSNQX1	CLK	0.00000	0.00000	0.00000
	CLK	35.36200	35.36800	35.57100

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFSNQX1	(CLK * SN * Q) + (!CLK * !SN * Q)	0.00000	0.00000	0.00000
	(CLK * SN * Q) + (!CLK * !SN * Q)	19.80270	19.80630	20.00250
	(CLK * SN * !Q)	0.00000	0.00000	0.00000
	(CLK * SN * !Q)	33.71210	33.71280	33.71330
	(CLK * !SN * Q)	0.00000	0.00000	0.00000
	(CLK * !SN * Q)	19.79880	19.80250	20.00020
	(!CLK * SN)	0.00000	0.00000	0.00000
	(!CLK * SN)	14.27410	14.27810	14.47460

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFSNQX1	(CLK * SN * Q) + (!CLK * !SN * Q)	0.00000	0.00000	0.00000
	(CLK * SN * Q) + (!CLK * !SN * Q)	9.55539	9.56366	9.76761
	(CLK * SN * !Q)	0.00000	0.00000	0.00000
	(CLK * SN * !Q)	34.35810	34.35910	34.35880
	(CLK * !SN * Q)	0.00000	0.00000	0.00000
	(CLK * !SN * Q)	9.55874	9.56729	9.77803
	(!CLK * SN)	0.00000	0.00000	0.00000
	(!CLK * SN)	19.42210	19.43280	19.63780

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFSNQX1	(CLK * D * Q)	0.00000	0.00000	0.00000
	(CLK * D * Q)	18.32220	18.32640	18.33160
	(CLK * !D * Q)	0.00000	0.00000	0.00000
	(CLK * !D * Q)	9.86474	9.87007	9.87139
	(!CLK * D * Q)	0.00000	0.00000	0.00000
	(!CLK * D * Q)	9.87739	9.87871	9.88002
	(!CLK * !D * Q)	0.00000	0.00000	0.00000
	(!CLK * !D * Q)	14.40880	14.41360	14.60110

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFSNQX1	(CLK * D * Q)	0.00000	0.00000	0.00000
	(CLK * D * Q)	19.55190	19.55690	19.55800
	(CLK * !D * Q)	0.00000	0.00000	0.00000
	(CLK * !D * Q)	11.02400	11.02660	11.02700
	(!CLK * D * Q)	0.00000	0.00000	0.00000
	(!CLK * D * Q)	11.02790	11.02760	11.02750
	(!CLK * !D * Q)	0.00000	0.00000	0.00000
	(!CLK * !D * Q)	3.67423	3.68369	3.88728

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFSNQX1	(D * SN * Q)	0.00000	0.00000	0.00000
	(D * SN * Q)	19.79730	19.80130	20.01610
	(D * !SN * Q)	0.00000	0.00000	0.00000
	(D * !SN * Q)	19.79190	19.79610	20.00870
	(!D * SN * !Q)	0.00000	0.00000	0.00000
	(!D * SN * !Q)	35.13990	35.14320	35.33860
	(!D * !SN * Q)	0.00000	0.00000	0.00000
	(!D * !SN * Q)	10.63580	10.65200	10.90800

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFSNQX1	(D * SN * Q)	0.00000	0.00000	0.00000
	(D * SN * Q)	9.56940	9.58338	9.84256
	(D * SN * !Q)	0.00000	0.00000	0.00000
	(D * SN * !Q)	13.00120	13.00510	13.24090
	(D * !SN * Q)	0.00000	0.00000	0.00000
	(D * !SN * Q)	9.55853	9.57469	9.81191
	(!D * SN * Q)	0.00000	0.00000	0.00000
	(!D * SN * Q)	14.92530	14.93430	15.17510
	(!D * SN * !Q)	0.00000	0.00000	0.00000
	(!D * SN * !Q)	17.39100	17.39430	17.60400
	(!D * !SN * Q)	0.00000	0.00000	0.00000
	(!D * !SN * Q)	3.48995	3.50010	3.79522

DFFSNRNQNX1

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Truth Table

INPUT				OUTPUT
D	RN	SN	CLK	QN
0	1	1	R	1
1	1	1	R	0
x	0	x	x	1
x	1	0	x	0
x	1	1	x	IQN

Footprint

Cell Name	Area
DFFSNRNQNX1	213.56400

Pin Capacitance Information

Cell Name	Pin Cap(pf)				Max Cap(pf)
	D	RN	SN	CLK	QN
DFFSNRNQNX1	0.01000	0.03392	0.02220	0.02197	3.37804

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
DFFSNRNQNX1	0.00000	32.92020	54.41010

Delay Information

Delay(ns) to QN rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
DFFSNRNQNX1	CLK->QN (RR)	0.17455	0.68176	4.98211
	RN->QN (FR)	0.05069	0.72820	8.30815

Delay(ns) to QN falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
DFFSNRNQNX1	CLK->QN (RF)	0.24995	0.99920	7.52895
	RN->QN (RF)	0.27907	1.09333	10.21100
	SN->QN (FF)	0.35389	1.13211	8.25144

Constraint Information

Constraints(ns) for D rising :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
DFFSNRNQNX1	hold	CLK (R)	-0.00905	-0.00893	2.07104
	setup	CLK (R)	0.16776	0.20784	0.65924

Constraints(ns) for D falling :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
DFFSNRNQNX1	hold	CLK (R)	-0.06685	-0.14378	-1.05265
	setup	CLK (R)	0.11572	0.20498	2.29611

Constraints(ns) for D rising (conditional):

Cell Name	Timing Check	Ref Pin(trans)	When	Reference Slew Rate(ns)		
				first	mid	last
DFFSNRNQNX1	hold	CLK (R)	(RN * SN)	-0.00905	-0.00893	2.07104
	setup	CLK (R)	(RN * SN)	0.16776	0.20784	0.65924

Constraints(ns) for D falling (conditional):

Cell Name	Timing Check	Ref Pin(trans)	When	Reference Slew Rate(ns)		
				first	mid	last
DFFSNRNQNX1	hold	CLK (R)	(RN * SN)	-0.06685	-0.14378	-1.05265
	setup	CLK (R)	(RN * SN)	0.11572	0.20498	2.29611

Constraints(ns) for RN rising :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
DFFSNRNQNX1	recovery	CLK (R)	0.15732	0.23122	7.31620
	removal	CLK (R)	-0.01674	-0.02270	-0.06552
	hold	SN (R)	0.01635	0.05045	0.40627
	setup	SN (R)	0.03443	0.06756	1.42231

Constraints(ns) for RN rising (conditional):

Cell Name	Timing Check	Ref Pin(trans)	When	Reference Slew Rate(ns)		
				first	mid	last
DFFSNRNQNX1	recovery	CLK (R)	(D * SN)	0.15732	0.23122	7.31620
	removal	CLK (R)	(D * SN)	-0.01674	-0.02270	-0.06552
	hold	SN (R)	(CLK * D)	0.00402	-0.01766	-0.10557
	hold	SN (R)	(CLK * !D)	0.00250	-0.01766	-0.11206
	hold	SN (R)	(!CLK * D)	0.01635	0.05045	0.39915
	hold	SN (R)	(!CLK * !D)	0.01387	0.05045	0.40627
	setup	SN (R)	(CLK * D)	0.00738	0.02644	0.50200
	setup	SN (R)	(CLK * !D)	0.00830	0.02728	0.58592
	setup	SN (R)	(!CLK * D)	0.03383	0.06657	1.42231
	setup	SN (R)	(!CLK * !D)	0.03443	0.06756	1.16519

Constraints(ns) for RN falling (conditional):

Cell Name	Timing Check	Ref Pin(trans)	When	Reference Slew Rate(ns)		
				first	mid	last
DFFSNRNQNX1	min_pulse_width	RN ()	(CLK * D * SN)	0.11314	0.65796	16.50020
	min_pulse_width	RN ()	(CLK * !D * SN)	0.10328	0.65796	16.50020
	min_pulse_width	RN ()	(!CLK * D * SN)	0.07863	0.65796	16.50020
	min_pulse_width	RN ()	(!CLK * !D * SN)	0.07863	0.65796	16.50020

Constraints(ns) for SN rising :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
DFFSNRNQNX1	recovery	CLK (R)	0.03209	0.01705	0.24485
	removal	CLK (R)	0.00014	0.01009	0.01152
	hold	RN (R)	0.05461	0.11099	0.44215
	setup	RN (R)	0.01088	-0.01009	0.64234

Constraints(ns) for SN rising (conditional):

Cell Name	Timing Check	Ref Pin(trans)	When	Reference Slew Rate(ns)		
				first	mid	last
DFFSNRNQNX1	recovery	CLK (R)	(!D * RN)	0.03209	0.01705	0.24485
	removal	CLK (R)	(!D * RN)	0.00014	0.01009	0.01152
	hold	RN (R)	CLK	0.03560	0.09081	0.39082
	hold	RN (R)	(!CLK * D)	0.05065	0.10847	0.43092
	hold	RN (R)	(!CLK * !D)	0.05461	0.11099	0.44215
	setup	RN (R)	CLK	0.01088	-0.01009	0.64234
	setup	RN (R)	(!CLK * D)	-0.02844	-0.05549	0.38360
	setup	RN (R)	(!CLK * !D)	-0.02840	-0.05802	-0.01272

Constraints(ns) for SN falling (conditional):

Cell Name	Timing Check	Ref Pin(trans)	When	Reference Slew Rate(ns)		
				first	mid	last
DFFSNRNQNX1	min_pulse_width	SN ()	(CLK * D * RN)	0.09342	0.65796	16.50020
	min_pulse_width	SN ()	(CLK * !D * RN)	0.09342	0.65796	16.50020
	min_pulse_width	SN ()	(!CLK * D * RN)	0.08602	0.65796	16.50020
	min_pulse_width	SN ()	(!CLK * !D * RN)	0.08602	0.65796	16.50020

Constraints(ns) for CLK rising (conditional):

Cell Name	Timing Check	Ref Pin(trans)	When	Reference Slew Rate(ns)		
				first	mid	last
DFFSNRNQNX1	min_pulse_width	CLK ()	(D * RN * SN)	0.16491	0.65796	16.50020
	min_pulse_width	CLK ()	(!D * RN * SN)	0.15998	0.65796	16.50020

Constraints(ns) for CLK falling (conditional):

Cell Name	Timing Check	Ref Pin(trans)	When	Reference Slew Rate(ns)		
				first	mid	last
DFFSNRNQNX1	min_pulse_width	CLK ()	(D * RN * SN)	0.23394	0.65796	16.50020
	min_pulse_width	CLK ()	(!D * RN * SN)	0.12793	0.65796	16.50020

Power Information

Internal switching power(pJ) to QN rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
DFFSNRNQNX1	CLK	0.00000	0.00000	0.00000
	CLK	32.50420	32.50860	32.78970
	RN	33.05800	33.07080	33.34010

Internal switching power(pJ) to QN falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
DFFSNRNQNX1	CLK	0.00000	0.00000	0.00000
	CLK	32.67070	32.67400	32.86050
	RN	32.88870	32.89360	33.16150
	SN	-0.01396	-0.50218	-5.47238
	SN	32.59460	32.61010	32.93910

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFSNRNQNX1	(CLK * RN * SN * QN)	0.00000	0.00000	0.00000
	(CLK * RN * SN * QN)	31.10850	31.10980	31.10950
	(CLK * RN * SN * !QN) + (!CLK * RN * !SN * !QN)	0.00000	0.00000	0.00000
	(CLK * RN * SN * !QN) + (!CLK * RN * !SN * !QN)	32.63700	32.63940	32.83080
	(CLK * RN * !SN * !QN)	0.00000	0.00000	0.00000
	(CLK * RN * !SN * !QN)	32.63580	32.63850	32.83130
	(CLK * !RN * QN)	0.00000	0.00000	0.00000
	(CLK * !RN * QN)	31.10060	31.10120	31.10130
	(!CLK * RN * SN)	0.00000	0.00000	0.00000
	(!CLK * RN * SN)	17.57150	17.57540	17.76780
	(!CLK * !RN * QN)	0.00000	0.00000	0.00000
	(!CLK * !RN * QN)	17.19830	17.20020	17.19990

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFSNRNQNX1	(CLK * RN * SN * QN)	0.00000	0.00000	0.00000
	(CLK * RN * SN * QN)	31.73510	31.73460	31.73440
	(CLK * RN * SN * !QN) + (!CLK * RN * !SN * !QN)	0.00000	0.00000	0.00000
	(CLK * RN * SN * !QN) + (!CLK * RN * !SN * !QN)	15.79830	15.80590	16.01100
	(CLK * RN * !SN * !QN)	0.00000	0.00000	0.00000
	(CLK * RN * !SN * !QN)	15.80220	15.80880	16.02080
	(CLK * !RN * QN)	0.00000	0.00000	0.00000
	(CLK * !RN * QN)	31.72620	31.72650	31.72670
	(!CLK * RN * SN)	0.00000	0.00000	0.00000
	(!CLK * RN * SN)	17.58790	17.59770	17.81080
	(!CLK * !RN * QN)	0.00000	0.00000	0.00000
	(!CLK * !RN * QN)	17.79820	17.79840	17.79810

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFSNRNQNX1	(CLK * D * SN * QN)	0.00000	0.00000	0.00000
	(CLK * D * SN * QN)	30.36060	30.35950	30.35940
	(CLK * !D * SN * QN)	0.00000	0.00000	0.00000
	(CLK * !D * SN * QN)	30.35820	30.35670	30.35730
	(!CLK * D * SN * QN)	0.00000	0.00000	0.00000
	(!CLK * D * SN * QN)	16.91530	16.91930	17.10540
	(!CLK * !D * SN * QN)	0.00000	0.00000	0.00000
	(!CLK * !D * SN * QN)	16.50680	16.50560	16.50540

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFSNRNQNX1	(CLK * D * SN * QN)	0.00000	0.00000	0.00000
	(CLK * D * SN * QN)	32.24000	32.24110	32.24160
	(CLK * !D * SN * QN)	0.00000	0.00000	0.00000
	(CLK * !D * SN * QN)	32.23840	32.24260	32.24300
	(!CLK * D * SN * QN)	0.00000	0.00000	0.00000
	(!CLK * D * SN * QN)	18.12280	18.13170	18.32160
	(!CLK * !D * SN * QN)	0.00000	0.00000	0.00000
	(!CLK * !D * SN * QN)	18.30220	18.30150	18.30130

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFSNRNQNX1	(CLK * D * RN * !QN)	0.00000	0.00000	0.00000
	(CLK * D * RN * !QN)	30.73140	30.73930	30.74120
	(CLK * !RN * QN)	0.00000	0.00000	0.00000
	(CLK * !RN * QN)	32.67370	32.68150	33.06670
	(CLK * !D * RN * !QN)	0.00000	0.00000	0.00000
	(CLK * !D * RN * !QN)	16.85800	16.86360	16.86500
	(!CLK * D * RN * !QN)	0.00000	0.00000	0.00000
	(!CLK * D * RN * !QN)	16.86830	16.86840	16.87160
	(!CLK * !RN * QN)	0.00000	0.00000	0.00000
	(!CLK * !RN * QN)	14.13200	14.13490	14.45800
	(!CLK * !D * RN * !QN)	0.00000	0.00000	0.00000
	(!CLK * !D * RN * !QN)	17.58820	17.59260	17.78140

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFSNRNQNX1	(CLK * D * RN * !QN)	0.00000	0.00000	0.00000
	(CLK * D * RN * !QN)	31.99110	31.99890	31.99970
	(CLK * !RN * QN)	0.00000	0.00000	0.00000
	(CLK * !RN * QN)	4.96654	4.98490	5.41032
	(CLK * !D * RN * !QN)	0.00000	0.00000	0.00000
	(CLK * !D * RN * !QN)	18.05860	18.06310	18.06340
	(!CLK * D * RN * !QN)	0.00000	0.00000	0.00000
	(!CLK * D * RN * !QN)	18.06320	18.06460	18.06430
	(!CLK * !RN * QN)	0.00000	0.00000	0.00000
	(!CLK * !RN * QN)	0.08647	0.10872	0.55221
	(!CLK * !D * RN * !QN)	0.00000	0.00000	0.00000
	(!CLK * !D * RN * !QN)	6.06900	6.07743	6.28080

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFSNRNQNX1	(D * RN * SN * !QN)	0.00000	0.00000	0.00000
	(D * RN * SN * !QN)	32.63370	32.63440	32.82480
	(D * RN * !SN * !QN)	0.00000	0.00000	0.00000
	(D * RN * !SN * !QN)	32.63190	32.63360	32.82130
	(!RN * SN * QN)	0.00000	0.00000	0.00000
	(!RN * SN * QN)	32.44720	32.44930	32.63620
	(!RN * !SN * QN)	0.00000	0.00000	0.00000
	(!RN * !SN * QN)	3.96963	3.97088	4.11448
	(!D * RN * SN * QN)	0.00000	0.00000	0.00000
	(!D * RN * SN * QN)	32.45510	32.45760	32.64660
	(!D * RN * !SN * !QN)	0.00000	0.00000	0.00000
	(!D * RN * !SN * !QN)	18.13410	18.14510	18.39260

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFSNRNQNX1	(D * RN * SN * QN)	0.00000	0.00000	0.00000
	(D * RN * SN * QN)	16.61620	16.62050	16.82830
	(D * RN * SN * !QN)	0.00000	0.00000	0.00000
	(D * RN * SN * !QN)	15.80890	15.82220	16.05840
	(D * RN * !SN * !QN)	0.00000	0.00000	0.00000
	(D * RN * !SN * !QN)	15.80720	15.81870	16.03730
	(!RN * SN * QN)	0.00000	0.00000	0.00000
	(!RN * SN * QN)	16.18540	16.18880	16.38750
	(!RN * !SN * QN)	0.00000	0.00000	0.00000
	(!RN * !SN * QN)	0.08217	0.09018	0.28486
	(!D * RN * SN * QN)	0.00000	0.00000	0.00000
	(!D * RN * SN * QN)	16.19520	16.19980	16.41040
	(!D * RN * SN * !QN)	0.00000	0.00000	0.00000
	(!D * RN * SN * !QN)	17.59610	17.60510	17.84940
	(!D * RN * !SN * !QN)	0.00000	0.00000	0.00000
	(!D * RN * !SN * !QN)	5.63528	5.64451	5.92990

DFFSNRNQX1

sky130_rhbd_tt_1P8_25C.ccs Cell Library:
Process , Voltage 1.80, Temp 25.00

Truth Table

INPUT				OUTPUT
D	RN	SN	CLK	Q
0	1	1	R	0
1	1	1	R	1
x	x	0	x	1
x	0	1	x	0
x	1	1	x	IQ

Footprint

Cell Name	Area
DFFSNRNQX1	213.56400

Pin Capacitance Information

Cell Name	Pin Cap(pf)				Max Cap(pf)
	D	RN	SN	CLK	Q
DFFSNRNQX1	0.01000	0.03371	0.02236	0.02197	3.33742

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
DFFSNRNQX1	0.00000	32.92020	54.41020

Delay Information

Delay(ns) to Q rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
DFFSNRNQX1	CLK->Q (RR)	0.18014	0.69924	4.93653
	SN->Q (FR)	0.05110	0.72883	8.26343

Delay(ns) to Q falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
DFFSNRNQX1	CLK->Q (RF)	0.26011	0.98801	7.29580
	RN->Q (FF)	0.13802	0.92123	7.94890
	SN->Q (RF)	0.07557	0.89568	9.71234

Constraint Information

Constraints(ns) for D rising :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
DFFSNRNQX1	hold	CLK (R)	-0.01202	-0.01421	2.01203
	setup	CLK (R)	0.17774	0.22675	0.69696

Constraints(ns) for D falling :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
DFFSNRNQX1	hold	CLK (R)	-0.06436	-0.14378	-1.05218
	setup	CLK (R)	0.11142	0.19520	2.19154

Constraints(ns) for D rising (conditional):

Cell Name	Timing Check	Ref Pin(trans)	When	Reference Slew Rate(ns)		
				first	mid	last
DFFSNRNQX1	hold	CLK (R)	(RN * SN)	-0.01202	-0.01421	2.01203
	setup	CLK (R)	(RN * SN)	0.17774	0.22675	0.69696

Constraints(ns) for D falling (conditional):

Cell Name	Timing Check	Ref Pin(trans)	When	Reference Slew Rate(ns)		
				first	mid	last
DFFSNRNQX1	hold	CLK (R)	(RN * SN)	-0.06436	-0.14378	-1.05218
	setup	CLK (R)	(RN * SN)	0.11142	0.19520	2.19154

Constraints(ns) for RN rising :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
DFFSNRNQX1	recovery	CLK (R)	0.16689	0.25148	7.53330
	removal	CLK (R)	-0.01674	-0.02270	-0.06552
	hold	SN (R)	0.03894	0.06558	0.26888
	setup	SN (R)	0.01622	0.02270	1.45999

Constraints(ns) for RN rising (conditional):

Cell Name	Timing Check	Ref Pin(trans)	When	Reference Slew Rate(ns)		
				first	mid	last
DFFSNRNQX1	recovery	CLK (R)	(D * SN)	0.16689	0.25148	7.53330
	removal	CLK (R)	(D * SN)	-0.01674	-0.02270	-0.06552
	hold	SN (R)	(CLK * D)	0.03793	0.06558	0.24487
	hold	SN (R)	(CLK * !D)	0.03894	0.06306	0.24174
	hold	SN (R)	(!CLK * D)	0.02361	0.06306	0.25541
	hold	SN (R)	(!CLK * !D)	0.02361	0.06306	0.26888
	setup	SN (R)	(CLK * D)	0.00012	0.02270	1.14625
	setup	SN (R)	(CLK * !D)	0.00164	0.02270	1.45999
	setup	SN (R)	(!CLK * D)	0.01622	0.01067	0.97776
	setup	SN (R)	(!CLK * !D)	0.01495	0.01056	0.83258

Constraints(ns) for RN falling (conditional):

Cell Name	Timing Check	Ref Pin(trans)	When	Reference Slew Rate(ns)		
				first	mid	last
DFFSNRNQX1	min_pulse_width	RN ()	(CLK * D * SN)	0.11314	0.65796	16.50020
	min_pulse_width	RN ()	(CLK * !D * SN)	0.11067	0.65796	16.50020
	min_pulse_width	RN ()	(!CLK * D * SN)	0.07616	0.65796	16.50020
	min_pulse_width	RN ()	(!CLK * !D * SN)	0.07616	0.65796	16.50020

Constraints(ns) for SN rising :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
DFFSNRNQX1	recovery	CLK (R)	0.02364	0.01275	4.22915
	removal	CLK (R)	0.00014	0.01009	0.01218
	hold	RN (R)	0.04673	0.10847	0.65207
	setup	RN (R)	0.02422	0.01681	0.61554

Constraints(ns) for SN rising (conditional):

Cell Name	Timing Check	Ref Pin(trans)	When	Reference Slew Rate(ns)		
				first	mid	last
DFFSNRNQX1	recovery	CLK (R)	(!D * RN)	0.02364	0.01275	4.22915
	removal	CLK (R)	(!D * RN)	0.00014	0.01009	0.01218
	hold	RN (R)	CLK	0.04029	0.10847	0.65207
	hold	RN (R)	(!CLK * D)	0.04673	0.10342	0.58769
	hold	RN (R)	(!CLK * !D)	0.04425	0.10342	0.60794
	setup	RN (R)	CLK	0.02422	0.01681	0.47636
	setup	RN (R)	(!CLK * D)	-0.00057	0.00504	0.61554
	setup	RN (R)	(!CLK * !D)	-0.00205	0.00252	0.17016

Constraints(ns) for SN falling (conditional):

Cell Name	Timing Check	Ref Pin(trans)	When	Reference Slew Rate(ns)		
				first	mid	last
DFFSNRNQX1	min_pulse_width	SN ()	(CLK * D * RN)	0.08849	0.65796	16.50020
	min_pulse_width	SN ()	(CLK * !D * RN)	0.08849	0.65796	16.50020
	min_pulse_width	SN ()	(!CLK * D * RN)	0.08602	0.65796	16.50020
	min_pulse_width	SN ()	(!CLK * !D * RN)	0.08602	0.65796	16.50020

Constraints(ns) for CLK rising (conditional):

Cell Name	Timing Check	Ref Pin(trans)	When	Reference Slew Rate(ns)		
				first	mid	last
DFFSNRNQX1	min_pulse_width	CLK ()	(D * RN * SN)	0.17231	0.65796	16.50020
	min_pulse_width	CLK ()	(!D * RN * SN)	0.15258	0.65796	16.50020

Constraints(ns) for CLK falling (conditional):

Cell Name	Timing Check	Ref Pin(trans)	When	Reference Slew Rate(ns)		
				first	mid	last
DFFSNRNQX1	min_pulse_width	CLK ()	(D * RN * SN)	0.24380	0.65796	16.50020
	min_pulse_width	CLK ()	(!D * RN * SN)	0.12054	0.65796	16.50020

Power Information

Internal switching power(pJ) to Q rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
DFFSNRNQX1	CLK	0.00000	0.00000	0.00000
	CLK	32.67030	32.67650	32.93830
	SN	32.59360	32.60430	32.85040

Internal switching power(pJ) to Q falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
DFFSNRNQX1	CLK	0.00000	0.00000	0.00000
	CLK	32.50490	32.51040	32.70800
	RN	-0.01396	-0.49855	-5.40658
	RN	33.05950	33.07970	33.41320
	SN	32.67520	32.67900	32.87420

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFSNRNQX1	(CLK * RN * SN * Q) + (!CLK * RN * !SN * Q)	0.00000	0.00000	0.00000
	(CLK * RN * SN * Q) + (!CLK * RN * !SN * Q)	32.63700	32.63940	32.83080
	(CLK * RN * SN * !Q)	0.00000	0.00000	0.00000
	(CLK * RN * SN * !Q)	31.10860	31.10990	31.10960
	(CLK * RN * !SN * Q)	0.00000	0.00000	0.00000
	(CLK * RN * !SN * Q)	32.63580	32.63850	32.83120
	(CLK * !RN * SN * !Q) + (CLK * !RN * !SN * Q)	0.00000	0.00000	0.00000
	(CLK * !RN * SN * !Q) + (CLK * !RN * !SN * Q)	31.10060	31.10130	31.10140
	(!CLK * RN * SN)	0.00000	0.00000	0.00000
	(!CLK * RN * SN)	17.56760	17.57040	17.76100
	(!CLK * !RN * SN * !Q) + (!CLK * !RN * !SN * Q)	0.00000	0.00000	0.00000
	(!CLK * !RN * SN * !Q) + (!CLK * !RN * !SN * Q)	17.19880	17.20020	17.19990

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFSNRNQX1	(CLK * RN * SN * Q) + (!CLK * RN * !SN * Q)	0.00000	0.00000	0.00000
	(CLK * RN * SN * Q) + (!CLK * RN * !SN * Q)	15.79820	15.80580	16.01100
	(CLK * RN * SN * !Q)	0.00000	0.00000	0.00000
	(CLK * RN * SN * !Q)	31.73510	31.73460	31.73450
	(CLK * RN * !SN * Q)	0.00000	0.00000	0.00000
	(CLK * RN * !SN * Q)	15.80220	15.80870	16.02080
	(CLK * !RN * SN * !Q) + (CLK * !RN * !SN * Q)	0.00000	0.00000	0.00000
	(CLK * !RN * SN * !Q) + (CLK * !RN * !SN * Q)	31.72630	31.72650	31.72680
	(!CLK * RN * SN)	0.00000	0.00000	0.00000
	(!CLK * RN * SN)	17.58320	17.59220	17.80170
	(!CLK * !RN * SN * !Q) + (!CLK * !RN * !SN * Q)	0.00000	0.00000	0.00000
	(!CLK * !RN * SN * !Q) + (!CLK * !RN * !SN * Q)	17.79820	17.79840	17.79810

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFSNRNQX1	(CLK * D * SN * !Q)	0.00000	0.00000	0.00000
	(CLK * D * SN * !Q)	30.36190	30.36070	30.36070
	(CLK * D * !SN * Q)	0.00000	0.00000	0.00000
	(CLK * D * !SN * Q)	32.88660	32.88830	33.26110
	(CLK * !D * SN * !Q)	0.00000	0.00000	0.00000
	(CLK * !D * SN * !Q)	30.35760	30.35640	30.35710
	(CLK * !D * !SN * Q)	0.00000	0.00000	0.00000
	(CLK * !D * !SN * Q)	17.62430	17.62500	17.90200
	(!CLK * D * SN * !Q)	0.00000	0.00000	0.00000
	(!CLK * D * SN * !Q)	16.91540	16.91930	17.10540
	(!CLK * D * !SN * Q)	0.00000	0.00000	0.00000
	(!CLK * D * !SN * Q)	14.12720	14.13160	14.46360
	(!CLK * !D * SN * !Q)	0.00000	0.00000	0.00000
	(!CLK * !D * SN * !Q)	16.50690	16.50560	16.50550
	(!CLK * !D * !SN * Q)	0.00000	0.00000	0.00000
	(!CLK * !D * !SN * Q)	3.61069	3.61330	3.77754

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFSNRNQX1	(CLK * D * SN * !Q)	0.00000	0.00000	0.00000
	(CLK * D * SN * !Q)	32.24000	32.24080	32.24140
	(CLK * D * !SN * Q)	0.00000	0.00000	0.00000
	(CLK * D * !SN * Q)	4.83754	4.86206	5.44797
	(CLK * !D * SN * !Q)	0.00000	0.00000	0.00000
	(CLK * !D * SN * !Q)	32.23490	32.24270	32.24300
	(CLK * !D * !SN * Q)	0.00000	0.00000	0.00000
	(CLK * !D * !SN * Q)	6.13287	6.14723	6.53414
	(!CLK * D * SN * !Q)	0.00000	0.00000	0.00000
	(!CLK * D * SN * !Q)	18.12310	18.13180	18.32160
	(!CLK * D * !SN * Q)	0.00000	0.00000	0.00000
	(!CLK * D * !SN * Q)	0.10777	0.12792	0.55285
	(!CLK * !D * SN * !Q)	0.00000	0.00000	0.00000
	(!CLK * !D * SN * !Q)	18.30260	18.30160	18.30130
	(!CLK * !D * !SN * Q)	0.00000	0.00000	0.00000
	(!CLK * !D * !SN * Q)	0.08214	0.09166	0.27863

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFSNRNQX1	(CLK * D * RN * Q)	0.00000	0.00000	0.00000
	(CLK * D * RN * Q)	30.73330	30.73810	30.73980
	(CLK * !D * RN * Q)	0.00000	0.00000	0.00000
	(CLK * !D * RN * Q)	16.85940	16.86540	16.86520
	(!CLK * D * RN * Q)	0.00000	0.00000	0.00000
	(!CLK * D * RN * Q)	16.86880	16.86820	16.87150
	(!CLK * !D * RN * Q)	0.00000	0.00000	0.00000
	(!CLK * !D * RN * Q)	17.58730	17.59200	17.78090

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFSNRNQX1	(CLK * D * RN * Q)	0.00000	0.00000	0.00000
	(CLK * D * RN * Q)	31.98920	31.99860	31.99950
	(CLK * !D * RN * Q)	0.00000	0.00000	0.00000
	(CLK * !D * RN * Q)	18.05770	18.06320	18.06360
	(!CLK * D * RN * Q)	0.00000	0.00000	0.00000
	(!CLK * D * RN * Q)	18.06270	18.06450	18.06420
	(!CLK * !D * RN * Q)	0.00000	0.00000	0.00000
	(!CLK * !D * RN * Q)	6.06878	6.07774	6.28099

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFSNRNQX1	(D * RN * SN * Q)	0.00000	0.00000	0.00000
	(D * RN * SN * Q)	32.63360	32.63430	32.82470
	(D * RN * !SN * Q)	0.00000	0.00000	0.00000
	(D * RN * !SN * Q)	32.63240	32.63470	32.82240
	(!RN * SN * !Q)	0.00000	0.00000	0.00000
	(!RN * SN * !Q)	32.44620	32.44830	32.63520
	(!RN * !SN * Q)	0.00000	0.00000	0.00000
	(!RN * !SN * Q)	3.96979	3.97087	4.11449
	(!D * RN * SN * !Q)	0.00000	0.00000	0.00000
	(!D * RN * SN * !Q)	32.45530	32.45780	32.64690
	(!D * RN * !SN * Q)	0.00000	0.00000	0.00000
	(!D * RN * !SN * Q)	18.13380	18.14500	18.39260

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFSNRNQX1	(D * RN * SN * Q)	0.00000	0.00000	0.00000
	(D * RN * SN * Q)	15.80960	15.82290	16.05900
	(D * RN * SN * !Q)	0.00000	0.00000	0.00000
	(D * RN * SN * !Q)	16.61720	16.62210	16.82950
	(D * RN * !SN * Q)	0.00000	0.00000	0.00000
	(D * RN * !SN * Q)	15.80800	15.81890	16.03750
	(!RN * SN * !Q)	0.00000	0.00000	0.00000
	(!RN * SN * !Q)	16.18460	16.18820	16.38690
	(!RN * !SN * Q)	0.00000	0.00000	0.00000
	(!RN * !SN * Q)	0.08218	0.09018	0.28487
	(!D * RN * SN * Q)	0.00000	0.00000	0.00000
	(!D * RN * SN * Q)	17.59630	17.60560	17.84930
	(!D * RN * SN * !Q)	0.00000	0.00000	0.00000
	(!D * RN * SN * !Q)	16.19440	16.19860	16.40910
	(!D * RN * !SN * Q)	0.00000	0.00000	0.00000
	(!D * RN * !SN * Q)	5.63539	5.64382	5.92963

DFFSNRNX1

sky130_rhbd_tt_1P8_25C.ccs Cell Library:
Process , Voltage 1.80, Temp 25.00

Truth Table

INPUT				OUTPUT	
D	RN	SN	CLK	Q	QN
0	1	1	R	0	1
1	1	1	R	1	0
x	0	0	x	1	1
x	0	1	x	0	1
x	1	0	x	1	0
x	1	1	x	IQ	IQN

Footprint

Cell Name	Area
DFFSNRNX1	213.56400

Pin Capacitance Information

Cell Name	Pin Cap(pf)				Max Cap(pf)	
	D	RN	SN	CLK	Q	QN
DFFSNRNX1	0.01000	0.03392	0.02236	0.02197	3.33733	3.37778

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
DFFSNRNX1	0.00000	32.92020	54.41020

Delay Information

Delay(ns) to Q rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
DFFSNRNX1	CLK->Q (RR)	0.18037	0.69898	4.93963
	QN->Q (FR)	0.06034	0.72372	8.12749
	SN->Q (FR)	0.05119	0.72815	8.27385

Delay(ns) to Q falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
DFFSNRNX1	CLK->Q (RF)	0.27640	1.52156	13.26900
	QN->Q (RF)	0.08913	0.82966	8.63854
	RN->Q (FF)	0.15126	1.58833	16.74470
	SN->Q (RF)	0.07559	0.89563	9.71213

Delay(ns) to QN rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
DFFSNRNX1	CLK->QN (RR)	0.17498	0.68347	5.01046
	Q->QN (FR)	0.04775	0.70410	8.07225
	RN->QN (FR)	0.05108	0.73005	8.32262

Delay(ns) to QN falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
DFFSNRNX1	CLK->QN (RF)	0.27192	1.65624	14.73370
	Q->QN (RF)	0.06873	0.88220	9.70017
	RN->QN (RF)	0.27874	1.09381	10.20960
	SN->QN (FF)	0.13866	1.65358	17.71220

Constraint Information

Constraints(ns) for D rising :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
DFFSNRNX1	hold	CLK (R)	-0.01209	-0.01415	1.97292
	setup	CLK (R)	0.17552	0.22751	0.69671

Constraints(ns) for D falling :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
DFFSNRNX1	hold	CLK (R)	-0.06436	-0.14378	-1.05218
	setup	CLK (R)	0.10674	0.19299	2.11301

Constraints(ns) for D rising (conditional):

Cell Name	Timing Check	Ref Pin(trans)	When	Reference Slew Rate(ns)		
				first	mid	last
DFFSNRNX1	hold	CLK (R)	(RN * SN)	-0.01209	-0.01415	1.97292
	setup	CLK (R)	(RN * SN)	0.17552	0.22751	0.69671

Constraints(ns) for D falling (conditional):

Cell Name	Timing Check	Ref Pin(trans)	When	Reference Slew Rate(ns)		
				first	mid	last
DFFSNRNX1	hold	CLK (R)	(RN * SN)	-0.06436	-0.14378	-1.05218
	setup	CLK (R)	(RN * SN)	0.10674	0.19299	2.11301

Constraints(ns) for RN rising :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
DFFSNRNX1	recovery	CLK (R)	0.16771	0.25130	7.53256
	removal	CLK (R)	-0.01674	-0.02270	-0.06552
	hold	SN (R)	0.03083	0.07820	0.50490
	setup	SN (R)	0.02926	0.04436	1.40080

Constraints(ns) for RN rising (conditional):

Cell Name	Timing Check	Ref Pin(trans)	When	Reference Slew Rate(ns)		
				first	mid	last
DFFSNRNX1	recovery	CLK (R)	(D * SN)	0.16771	0.25130	7.53256
	removal	CLK (R)	(D * SN)	-0.01674	-0.02270	-0.06552
	hold	SN (R)	(CLK * D)	0.00406	-0.02018	-0.11354
	hold	SN (R)	(CLK * !D)	0.00406	-0.02018	-0.11554
	hold	SN (R)	(!CLK * D)	0.03083	0.07820	0.49563
	hold	SN (R)	(!CLK * !D)	0.03083	0.07820	0.50490
	setup	SN (R)	(CLK * D)	0.00753	0.02775	0.48483
	setup	SN (R)	(CLK * !D)	0.00577	0.02775	0.57659
	setup	SN (R)	(!CLK * D)	0.02926	0.04436	1.40080
	setup	SN (R)	(!CLK * !D)	0.02652	0.04436	1.12882

Constraints(ns) for RN falling (conditional):

Cell Name	Timing Check	Ref Pin(trans)	When	Reference Slew Rate(ns)		
				first	mid	last
DFFSNRNX1	min_pulse_width	RN ()	(CLK * D * SN)	0.11560	0.65796	16.50020
	min_pulse_width	RN ()	(CLK * !D * SN)	0.11314	0.65796	16.50020
	min_pulse_width	RN ()	(!CLK * D * SN)	0.08602	0.65796	16.50020
	min_pulse_width	RN ()	(!CLK * !D * SN)	0.08602	0.65796	16.50020

Constraints(ns) for SN rising :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
DFFSNRNX1	recovery	CLK (R)	0.02516	0.01030	3.86345
	removal	CLK (R)	0.00014	0.01009	0.01218
	hold	RN (R)	0.06028	0.13117	0.70710
	setup	RN (R)	0.02344	0.01729	0.59150

Constraints(ns) for SN rising (conditional):

Cell Name	Timing Check	Ref Pin(trans)	When	Reference Slew Rate(ns)		
				first	mid	last
DFFSNRNX1	recovery	CLK (R)	(!D * RN)	0.02516	0.01030	3.86345
	removal	CLK (R)	(!D * RN)	0.00014	0.01009	0.01218
	hold	RN (R)	CLK	0.04029	0.10847	0.65207
	hold	RN (R)	(!CLK * D)	0.06028	0.12865	0.68332
	hold	RN (R)	(!CLK * !D)	0.05927	0.13117	0.70710
	setup	RN (R)	CLK	0.02344	0.01729	0.47589
	setup	RN (R)	(!CLK * D)	-0.01451	-0.02522	0.59150
	setup	RN (R)	(!CLK * !D)	-0.01447	-0.02775	0.11130

Constraints(ns) for SN falling (conditional):

Cell Name	Timing Check	Ref Pin(trans)	When	Reference Slew Rate(ns)		
				first	mid	last
DFFSNRNX1	min_pulse_width	SN ()	(CLK * D * RN)	0.08849	0.65796	16.50020
	min_pulse_width	SN ()	(CLK * !D * RN)	0.08849	0.65796	16.50020
	min_pulse_width	SN ()	(!CLK * D * RN)	0.09835	0.65796	16.50020
	min_pulse_width	SN ()	(!CLK * !D * RN)	0.09588	0.65796	16.50020

Constraints(ns) for CLK rising (conditional):

Cell Name	Timing Check	Ref Pin(trans)	When	Reference Slew Rate(ns)		
				first	mid	last
DFFSNRNX1	min_pulse_width	CLK ()	(D * RN * SN)	0.18217	0.65796	16.50020
	min_pulse_width	CLK ()	(!D * RN * SN)	0.16491	0.65796	16.50020

Constraints(ns) for CLK falling (conditional):

Cell Name	Timing Check	Ref Pin(trans)	When	Reference Slew Rate(ns)		
				first	mid	last
DFFSNRNX1	min_pulse_width	CLK ()	(D * RN * SN)	0.24380	0.65796	16.50020
	min_pulse_width	CLK ()	(!D * RN * SN)	0.12054	0.65796	16.50020

Power Information

Internal switching power(pJ) to Q rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
DFFSNRNX1	CLK	0.00000	0.00000	0.00000
	CLK	16.33530	16.33670	16.42970
	SN	-0.00698	-0.24927	-2.70322
	SN	16.29730	16.30230	16.39930

Internal switching power(pJ) to Q falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
DFFSNRNX1	CLK	0.00000	0.00000	0.00000
	CLK	16.25240	16.25470	16.35370
	RN	-0.00698	-0.24927	-2.70322
	RN	16.53010	16.53590	16.63660
	SN	32.67520	32.67900	32.87420

Internal switching power(pJ) to QN rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
DFFSNRNX1	CLK	0.00000	0.00000	0.00000
	CLK	16.25240	16.25450	16.35380
	RN	-0.00698	-0.25108	-2.73598
	RN	16.53020	16.53600	16.63580

Internal switching power(pJ) to QN falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
DFFSNRNX1	CLK	0.00000	0.00000	0.00000
	CLK	16.33540	16.33700	16.43030
	RN	32.88880	32.89330	33.16230
	SN	-0.00698	-0.25108	-2.73598
	SN	16.29750	16.30210	16.39600

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFSNRNX1	(CLK * RN * SN * Q * !QN) + (!CLK * RN * !SN * Q * !QN)	0.00000	0.00000	0.00000
	(CLK * RN * SN * Q * !QN) + (!CLK * RN * !SN * Q * !QN)	32.63700	32.63940	32.83080
	(CLK * RN * SN * !Q * QN)	0.00000	0.00000	0.00000
	(CLK * RN * SN * !Q * QN)	31.10850	31.10980	31.10960
	(CLK * RN * !SN * Q * !QN)	0.00000	0.00000	0.00000
	(CLK * RN * !SN * Q * !QN)	32.63580	32.63850	32.83130
	(CLK * !RN * SN * !Q * QN) + (CLK * !RN * !SN * Q * QN)	0.00000	0.00000	0.00000
	(CLK * !RN * SN * !Q * QN) + (CLK * !RN * !SN * Q * QN)	31.10070	31.10130	31.10140
	(!CLK * RN * SN * Q * !QN) + (!CLK * RN * SN * !Q * QN)	0.00000	0.00000	0.00000
	(!CLK * RN * SN * Q * !QN) + (!CLK * RN * SN * !Q * QN)	17.57140	17.57480	17.76780
	(!CLK * !RN * SN * !Q * QN) + (!CLK * !RN * !SN * Q * QN)	0.00000	0.00000	0.00000
	(!CLK * !RN * SN * !Q * QN) + (!CLK * !RN * !SN * Q * QN)	17.19850	17.20020	17.19990

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFSNRNX1	(CLK * RN * SN * Q * !QN) + (!CLK * RN * !SN * Q * !QN)	0.00000	0.00000	0.00000
	(CLK * RN * SN * Q * !QN) + (!CLK * RN * !SN * Q * !QN)	15.79820	15.80590	16.01100
	(CLK * RN * SN * !Q * QN)	0.00000	0.00000	0.00000
	(CLK * RN * SN * !Q * QN)	31.73510	31.73460	31.73450
	(CLK * RN * !SN * Q * !QN)	0.00000	0.00000	0.00000
	(CLK * RN * !SN * Q * !QN)	15.80220	15.80880	16.02080
	(CLK * !RN * SN * !Q * QN) + (CLK * !RN * !SN * Q * QN)	0.00000	0.00000	0.00000
	(CLK * !RN * SN * !Q * QN) + (CLK * !RN * !SN * Q * QN)	31.72630	31.72650	31.72680
	(!CLK * RN * SN * Q * !QN) + (!CLK * RN * SN * !Q * QN)	0.00000	0.00000	0.00000
	(!CLK * RN * SN * Q * !QN) + (!CLK * RN * SN * !Q * QN)	17.58800	17.59770	17.81080
	(!CLK * !RN * SN * !Q * QN) + (!CLK * !RN * !SN * Q * QN)	0.00000	0.00000	0.00000
	(!CLK * !RN * SN * !Q * QN) + (!CLK * !RN * !SN * Q * QN)	17.79830	17.79840	17.79810

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFSNRNX1	(CLK * D * SN * !Q * QN)	0.00000	0.00000	0.00000
	(CLK * D * SN * !Q * QN)	30.35820	30.35960	30.35950
	(CLK * !D * SN * !Q * QN)	0.00000	0.00000	0.00000
	(CLK * !D * SN * !Q * QN)	30.35820	30.35680	30.35740
	(!CLK * D * SN * !Q * QN)	0.00000	0.00000	0.00000
	(!CLK * D * SN * !Q * QN)	16.91530	16.91940	17.10540
	(!CLK * !D * SN * !Q * QN)	0.00000	0.00000	0.00000
	(!CLK * !D * SN * !Q * QN)	16.50690	16.50560	16.50550

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFSNRNX1	(CLK * D * SN * !Q * QN)	0.00000	0.00000	0.00000
	(CLK * D * SN * !Q * QN)	32.24020	32.24120	32.24190
	(CLK * !D * SN * !Q * QN)	0.00000	0.00000	0.00000
	(CLK * !D * SN * !Q * QN)	32.23840	32.24220	32.24300
	(!CLK * D * SN * !Q * QN)	0.00000	0.00000	0.00000
	(!CLK * D * SN * !Q * QN)	18.12280	18.13180	18.32160
	(!CLK * !D * SN * !Q * QN)	0.00000	0.00000	0.00000
	(!CLK * !D * SN * !Q * QN)	18.30240	18.30160	18.30130

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFSNRNX1	(CLK * D * RN * Q * !QN)	0.00000	0.00000	0.00000
	(CLK * D * RN * Q * !QN)	30.73310	30.73820	30.73980
	(CLK * !D * RN * Q * !QN)	0.00000	0.00000	0.00000
	(CLK * !D * RN * Q * !QN)	16.85980	16.86540	16.86520
	(!CLK * D * RN * Q * !QN)	0.00000	0.00000	0.00000
	(!CLK * D * RN * Q * !QN)	16.86880	16.86820	16.87160
	(!CLK * !D * RN * Q * !QN)	0.00000	0.00000	0.00000
	(!CLK * !D * RN * Q * !QN)	17.58750	17.59200	17.78090

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFSNRNX1	(CLK * D * RN * Q * !QN)	0.00000	0.00000	0.00000
	(CLK * D * RN * Q * !QN)	31.98900	31.99820	31.99910
	(CLK * !D * RN * Q * !QN)	0.00000	0.00000	0.00000
	(CLK * !D * RN * Q * !QN)	18.05780	18.06320	18.06360
	(!CLK * D * RN * Q * !QN)	0.00000	0.00000	0.00000
	(!CLK * D * RN * Q * !QN)	18.06280	18.06450	18.06430
	(!CLK * !D * RN * Q * !QN)	0.00000	0.00000	0.00000
	(!CLK * !D * RN * Q * !QN)	6.06893	6.07798	6.28123

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFSNRNX1	(D * RN * SN * Q * !QN)	0.00000	0.00000	0.00000
	(D * RN * SN * Q * !QN)	32.63350	32.63440	32.82480
	(D * RN * !SN * Q * !QN)	0.00000	0.00000	0.00000
	(D * RN * !SN * Q * !QN)	32.63190	32.63360	32.82120
	(!RN * SN * !Q * QN)	0.00000	0.00000	0.00000
	(!RN * SN * !Q * QN)	32.44730	32.44930	32.63630
	(!RN * !SN * Q * QN)	0.00000	0.00000	0.00000
	(!RN * !SN * Q * QN)	3.96964	3.97086	4.11448
	(!D * RN * SN * !Q * QN)	0.00000	0.00000	0.00000
	(!D * RN * SN * !Q * QN)	32.45520	32.45770	32.64670
	(!D * RN * !SN * Q * !QN)	0.00000	0.00000	0.00000
	(!D * RN * !SN * Q * !QN)	18.13410	18.14510	18.39260

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFSNRNX1	(D * RN * SN * Q * !QN)	0.00000	0.00000	0.00000
	(D * RN * SN * Q * !QN)	15.80890	15.82300	16.05840
	(D * RN * SN * !Q * QN)	0.00000	0.00000	0.00000
	(D * RN * SN * !Q * QN)	16.61600	16.62020	16.82800
	(D * RN * !SN * Q * !QN)	0.00000	0.00000	0.00000
	(D * RN * !SN * Q * !QN)	15.80720	15.81860	16.03730
	(!RN * SN * !Q * QN)	0.00000	0.00000	0.00000
	(!RN * SN * !Q * QN)	16.18720	16.19060	16.38930
	(!RN * !SN * Q * QN)	0.00000	0.00000	0.00000
	(!RN * !SN * Q * QN)	0.08217	0.09018	0.28486
	(!D * RN * SN * Q * !QN)	0.00000	0.00000	0.00000
	(!D * RN * SN * Q * !QN)	17.59620	17.60330	17.84940
	(!D * RN * SN * !Q * QN)	0.00000	0.00000	0.00000
	(!D * RN * SN * !Q * QN)	16.19530	16.19990	16.41040
	(!D * RN * !SN * Q * !QN)	0.00000	0.00000	0.00000
	(!D * RN * !SN * Q * !QN)	5.63536	5.64452	5.92989

DFFSNX1

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Truth Table

INPUT			OUTPUT	
D	SN	CLK	Q	QN
0	1	R	0	1
1	1	R	1	0
x	0	x	1	0
x	1	x	IQ	IQN

Footprint

Cell Name	Area
DFFSNX1	180.70799

Pin Capacitance Information

Cell Name	Pin Cap(pf)			Max Cap(pf)	
	D	SN	CLK	Q	QN
DFFSNX1	0.01000	0.02136	0.02197	3.46670	4.79770

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
DFFSNX1	0.00000	30.10450	57.62650

Delay Information

Delay(ns) to Q rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
DFFSNX1	CLK->Q (RR)	0.13138	0.65040	4.91012
	QN->Q (FR)	0.05979	0.73230	8.28798
	SN->Q (FR)	0.05073	0.73456	8.43419

Delay(ns) to Q falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
DFFSNX1	CLK->Q (RF)	0.26188	1.53259	13.75880
	QN->Q (RF)	0.08837	0.84627	8.93172

Delay(ns) to QN rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
DFFSNX1	CLK->QN (RR)	0.16150	0.75026	6.65407
	Q->QN (FR)	0.04416	0.78544	9.70837

Delay(ns) to QN falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
DFFSNX1	CLK->QN (RF)	0.19873	1.64248	17.35470
	Q->QN (RF)	0.04762	0.80149	9.83797
	SN->QN (FF)	0.11749	1.71121	20.66710

Constraint Information

Constraints(ns) for D rising :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
DFFSNX1	hold	CLK (R)	0.00942	0.01618	0.71925
	setup	CLK (R)	0.14010	0.21214	1.99064

Constraints(ns) for D falling :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
DFFSNX1	hold	CLK (R)	-0.07018	-0.15135	-1.11235
	setup	CLK (R)	0.10514	0.18933	1.55043

Constraints(ns) for D rising (conditional):

Cell Name	Timing Check	Ref Pin(trans)	When	Reference Slew Rate(ns)		
				first	mid	last
DFFSNX1	hold	CLK (R)	SN	0.00942	0.01618	0.71925
	setup	CLK (R)	SN	0.14010	0.21214	1.99064

Constraints(ns) for D falling (conditional):

Cell Name	Timing Check	Ref Pin(trans)	When	Reference Slew Rate(ns)		
				first	mid	last
DFFSNX1	hold	CLK (R)	SN	-0.07018	-0.15135	-1.11235
	setup	CLK (R)	SN	0.10514	0.18933	1.55043

Constraints(ns) for SN rising :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
DFFSNX1	recovery	CLK (R)	0.03141	0.02966	4.16116
	removal	CLK (R)	-0.01538	-0.01261	-0.11458

Constraints(ns) for SN rising (conditional):

Cell Name	Timing Check	Ref Pin(trans)	When	Reference Slew Rate(ns)		
				first	mid	last
DFFSNX1	recovery	CLK (R)	!D	0.03141	0.02966	4.16116
	removal	CLK (R)	!D	-0.01538	-0.01261	-0.11458

Constraints(ns) for SN falling (conditional):

Cell Name	Timing Check	Ref Pin(trans)	When	Reference Slew Rate(ns)		
				first	mid	last
DFFSNX1	min_pulse_width	SN ()	(CLK * D)	0.07370	0.65796	16.50020
	min_pulse_width	SN ()	(CLK * !D)	0.07370	0.65796	16.50020
	min_pulse_width	SN ()	(!CLK * D)	0.08602	0.65796	16.50020
	min_pulse_width	SN ()	(!CLK * !D)	0.08356	0.65796	16.50020

Constraints(ns) for CLK rising (conditional):

Cell Name	Timing Check	Ref Pin(trans)	When	Reference Slew Rate(ns)		
				first	mid	last
DFFSNX1	min_pulse_width	CLK ()	(D * SN)	0.12300	0.65796	16.50020
	min_pulse_width	CLK ()	(!D * SN)	0.15751	0.65796	16.50020

Constraints(ns) for CLK falling (conditional):

Cell Name	Timing Check	Ref Pin(trans)	When	Reference Slew Rate(ns)		
				first	mid	last
DFFSNX1	min_pulse_width	CLK ()	(D * SN)	0.21421	0.65796	16.50020
	min_pulse_width	CLK ()	(!D * SN)	0.10821	0.65796	16.50020

Power Information

Internal switching power(pJ) to Q rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
DFFSNX1	CLK	0.00000	0.00000	0.00000
	CLK	9.81950	9.82220	9.93003
	SN	-0.00698	-0.25503	-2.80802
	SN	9.49740	9.50309	9.60204

Internal switching power(pJ) to Q falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
DFFSNX1	CLK	0.00000	0.00000	0.00000
	CLK	17.68070	17.68330	17.78370

Internal switching power(pJ) to QN rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
DFFSNX1	CLK	0.00000	0.00000	0.00000
	CLK	17.68070	17.68310	17.78460

Internal switching power(pJ) to QN falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
DFFSNX1	CLK	0.00000	0.00000	0.00000
	CLK	9.81931	9.82270	9.93256
	SN	-0.00698	-0.30993	-3.88612
	SN	9.49755	9.50327	9.59760

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFSNX1	(CLK * SN * Q * !QN) + (!CLK * !SN * Q * !QN)	0.00000	0.00000	0.00000
	(CLK * SN * Q * !QN) + (!CLK * !SN * Q * !QN)	19.80270	19.80630	20.00250
	(CLK * SN * !Q * QN)	0.00000	0.00000	0.00000
	(CLK * SN * !Q * QN)	33.71220	33.71280	33.71330
	(CLK * !SN * Q * !QN)	0.00000	0.00000	0.00000
	(CLK * !SN * Q * !QN)	19.79880	19.80250	20.00020
	(!CLK * SN * Q * !QN) + (!CLK * SN * !Q * QN)	0.00000	0.00000	0.00000
	(!CLK * SN * Q * !QN) + (!CLK * SN * !Q * QN)	10.28540	10.28940	10.48730

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFSNX1	(CLK * SN * Q * !QN) + (!CLK * !SN * Q * !QN)	0.00000	0.00000	0.00000
	(CLK * SN * Q * !QN) + (!CLK * !SN * Q * !QN)	9.55541	9.56367	9.76762
	(CLK * SN * !Q * QN)	0.00000	0.00000	0.00000
	(CLK * SN * !Q * QN)	34.35810	34.35910	34.35880
	(CLK * !SN * Q * !QN)	0.00000	0.00000	0.00000
	(CLK * !SN * Q * !QN)	9.55901	9.56755	9.77831
	(!CLK * SN * Q * !QN) + (!CLK * SN * !Q * QN)	0.00000	0.00000	0.00000
	(!CLK * SN * Q * !QN) + (!CLK * SN * !Q * QN)	14.91830	14.92950	15.13570

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFSNX1	(CLK * D * Q * !QN)	0.00000	0.00000	0.00000
	(CLK * D * Q * !QN)	18.32450	18.32840	18.33360
	(CLK * !D * Q * !QN)	0.00000	0.00000	0.00000
	(CLK * !D * Q * !QN)	9.86584	9.87139	9.87273
	(!CLK * D * Q * !QN)	0.00000	0.00000	0.00000
	(!CLK * D * Q * !QN)	9.87845	9.87875	9.88006
	(!CLK * !D * Q * !QN)	0.00000	0.00000	0.00000
	(!CLK * !D * Q * !QN)	14.40880	14.41360	14.60110

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFSNX1	(CLK * D * Q * !QN)	0.00000	0.00000	0.00000
	(CLK * D * Q * !QN)	19.55030	19.55540	19.55640
	(CLK * !D * Q * !QN)	0.00000	0.00000	0.00000
	(CLK * !D * Q * !QN)	11.02400	11.02650	11.02690
	(!CLK * D * Q * !QN)	0.00000	0.00000	0.00000
	(!CLK * D * Q * !QN)	11.02780	11.02740	11.02730
	(!CLK * !D * Q * !QN)	0.00000	0.00000	0.00000
	(!CLK * !D * Q * !QN)	3.67393	3.68369	3.88712

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFSNX1	(D * SN * Q * !QN)	0.00000	0.00000	0.00000
	(D * SN * Q * !QN)	19.79700	19.80120	20.01600
	(D * !SN * Q * !QN)	0.00000	0.00000	0.00000
	(D * !SN * Q * !QN)	19.79180	19.79600	20.00860
	(!D * SN * !Q * QN)	0.00000	0.00000	0.00000
	(!D * SN * !Q * QN)	35.13990	35.14320	35.33860
	(!D * !SN * Q * !QN)	0.00000	0.00000	0.00000
	(!D * !SN * Q * !QN)	10.63580	10.65190	10.90790

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFSNX1	(D * SN * Q * !QN)	0.00000	0.00000	0.00000
	(D * SN * Q * !QN)	9.56952	9.58350	9.84267
	(D * SN * !Q * QN)	0.00000	0.00000	0.00000
	(D * SN * !Q * QN)	13.00170	13.00560	13.24120
	(D * !SN * Q * !QN)	0.00000	0.00000	0.00000
	(D * !SN * Q * !QN)	9.55925	9.57481	9.81205
	(!D * SN * Q * !QN)	0.00000	0.00000	0.00000
	(!D * SN * Q * !QN)	14.92540	14.93460	15.17530
	(!D * SN * !Q * QN)	0.00000	0.00000	0.00000
	(!D * SN * !Q * QN)	17.39120	17.39390	17.60400
	(!D * !SN * Q * !QN)	0.00000	0.00000	0.00000
	(!D * !SN * Q * !QN)	3.48986	3.50021	3.79536

DFFX1

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Truth Table

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

Footprint

Cell Name	Area
DFFX1	158.80400

Pin Capacitance Information

Cell Name	Pin Cap(pf)		Max Cap(pf)	
	D	CLK	Q	QN
DFFX1	0.01036	0.02273	5.00838	5.02294

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
DFFX1	0.00000	28.46890	43.32350

Delay Information

Delay(ns) to Q rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
DFFX1	CLK->Q (RR)	0.13669	0.75898	6.80005
	QN->Q (FR)	0.05082	0.81321	10.09650

Delay(ns) to Q falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
DFFX1	CLK->Q (RF)	0.23488	1.61328	17.06010
	QN->Q (RF)	0.05767	0.79708	9.75441

Delay(ns) to QN rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
DFFX1	CLK->QN (RR)	0.16376	0.76677	6.91592
	Q->QN (FR)	0.04443	0.79871	9.99818

Delay(ns) to QN falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
DFFX1	CLK->QN (RF)	0.20416	1.69398	18.11860
	Q->QN (RF)	0.04856	0.82604	10.27190

Constraint Information

Constraints(ns) for D rising :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
DFFX1	hold	CLK (R)	0.04869	0.07672	0.66477
	setup	CLK (R)	0.11410	0.17900	0.77949

Constraints(ns) for D falling :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
DFFX1	hold	CLK (R)	-0.03517	-0.08681	-0.69053
	setup	CLK (R)	0.06149	0.12108	1.44801

Constraints(ns) for CLK rising (conditional):

Cell Name	Timing Check	Ref Pin(trans)	When	Reference Slew Rate(ns)		
				first	mid	last
DFFX1	min_pulse_width	CLK ()	D	0.12793	0.65796	16.50020
	min_pulse_width	CLK ()	!D	0.15505	0.65796	16.50020

Constraints(ns) for CLK falling (conditional):

Cell Name	Timing Check	Ref Pin(trans)	When	Reference Slew Rate(ns)		
				first	mid	last
DFFX1	min_pulse_width	CLK ()	D	0.19942	0.65796	16.50020
	min_pulse_width	CLK ()	!D	0.09588	0.65796	16.50020

Power Information

Internal switching power(pJ) to Q rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
DFFX1	CLK	0.00000	0.00000	0.00000
	CLK	10.56470	10.56690	10.67190

Internal switching power(pJ) to Q falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
DFFX1	CLK	0.00000	0.00000	0.00000
	CLK	13.12800	13.13070	13.23400

Internal switching power(pJ) to QN rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
DFFX1	CLK	0.00000	0.00000	0.00000
	CLK	13.12770	13.13060	13.23320

Internal switching power(pJ) to QN falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
DFFX1	CLK	0.00000	0.00000	0.00000
	CLK	10.56460	10.56710	10.67330

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFX1	(CLK * Q * !QN)	0.00000	0.00000	0.00000
	(CLK * Q * !QN)	21.09410	21.10060	21.31190
	(CLK * !Q * QN)	0.00000	0.00000	0.00000
	(CLK * !Q * QN)	24.93660	24.93680	24.93780
	(!CLK * Q * !QN) + (!CLK * !Q * QN)	0.00000	0.00000	0.00000
	(!CLK * Q * !QN) + (!CLK * !Q * QN)	11.29610	11.30180	11.51230

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFX1	(CLK * Q * !QN)	0.00000	0.00000	0.00000
	(CLK * Q * !QN)	10.10160	10.11080	10.34010
	(CLK * !Q * QN)	0.00000	0.00000	0.00000
	(CLK * !Q * QN)	25.56900	25.56870	25.56870
	(!CLK * Q * !QN) + (!CLK * !Q * QN)	0.00000	0.00000	0.00000
	(!CLK * Q * !QN) + (!CLK * !Q * QN)	11.30930	11.31800	11.53270

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFX1	(D * Q * !QN)	0.00000	0.00000	0.00000
	(D * Q * !QN)	21.09480	21.09700	21.30210
	(!D * !Q * QN)	0.00000	0.00000	0.00000
	(!D * !Q * QN)	26.21450	26.21760	26.41230

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

Cell Name	When	Power(pJ)		
		first	mid	last
DFFX1	(D * Q * !QN)	0.00000	0.00000	0.00000
	(D * Q * !QN)	10.11600	10.12100	10.34480
	(D * !Q * QN)	0.00000	0.00000	0.00000
	(D * !Q * QN)	10.32860	10.33130	10.53830
	(!D * Q * !QN)	0.00000	0.00000	0.00000
	(!D * Q * !QN)	11.32200	11.32970	11.54130
	(!D * !Q * QN)	0.00000	0.00000	0.00000
	(!D * !Q * QN)	9.90798	9.91175	10.11350

DLATCHN

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Truth Table

INPUT		OUTPUT
D	GATE_N	Q
0	0	0
x	1	1
1	x	1

Footprint

Cell Name	Area
DLATCHN	164.28000

Pin Capacitance Information

Cell Name	Pin Cap(pf)		Max Cap(pf)
	D	GATE_N	Q
DLATCHN	0.02247	0.01029	2.72261

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
DLATCHN	0.00000	22.21230	28.71050

Delay Information

Delay(ns) to Q rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
DLATCHN	D->Q (RR)	0.19475	0.93793	6.90789
	GATE_N->Q (-R)	0.24501	1.06549	7.91566

Delay(ns) to Q falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
DLATCHN	D->Q (FF)	0.16517	0.53047	3.31537
	GATE_N->Q (-F)	0.18051	0.57325	3.40652

Power Information

Internal switching power(pJ) to Q rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
DLATCHN	D	0.00000	0.00000	0.00000
	D	13.54260	13.56670	14.08890
	GATE_N	0.00000	0.00000	0.00000
	GATE_N	13.29250	13.30270	13.53620

Internal switching power(pJ) to Q falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
DLATCHN	D	0.00000	0.00000	0.00000
	D	9.19163	9.21825	9.72951
	GATE_N	0.00000	0.00000	0.00000
	GATE_N	7.78740	7.79658	8.08086

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

Cell Name	When	Power(pJ)		
		first	mid	last
DLATCHN	GATE_N	0.00000	0.00000	0.00000
	GATE_N	16.22020	16.23170	16.46980

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

Cell Name	When	Power(pJ)		
		first	mid	last
DLATCHN	GATE_N	0.00000	0.00000	0.00000
	GATE_N	11.66290	11.67680	11.90740

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

Cell Name	When	Power(pJ)		
		first	mid	last
DLATCHN	(D * Q)	0.00000	0.00000	0.00000
	(D * Q)	16.31730	16.32750	16.59250
	(!D * !Q)	0.00000	0.00000	0.00000
	(!D * !Q)	11.95740	11.96640	12.20150

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

Cell Name	When	Power(pJ)		
		first	mid	last
DLATCHN	(D * Q)	0.00000	0.00000	0.00000
	(D * Q)	11.76950	11.78420	12.03450
	(!D * !Q)	0.00000	0.00000	0.00000
	(!D * !Q)	8.99186	9.00518	9.24846

DLATCH

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Truth Table

INPUT		OUTPUT
D	GATE	Q
x	0	1
0	1	0
1	1	1

Footprint

Cell Name	Area
DLATCH	147.85201

Pin Capacitance Information

Cell Name	Pin Cap(pf)		Max Cap(pf)
	D	GATE	Q
DLATCH	0.02249	0.02047	2.76142

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
DLATCH	0.00000	18.14480	24.27300

Delay Information

Delay(ns) to Q rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
DLATCH	D->Q (RR)	0.19413	0.93938	6.96921
	GATE->Q (-R)	0.19312	0.92708	6.88469

Delay(ns) to Q falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
DLATCH	D->Q (FF)	0.16328	0.53046	3.33990
	GATE->Q (-F)	0.12257	0.44601	2.57505

Power Information

Internal switching power(pJ) to Q rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
DLATCH	D	0.00000	0.00000	0.00000
	D	14.12690	14.15140	14.68300
	GATE	0.00000	0.00000	0.00000
	GATE	13.88650	13.89430	14.14150

Internal switching power(pJ) to Q falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
DLATCH	D	0.00000	0.00000	0.00000
	D	9.55007	9.57615	10.09280
	GATE	0.00000	0.00000	0.00000
	GATE	8.11878	8.12460	8.40234

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

Cell Name	When	Power(pJ)		
		first	mid	last
DLATCH	!GATE	0.00000	0.00000	0.00000
	!GATE	12.15620	12.16740	12.40560

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

Cell Name	When	Power(pJ)		
		first	mid	last
DLATCH	!GATE	0.00000	0.00000	0.00000
	!GATE	8.01208	8.02634	8.25677

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

Cell Name	When	Power(pJ)		
		first	mid	last
DLATCH	(D * Q)	0.00000	0.00000	0.00000
	(D * Q)	12.37020	12.37990	12.60290
	(!D * !Q)	0.00000	0.00000	0.00000
	(!D * !Q)	9.32165	9.33304	9.54952

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

Cell Name	When	Power(pJ)		
		first	mid	last
DLATCH	(D * Q)	0.00000	0.00000	0.00000
	(D * Q)	12.18670	12.20060	12.45060
	(!D * !Q)	0.00000	0.00000	0.00000
	(!D * !Q)	8.23670	8.24588	8.47073

FA

sky130_rhbd_tt_1P8_25C.ccs Cell Library: Process , Voltage 1.80, Temp 25.00

Truth Table

INPUT			OUTPUT	
A	B	CIN	COUT	SUM
0	0	0	0	0
0	0	1	0	1
0	1	0	0	1
0	1	1	1	0
1	0	0	0	1
1	0	1	1	0
1	1	0	1	0
1	1	1	1	1

Footprint

Cell Name	Area
FA	287.48999

Pin Capacitance Information

Cell Name	Pin Cap(pf)			Max Cap(pf)	
	A	B	CIN	COUT	SUM
FA	0.03701	0.03673	0.03414	5.57595	2.42517

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
FA	0.00000	36.98210	51.95560

Delay Information

Delay(ns) to COUT rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
FA	A->COUT (RR)	0.33785	0.89833	6.92441
	B->COUT (RR)	0.36331	0.92747	6.98704
	CIN->COUT (RR)	0.15475	0.72811	6.84209

Delay(ns) to COUT falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
FA	A->COUT (FF)	0.31262	0.82036	5.92974
	B->COUT (FF)	0.32252	0.83347	6.01374
	CIN->COUT (FF)	0.17713	0.68925	5.73829

Delay(ns) to SUM rising (conditional):

Cell Name	Timing Arc(Dir)	When	Delay(ns)		
			First	Mid	Last
FA	A->SUM (-R)	-	0.26817	1.11945	8.22501
	B->SUM (-R)	-	0.24899	1.09419	7.99956
	CIN->SUM (RR)	(A * B) + (!A * !B)	0.11018	0.81468	6.49586
	CIN->SUM (FR)	(A * !B) + (!A * B)	0.07372	0.97128	9.82387

Delay(ns) to SUM falling (conditional):

Cell Name	Timing Arc(Dir)	When	Delay(ns)		
			First	Mid	Last
FA	A->SUM (-F)	-	0.24487	0.81871	5.29130
	B->SUM (-F)	-	0.22524	0.79539	5.12537
	CIN->SUM (FF)	(A * B) + (!A * !B)	0.08695	0.58239	4.48592
	CIN->SUM (RF)	(A * !B) + (!A * B)	0.04685	0.66467	6.92686

Power Information

Internal switching power(pJ) to COUT rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
FA	A	17.39870	17.41380	17.76310
	B	17.39840	17.41280	17.76460
	CIN	0.00000	0.00000	0.00000
	CIN	14.34990	14.35980	14.60890

Internal switching power(pJ) to COUT falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
FA	A	5.74917	5.75539	5.87626
	B	5.75158	5.75834	5.87344
	CIN	0.00000	0.00000	0.00000
	CIN	3.75503	3.76775	4.01909

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

Cell Name	Input	When	Power(pJ)		
			first	mid	last
FA	A	-	0.00000	0.00000	0.00000
	A	-	26.84800	26.88320	27.54430
	B	-	0.00000	0.00000	0.00000
	B	-	26.84710	26.88180	27.54520
	CIN	(A * B) + (!A * !B)	0.00000	0.00000	0.00000
	CIN	(A * B) + (!A * !B)	27.03860	27.04780	27.28120
	CIN	(A * !B) + (!A * B)	0.00000	0.00000	0.00000
	CIN	(A * !B) + (!A * B)	3.75440	3.76882	4.02747

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

Cell Name	Input	When	Power(pJ)		
			first	mid	last
FA	A	-	0.00000	0.00000	0.00000
	A	-	28.07320	28.28480	29.73990
	B	-	0.00000	0.00000	0.00000
	B	-	28.07000	28.23080	29.25170
	CIN	(A * B) + (!A * !B)	0.00000	0.00000	0.00000
	CIN	(A * B) + (!A * !B)	33.67320	33.68680	33.91160
	CIN	(A * !B) + (!A * B)	0.00000	0.00000	0.00000
	CIN	(A * !B) + (!A * B)	14.34980	14.36020	14.61980

HA

sky130_rhbd_tt_1P8_25C.ccs Cell Library: Process , Voltage 1.80, Temp 25.00

Truth Table

INPUT		OUTPUT	
A	B	COUT	SUM
0	0	0	0
0	1	0	1
1	0	0	1
1	1	1	0

Footprint

Cell Name	Area
HA	123.21000

Pin Capacitance Information

Cell Name	Pin Cap(pf)		Max Cap(pf)	
	A	B	COUT	SUM
HA	0.03316	0.03702	5.98302	2.42848

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
HA	0.00000	17.03700	32.46230

Delay Information

Delay(ns) to COUT rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
HA	A->COUT (RR)	0.07475	0.67005	7.60121
	B->COUT (RR)	0.06831	0.67296	7.63999

Delay(ns) to COUT falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
HA	A->COUT (FF)	0.06601	0.58494	6.17793
	B->COUT (FF)	0.06151	0.57229	6.13044

Delay(ns) to SUM rising (conditional):

Cell Name	Timing Arc(Dir)	When	Delay(ns)		
			First	Mid	Last
HA	A->SUM (RR)	!B	0.08744	0.78443	6.37051
	A->SUM (FR)	B	0.08089	0.98933	9.92336
	B->SUM (RR)	!A	0.11059	0.79971	6.35602
	B->SUM (FR)	A	0.07169	0.97564	9.87725

Delay(ns) to SUM falling (conditional):

Cell Name	Timing Arc(Dir)	When	Delay(ns)		
			First	Mid	Last
HA	A->SUM (FF)	!B	0.07907	0.56685	4.57197
	A->SUM (RF)	B	0.04876	0.63710	6.53270
	B->SUM (FF)	!A	0.08779	0.58857	4.52598
	B->SUM (RF)	A	0.04276	0.65539	6.84421

Power Information

Internal switching power(pJ) to COUT rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
HA	A	0.00000	0.00000	0.00000
	A	11.85050	11.86360	12.12870
	B	0.00000	0.00000	0.00000
	B	11.85030	11.86390	12.13490

Internal switching power(pJ) to COUT falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
HA	A	0.00000	0.00000	0.00000
	A	0.86253	0.87878	1.14164
	B	0.00000	0.00000	0.00000
	B	0.85465	0.86892	1.11016

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

Cell Name	Input	When	Power(pJ)		
			first	mid	last
HA	A	B	0.00000	0.00000	0.00000
	A	B	0.86297	0.87911	1.15621
	A	!B	0.00000	0.00000	0.00000
	A	!B	3.99787	4.01120	4.25922
	B	A	0.00000	0.00000	0.00000
	B	A	0.85496	0.86915	1.11962
	B	!A	0.00000	0.00000	0.00000
	B	!A	4.01350	4.02151	4.28021

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

Cell Name	Input	When	Power(pJ)		
			first	mid	last
HA	A	B	0.00000	0.00000	0.00000
	A	B	11.85020	11.86500	12.14680
	A	!B	0.00000	0.00000	0.00000
	A	!B	9.43830	9.45100	9.69512
	B	A	0.00000	0.00000	0.00000
	B	A	11.85020	11.86430	12.15480
	B	!A	0.00000	0.00000	0.00000
	B	!A	9.44483	9.45820	9.67309

INVX1

sky130_rhbd_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
INVX1	16.42800

Pin Capacitance Information

Cell Name	Pin Cap(pf)	Max Cap(pf)
	A	Y
INVX1	0.01037	5.35992

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
INVX1	0.00000	3.90439	7.80686

Delay Information

Delay(ns) to Y rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
INVX1	A->Y (FR)	0.02656	0.75338	9.75788

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
INVX1	A->Y (RF)	0.02008	0.56430	7.24736

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
INVX1	A	0.00000	0.00000	0.00000
	A	0.01836	0.02312	0.06981

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
INVX1	A	0.00000	0.00000	0.00000
	A	4.60672	4.60832	4.63362

NAND2X1

sky130_rhbd_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
NAND2X1	24.64200

Pin Capacitance Information

Cell Name	Pin Cap(pf)		Max Cap(pf)
	A	B	Y
NAND2X1	0.01040	0.01045	4.70990

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
NAND2X1	0.00000	3.89234	15.56570

Delay Information

Delay(ns) to Y rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
NAND2X1	A->Y (FR)	0.03470	0.76200	9.47500
	B->Y (FR)	0.03014	0.74917	9.36983

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
NAND2X1	A->Y (RF)	0.03885	0.77358	9.53005
	B->Y (RF)	0.03111	0.74681	9.28284

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
NAND2X1	A	0.00000	0.00000	0.00000
	A	0.02818	0.03159	0.06590
	B	0.00000	0.00000	0.00000
	B	0.01872	0.02216	0.05220

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
NAND2X1	A	0.00000	0.00000	0.00000
	A	9.73340	9.73386	9.74491
	B	0.00000	0.00000	0.00000
	B	9.73345	9.73438	9.74945

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

Cell Name	When	Power(pJ)		
		first	mid	last
NAND2X1	(!B * Y)	0.00000	0.00000	0.00000
	(!B * Y)	-0.00178	-0.00183	-0.00181

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

Cell Name	When	Power(pJ)		
		first	mid	last
NAND2X1	(!B * Y)	0.00000	0.00000	0.00000
	(!B * Y)	0.01091	0.01052	0.01033

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

Cell Name	When	Power(pJ)		
		first	mid	last
NAND2X1	(!A * Y)	0.00000	0.00000	0.00000
	(!A * Y)	0.00110	0.00105	0.00106

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

Cell Name	When	Power(pJ)		
		first	mid	last
NAND2X1	(!A * Y)	0.00000	0.00000	0.00000
	(!A * Y)	0.01098	0.01111	0.01120

NAND3X1

sky130_rhbd_tt_1P8_25C.ccs Cell Library: Process , Voltage 1.80, Temp 25.00

Truth Table

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

Footprint

Cell Name	Area
NAND3X1	35.59400

Pin Capacitance Information

Cell Name	Pin Cap(pf)			Max Cap(pf)
	A	B	C	Y
NAND3X1	0.01047	0.01022	0.01040	3.19748

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
NAND3X1	0.00000	2.91628	23.32410

Delay Information

Delay(ns) to Y rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
NAND3X1	A->Y (FR)	0.04164	0.68947	7.83643
	B->Y (FR)	0.03796	0.67793	7.75810
	C->Y (FR)	0.03264	0.66873	7.70983

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
NAND3X1	A->Y (RF)	0.06147	0.84441	8.99084
	B->Y (RF)	0.05366	0.82636	8.97419
	C->Y (RF)	0.04391	0.81440	9.07367

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
NAND3X1	A	0.00000	0.00000	0.00000
	A	0.03769	0.04082	0.09522
	B	0.00000	0.00000	0.00000
	B	0.02880	0.03192	0.08280
	C	0.00000	0.00000	0.00000
	C	0.02005	0.02368	0.07153

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
NAND3X1	A	0.00000	0.00000	0.00000
	A	14.72040	14.71990	14.73040
	B	0.00000	0.00000	0.00000
	B	14.71980	14.72050	14.73150
	C	0.00000	0.00000	0.00000
	C	14.72040	14.72020	14.73480

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

Cell Name	When	Power(pJ)		
		first	mid	last
NAND3X1	(B * !C * Y)	0.00000	0.00000	0.00000
	(B * !C * Y)	-0.00239	-0.00244	-0.00241
	(!B * C * Y)	0.00000	0.00000	0.00000
	(!B * C * Y)	0.00070	0.00069	0.00063
	(!B * !C * Y)	0.00000	0.00000	0.00000
	(!B * !C * Y)	-0.00448	-0.00451	-0.00453

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

Cell Name	When	Power(pJ)		
		first	mid	last
NAND3X1	(B * !C * Y)	0.00000	0.00000	0.00000
	(B * !C * Y)	0.01127	0.01063	0.01055
	(!B * C * Y)	0.00000	0.00000	0.00000
	(!B * C * Y)	0.01269	0.01227	0.01220
	(!B * !C * Y)	0.00000	0.00000	0.00000
	(!B * !C * Y)	0.00991	0.00990	0.00989

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

Cell Name	When	Power(pJ)		
		first	mid	last
NAND3X1	(A * !C * Y)	0.00000	0.00000	0.00000
	(A * !C * Y)	-0.00212	-0.00218	-0.00215
	(!A * C * Y)	0.00000	0.00000	0.00000
	(!A * C * Y)	0.00426	0.00423	0.00423
	(!A * !C * Y)	0.00000	0.00000	0.00000
	(!A * !C * Y)	-0.00467	-0.00471	-0.00473

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

Cell Name	When	Power(pJ)		
		first	mid	last
NAND3X1	(A * !C * Y)	0.00000	0.00000	0.00000
	(A * !C * Y)	0.01079	0.01027	0.01026
	(!A * C * Y)	0.00000	0.00000	0.00000
	(!A * C * Y)	0.01196	0.01210	0.01211
	(!A * !C * Y)	0.00000	0.00000	0.00000
	(!A * !C * Y)	0.01098	0.01112	0.01112

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

Cell Name	When	Power(pJ)		
		first	mid	last
NAND3X1	(!B * Y)	0.00000	0.00000	0.00000
	(!B * Y)	0.00020	0.00017	0.00015
	(!A * B * Y)	0.00000	0.00000	0.00000
	(!A * B * Y)	0.00451	0.00447	0.00449

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

Cell Name	When	Power(pJ)		
		first	mid	last
NAND3X1	(!B * Y)	0.00000	0.00000	0.00000
	(!B * Y)	0.01091	0.01111	0.01113
	(!A * B * Y)	0.00000	0.00000	0.00000
	(!A * B * Y)	0.01069	0.01085	0.01080

NOR2X1

sky130_rhbd_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
NOR2X1	24.64200

Pin Capacitance Information

Cell Name	Pin Cap(pf)		Max Cap(pf)
	A	B	Y
NOR2X1	0.01065	0.01034	2.43406

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
NOR2X1	0.00000	2.00109	6.04917

Delay Information

Delay(ns) to Y rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
NOR2X1	A->Y (FR)	0.06192	0.94504	9.58478
	B->Y (FR)	0.04591	0.85610	9.00167

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
NOR2X1	A->Y (RF)	0.02600	0.46594	4.80863
	B->Y (RF)	0.02288	0.45704	4.75507

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
NOR2X1	A	0.00000	0.00000	0.00000
	A	0.03237	0.03325	0.06497
	B	0.00000	0.00000	0.00000
	B	0.02705	0.03082	0.09410

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
NOR2X1	A	0.00000	0.00000	0.00000
	A	2.45424	2.45512	2.48826
	B	0.00000	0.00000	0.00000
	B	2.72011	2.71717	2.74724

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

Cell Name	When	Power(pJ)		
		first	mid	last
NOR2X1	(B * !Y)	0.00000	0.00000	0.00000
	(B * !Y)	0.06808	0.06675	0.06644

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

Cell Name	When	Power(pJ)		
		first	mid	last
NOR2X1	(B * !Y)	0.00000	0.00000	0.00000
	(B * !Y)	3.67746	3.67694	3.67697

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

Cell Name	When	Power(pJ)		
		first	mid	last
NOR2X1	(A * !Y)	0.00000	0.00000	0.00000
	(A * !Y)	0.01654	0.01653	0.01653

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

Cell Name	When	Power(pJ)		
		first	mid	last
NOR2X1	(A * !Y)	0.00000	0.00000	0.00000
	(A * !Y)	2.45789	2.45760	2.45795

OR2X1

sky130_rhbd_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
OR2X1	41.07000

Pin Capacitance Information

Cell Name	Pin Cap(pf)		Max Cap(pf)
	A	B	Y
OR2X1	0.01060	0.01049	5.52095

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
OR2X1	0.00000	3.08380	5.40294

Delay Information

Delay(ns) to Y rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
OR2X1	A->Y (RR)	0.05835	0.57504	6.37454
	B->Y (RR)	0.05460	0.60037	6.63754

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
OR2X1	A->Y (FF)	0.09696	0.59580	6.17282
	B->Y (FF)	0.08213	0.58606	6.17168

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
OR2X1	A	0.00000	0.00000	0.00000
	A	1.85490	1.87215	2.17493
	B	0.00000	0.00000	0.00000
	B	2.93892	2.95044	3.19267

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
OR2X1	A	0.00000	0.00000	0.00000
	A	1.25346	1.26066	1.46868
	B	0.00000	0.00000	0.00000
	B	2.95768	2.97170	3.23460

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

Cell Name	When	Power(pJ)		
		first	mid	last
OR2X1	(B * Y)	0.00000	0.00000	0.00000
	(B * Y)	0.04880	0.04740	0.04723

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

Cell Name	When	Power(pJ)		
		first	mid	last
OR2X1	(B * Y)	0.00000	0.00000	0.00000
	(B * Y)	3.12397	3.12376	3.12347

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

Cell Name	When	Power(pJ)		
		first	mid	last
OR2X1	(A * Y)	0.00000	0.00000	0.00000
	(A * Y)	0.01965	0.01964	0.01965

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

Cell Name	When	Power(pJ)		
		first	mid	last
OR2X1	(A * Y)	0.00000	0.00000	0.00000
	(A * Y)	1.84543	1.84537	1.84579

TIEHI

sky130_rhbd_tt_1P8_25C.ccs Cell Library: Process , Voltage 1.80, Temp 25.00

Footprint

Cell Name	Area
TIEHI	16.42800

Pin Capacitance Information

Cell Name	Max Cap(pf)
	Y
TIEHI	11.48152

Leakage Information

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

TIELO

sky130_rhbd_tt_1P8_25C.ccs Cell Library: Process , Voltage 1.80, Temp 25.00

Footprint

Cell Name	Area
TIELO	16.42800

Pin Capacitance Information

Cell Name	Max Cap(pf)
	YN
TIELO	21.89483

Leakage Information

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

VOTER3X1

sky130_rhbd_tt_1P8_25C.ccs Cell Library: Process , Voltage 1.80, Temp 25.00

Truth Table

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

Footprint

Cell Name	Area
VOTER3X1	90.35400

Pin Capacitance Information

Cell Name	Pin Cap(pf)			Max Cap(pf)
	A	B	C	Y
VOTER3X1	0.02277	0.02175	0.02093	5.80385

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
VOTER3X1	0.00000	4.50010	10.36770

Delay Information

Delay(ns) to Y rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
VOTER3X1	A->Y (RR)	0.08822	0.71239	7.28881
	B->Y (RR)	0.09876	0.69002	6.93894
	C->Y (RR)	0.09471	0.70486	7.26209

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
VOTER3X1	A->Y (FF)	0.14905	0.71981	6.56712
	B->Y (FF)	0.20318	0.75689	6.58788
	C->Y (FF)	0.16404	0.73391	6.68064

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
VOTER3X1	A	5.10144	5.10724	5.27269
	B	3.96448	3.96872	4.20778
	C	5.10122	5.10561	5.26638

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
VOTER3X1	A	2.09345	2.09945	2.28475
	B	1.01352	1.01566	1.15443
	C	2.10160	2.10766	2.31754

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

Cell Name	When	Power(pJ)		
		first	mid	last
VOTER3X1	(B * C * Y)	0.00000	0.00000	0.00000
	(B * C * Y)	0.01846	0.01823	0.01822
	(!B * !C * !Y)	0.00000	0.00000	0.00000
	(!B * !C * !Y)	1.45956	1.45923	1.45928

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

Cell Name	When	Power(pJ)		
		first	mid	last
VOTER3X1	(B * C * Y)	0.00000	0.00000	0.00000
	(B * C * Y)	3.26532	3.26555	3.26554
	(!B * !C * !Y)	0.00000	0.00000	0.00000
	(!B * !C * !Y)	2.22103	2.22137	2.22131

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

Cell Name	When	Power(pJ)		
		first	mid	last
VOTER3X1	(A * C * Y)	0.00000	0.00000	0.00000
	(A * C * Y)	0.04050	0.03698	0.03626
	(!A * !C * !Y)	0.00000	0.00000	0.00000
	(!A * !C * !Y)	1.45504	1.45459	1.45464

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

Cell Name	When	Power(pJ)		
		first	mid	last
VOTER3X1	(A * C * Y)	0.00000	0.00000	0.00000
	(A * C * Y)	5.84212	5.84163	5.84141
	(!A * !C * !Y)	0.00000	0.00000	0.00000
	(!A * !C * !Y)	2.21902	2.21782	2.21783

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

Cell Name	When	Power(pJ)		
		first	mid	last
VOTER3X1	(A * B * Y)	0.00000	0.00000	0.00000
	(A * B * Y)	0.01868	0.01865	0.01862
	(!A * !B * !Y)	0.00000	0.00000	0.00000
	(!A * !B * !Y)	1.45783	1.45727	1.45682

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

Cell Name	When	Power(pJ)		
		first	mid	last
VOTER3X1	(A * B * Y)	0.00000	0.00000	0.00000
	(A * B * Y)	3.95386	3.95381	3.95413
	(!A * !B * !Y)	0.00000	0.00000	0.00000
	(!A * !B * !Y)	2.21974	2.21846	2.21895

VOTERN3X1

sky130_rhbd_tt_1P8_25C.ccs Cell Library:
Process , Voltage 1.80, Temp 25.00

Truth Table

INPUT			OUTPUT
A	B	C	YN
0	0	x	1
0	1	0	1
x	1	1	0
1	0	0	1
1	x	1	0
1	1	x	0

Footprint

Cell Name	Area
VOTERN3X1	73.92600

Pin Capacitance Information

Cell Name	Pin Cap(pf)			Max Cap(pf)
	A	B	C	YN
VOTERN3X1	0.02275	0.02178	0.02070	1.76728

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
VOTERN3X1	0.00000	2.49121	10.79050

Delay Information

Delay(ns) to YN rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
VOTERN3X1	A->YN (FR)	0.14186	1.11535	9.64519
	B->YN (FR)	0.15999	1.12549	9.51265
	C->YN (FR)	0.11377	1.07426	9.75139

Delay(ns) to YN falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
VOTERN3X1	A->YN (RF)	0.05983	0.57618	5.25019
	B->YN (RF)	0.05616	0.54141	4.92395
	C->YN (RF)	0.05803	0.58595	5.43244

Power Information

Internal switching power(pJ) to YN rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
VOTERN3X1	A	0.05311	0.05420	0.10263
	B	0.07226	0.07189	0.09839
	C	0.06090	0.06231	0.11395

Internal switching power(pJ) to YN falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
VOTERN3X1	A	4.74021	4.73952	4.76583
	B	4.73935	4.73819	4.75969
	C	3.78461	3.78553	3.80408

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

Cell Name	When	Power(pJ)		
		first	mid	last
VOTERN3X1	(B * C * !YN)	0.00000	0.00000	0.00000
	(B * C * !YN)	0.01472	0.01453	0.01452
	(!B * !C * YN)	0.00000	0.00000	0.00000
	(!B * !C * YN)	0.00428	0.00423	0.00422

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

Cell Name	When	Power(pJ)		
		first	mid	last
VOTERN3X1	(B * C * !YN)	0.00000	0.00000	0.00000
	(B * C * !YN)	3.52072	3.52059	3.52080
	(!B * !C * YN)	0.00000	0.00000	0.00000
	(!B * !C * YN)	0.02480	0.02491	0.02523

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

Cell Name	When	Power(pJ)		
		first	mid	last
VOTERN3X1	(A * C * !YN)	0.00000	0.00000	0.00000
	(A * C * !YN)	0.04273	0.03932	0.03849
	(!A * !C * YN)	0.00000	0.00000	0.00000
	(!A * !C * YN)	-0.00067	-0.00069	-0.00078

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

Cell Name	When	Power(pJ)		
		first	mid	last
VOTERN3X1	(A * C * !YN)	0.00000	0.00000	0.00000
	(A * C * !YN)	6.24347	6.24267	6.24285
	(!A * !C * YN)	0.00000	0.00000	0.00000
	(!A * !C * YN)	0.02482	0.02391	0.02381

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

Cell Name	When	Power(pJ)		
		first	mid	last
VOTERN3X1	(A * B * !YN)	0.00000	0.00000	0.00000
	(A * B * !YN)	0.01447	0.01447	0.01445
	(!A * !B * YN)	0.00000	0.00000	0.00000
	(!A * !B * YN)	0.00202	0.00194	0.00189

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

Cell Name	When	Power(pJ)		
		first	mid	last
VOTERN3X1	(A * B * !YN)	0.00000	0.00000	0.00000
	(A * B * !YN)	4.74567	4.74484	4.74546
	(!A * !B * YN)	0.00000	0.00000	0.00000
	(!A * !B * YN)	0.02462	0.02432	0.02427

XNOR2X1

sky130_rhbd_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
XNOR2X1	82.14000

Pin Capacitance Information

Cell Name	Pin Cap(pf)		Max Cap(pf)
	A	B	Y
XNOR2X1	0.02170	0.02390	2.40110

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
XNOR2X1	0.00000	9.81259	18.16850

Delay Information

Delay(ns) to Y rising (conditional):

Cell Name	Timing Arc(Dir)	When	Delay(ns)		
			First	Mid	Last
XNOR2X1	A->Y (RR)	B	0.08627	0.77125	6.27518
	A->Y (FR)	!B	0.07646	0.98704	9.85114
	B->Y (RR)	A	0.10603	0.83120	6.54296
	B->Y (FR)	!A	0.06452	0.95616	9.74963

Delay(ns) to Y falling (conditional):

Cell Name	Timing Arc(Dir)	When	Delay(ns)		
			First	Mid	Last
XNOR2X1	A->Y (FF)	B	0.07859	0.55968	4.53150
	A->Y (RF)	!B	0.05167	0.61968	6.29039
	B->Y (FF)	A	0.09040	0.57223	4.51671
	B->Y (RF)	!A	0.04664	0.61223	6.29625

Power Information

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

Cell Name	Input	When	Power(pJ)		
			first	mid	last
XNOR2X1	A	B	0.00000	0.00000	0.00000
	A	B	4.99991	5.01318	5.27696
	A	!B	0.00000	0.00000	0.00000
	A	!B	0.07148	0.08879	0.36492
	B	A	0.00000	0.00000	0.00000
	B	A	1.83060	1.83932	2.05399
	B	!A	0.00000	0.00000	0.00000
	B	!A	0.06834	0.08709	0.40166

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

Cell Name	Input	When	Power(pJ)		
			first	mid	last
XNOR2X1	A	B	0.00000	0.00000	0.00000
	A	B	11.02860	11.04390	11.30110
	A	!B	0.00000	0.00000	0.00000
	A	!B	8.94308	8.95255	9.18707
	B	A	0.00000	0.00000	0.00000
	B	A	8.98869	9.00279	9.26016
	B	!A	0.00000	0.00000	0.00000
	B	!A	9.34819	9.35803	9.57917

XOR2X1

sky130_rhbd_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
XOR2X1	82.14000

Pin Capacitance Information

Cell Name	Pin Cap(pf)		Max Cap(pf)
	A	B	Y
XOR2X1	0.02187	0.02406	2.39443

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
XOR2X1	0.00000	9.77669	19.21560

Delay Information

Delay(ns) to Y rising (conditional):

Cell Name	Timing Arc(Dir)	When	Delay(ns)		
			First	Mid	Last
XOR2X1	A->Y (RR)	!B	0.08670	0.76870	6.22300
	A->Y (FR)	B	0.07979	0.98256	9.80006
	B->Y (RR)	!A	0.10819	0.78602	6.24316
	B->Y (FR)	A	0.07033	0.97117	9.80027

Delay(ns) to Y falling (conditional):

Cell Name	Timing Arc(Dir)	When	Delay(ns)		
			First	Mid	Last
XOR2X1	A->Y (FF)	!B	0.07836	0.56291	4.58494
	A->Y (RF)	B	0.04716	0.62042	6.30924
	B->Y (FF)	!A	0.08659	0.58782	4.55372
	B->Y (RF)	A	0.04138	0.64505	6.71672

Power Information

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

Cell Name	Input	When	Power(pJ)		
			first	mid	last
XOR2X1	A	B	0.00000	0.00000	0.00000
	A	B	0.53767	0.55285	0.80528
	A	!B	0.00000	0.00000	0.00000
	A	!B	1.73063	1.74460	2.00976
	B	A	0.00000	0.00000	0.00000
	B	A	0.52830	0.54230	0.79269
	B	!A	0.00000	0.00000	0.00000
	B	!A	1.74381	1.75422	2.01986

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

Cell Name	Input	When	Power(pJ)		
			first	mid	last
XOR2X1	A	B	0.00000	0.00000	0.00000
	A	B	15.38030	15.39540	15.68710
	A	!B	0.00000	0.00000	0.00000
	A	!B	6.22662	6.23927	6.49187
	B	A	0.00000	0.00000	0.00000
	B	A	15.37990	15.39160	15.68880
	B	!A	0.00000	0.00000	0.00000
	B	!A	6.23176	6.24564	6.46385