gf180mcu_12T_TT_3P3_25C.ccs Library

Cell Groups
GF180MCU_OSU_SC_12T_ADDF_1
GF180MCU_OSU_SC_12T_ADDH_1
GF180MCU_OSU_SC_12T_AND2_1
GF180MCU_OSU_SC_12T_AOI21_1
GF180MCU_OSU_SC_12T_AOI22_1
GF180MCU_OSU_SC_12T_AOI31_1
GF180MCU_OSU_SC_12T_BUF_16
GF180MCU_OSU_SC_12T_BUF_1
GF180MCU_OSU_SC_12T_BUF_2
GF180MCU_OSU_SC_12T_BUF_4
GF180MCU_OSU_SC_12T_BUF_8
GF180MCU_OSU_SC_12T_CLKBUF_16
GF180MCU_OSU_SC_12T_CLKBUF_1
GF180MCU_OSU_SC_12T_CLKBUF_2
GF180MCU_OSU_SC_12T_CLKBUF_4
GF180MCU_OSU_SC_12T_CLKBUF_8
GF180MCU_OSU_SC_12T_CLKINV_16
GF180MCU_OSU_SC_12T_CLKINV_1
GF180MCU_OSU_SC_12T_CLKINV_2
GF180MCU_OSU_SC_12T_CLKINV_4
GF180MCU_OSU_SC_12T_CLKINV_8
GF180MCU_OSU_SC_12T_DFFN_1
GF180MCU_OSU_SC_12T_DFFRN_1

GF180MCU_OSU_SC_12T_DFFR_1
GF180MCU_OSU_SC_12T_DFFSN_1
GF180MCU_OSU_SC_12T_DFFSRN_1
GF180MCU_OSU_SC_12T_DFFSR_1
GF180MCU_OSU_SC_12T_DFFS_1
GF180MCU_OSU_SC_12T_DFF_1
GF180MCU_OSU_SC_12T_DLATN_1
GF180MCU_OSU_SC_12T_DLAT_1
GF180MCU_OSU_SC_12T_INV_16
GF180MCU_OSU_SC_12T_INV_1
GF180MCU_OSU_SC_12T_INV_2
GF180MCU_OSU_SC_12T_INV_4
GF180MCU_OSU_SC_12T_INV_8
GF180MCU_OSU_SC_12T_LSHIFDOWN
GF180MCU_OSU_SC_12T_LSHIFUP
GF180MCU_OSU_SC_12T_MUX2_1
GF180MCU_OSU_SC_12T_NAND2_1
GF180MCU_OSU_SC_12T_NOR2_1
GF180MCU_OSU_SC_12T_OAI21_1
GF180MCU_OSU_SC_12T_OAI22_1
GF180MCU_OSU_SC_12T_OAI31_1
GF180MCU_OSU_SC_12T_OR2_1
GF180MCU_OSU_SC_12T_TBUF_16
GF180MCU_OSU_SC_12T_TBUF_1
GF180MCU_OSU_SC_12T_TBUF_2
GF180MCU_OSU_SC_12T_TBUF_4

GF180MCU_OSU_SC_12T_TBUF_8
GF180MCU_OSU_SC_12T_TIEHI
GF180MCU_OSU_SC_12T_TIELO
GF180MCU_OSU_SC_12T_TINV_16
GF180MCU_OSU_SC_12T_TINV_1
GF180MCU_OSU_SC_12T_TINV_2
GF180MCU_OSU_SC_12T_TINV_4
GF180MCU_OSU_SC_12T_TINV_8
GF180MCU_OSU_SC_12T_XNOR2_1
GF180MCU_OSU_SC_12T_XOR2_1

GF180MCU_OSU_SC_12T_ADDF_1

gf180mcu_12T_TT_3P3_25C.ccs
Cell Library: Process , Voltage 3.30, Temp 25.00

Truth Table

INPUT			OUTPUT	
A	B	CI	CO	S
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
gf180mcu_osu_sc_12T_addf_1	0.00000

Pin Capacitance Information

Cell Name	Pin Cap(pf)			Max Cap(pf)	
	A	B	CI	CO	S
gf180mcu_osu_sc_12T_addf_1	0.01542	0.01459	0.01139	1.55550	1.54990

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_12T_addf_1	0.00000	0.00434	0.00459

Delay Information

Delay(ns) to CO rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_addf_1	A->CO (RR)	0.19725	0.27038	-0.01051
	B->CO (RR)	0.20872	0.39277	0.60215
	CI->CO (RR)	0.18714	0.32975	0.08005

Delay(ns) to CO falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_addf_1	A->CO (FF)	0.22692	0.45880	1.42028
	B->CO (FF)	0.21300	0.57943	2.14865
	CI->CO (FF)	0.17718	0.50917	1.73132

Delay(ns) to S rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_addf_1	A->S (-R)	0.41113	0.64058	1.65358
	B->S (-R)	0.39423	0.77674	2.42513
	CI->S (-R)	0.36008	0.70606	1.98564

Delay(ns) to S falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_addf_1	A->S (-F)	0.23680	0.65206	2.64041
	B->S (-F)	0.28283	0.58372	2.19091
	CI->S (-F)	0.30489	0.50620	1.58567

Power Information

Internal switching power(pJ) to CO rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_addf_1	A	0.04913	0.08731	0.40373
	A	0.08890	0.12714	0.44245
	B	0.04954	0.08395	0.36831
	B	0.09010	0.12512	0.40947
	CI	0.03659	0.07608	0.33521
	CI	0.07662	0.11171	0.36634

Internal switching power(pJ) to CO falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_addf_1	A	0.10080	0.13963	0.45360
	A	0.06340	0.10216	0.41642
	B	0.08280	0.11969	0.40895
	B	0.04068	0.07769	0.36761
	CI	0.07662	0.11896	0.38770
	CI	0.04347	0.08566	0.35465

Internal switching power(pJ) to S rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_addf_1	A	0.02662	0.08168	0.54636
	A	0.11035	0.16657	0.63094
	B	0.03088	0.09382	0.60055
	B	0.11195	0.17499	0.68065
	CI	0.04246	0.11005	0.69849
	CI	0.11929	0.18679	0.77473

Internal switching power(pJ) to S falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_addf_1	A	0.10662	0.16500	0.63936
	A	0.01970	0.07771	0.55268
	B	0.10849	0.17152	0.68656
	B	0.03155	0.09450	0.60956
	CI	0.11726	0.18633	0.77706
	CI	0.05204	0.12072	0.71136

GF180MCU_OSU_SC_12T_ADDH_1

gf180mcu_12T_TT_3P3_25C.ccs
Cell Library: Process , Voltage 3.30, Temp 25.00

Truth Table

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

Footprint

Cell Name	Area
gf180mcu_osu_sc_12T_addh_1	0.00000

Pin Capacitance Information

Cell Name	Pin Cap(pf)		Max Cap(pf)	
	A	B	CO	S
gf180mcu_osu_sc_12T_addh_1	0.00767	0.00696	1.55628	1.55391

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_12T_addh_1	0.00000	0.00347	0.00375

Delay Information

Delay(ns) to CO rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_addh_1	A->CO (RR)	0.14673	0.22470	0.01957
	B->CO (RR)	0.14099	0.31038	0.55605

Delay(ns) to CO falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_addh_1	A->CO (FF)	0.12533	0.38126	1.18727
	B->CO (FF)	0.11368	0.31198	0.70688

Delay(ns) to S rising (conditional):

Cell Name	Timing Arc(Dir)	When	Delay(ns)		
			First	Mid	Last
gf180mcu_osu_sc_12T_addh_1	A->S (RR)	!B	0.15481	0.30732	0.45676
	A->S (FR)	B	0.22932	0.49693	1.36881
	B->S (RR)	!A	0.12269	0.19201	-0.23779
	B->S (FR)	A	0.24629	0.44869	0.90640

Delay(ns) to S falling (conditional):

Cell Name	Timing Arc(Dir)	When	Delay(ns)		
			First	Mid	Last
gf180mcu_osu_sc_12T_addh_1	A->S (FF)	!B	0.16317	0.32852	0.79333
	A->S (RF)	B	0.24554	0.33504	0.17796
	B->S (FF)	!A	0.13918	0.42808	1.48695
	B->S (RF)	A	0.23934	0.41867	0.71588

Power Information

Internal switching power(pJ) to CO rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_addh_1	A	0.04324	0.08897	0.41512
	A	0.06155	0.10730	0.43339
	B	0.04794	0.09179	0.39033
	B	0.06002	0.10380	0.40135

Internal switching power(pJ) to CO falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_addh_1	A	0.06029	0.11072	0.44424
	A	0.04201	0.09231	0.42603
	B	0.05964	0.10309	0.40171
	B	0.04835	0.09186	0.39039

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

Cell Name	Input	When	Power(pJ)		
			first	mid	last
gf180mcu_osu_sc_12T_addh_1	A	B	0.06031	0.11077	0.44449
	A	B	0.04203	0.09236	0.42628
	A	!B	0.03013	0.10445	0.63105
	A	!B	0.08228	0.15674	0.68290
	B	A	0.05963	0.10318	0.40202
	B	A	0.04834	0.09188	0.39071
	B	!A	0.02101	0.08921	0.54830
	B	!A	0.05904	0.12718	0.58620

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

Cell Name	Input	When	Power(pJ)		
			first	mid	last
gf180mcu_osu_sc_12T_addh_1	A	B	0.04325	0.08921	0.41670
	A	B	0.06155	0.10754	0.43497
	A	!B	0.07238	0.14417	0.66851
	A	!B	0.02034	0.09205	0.61666
	B	A	0.04795	0.09199	0.39155
	B	A	0.06003	0.10401	0.40257
	B	!A	0.06401	0.13372	0.59272
	B	!A	0.02552	0.09505	0.55440

GF180MCU_OSU_SC_12T_AND2_1

gf180mcu_12T_TT_3P3_25C.ccs
Cell Library: Process , Voltage 3.30, Temp 25.00

Truth Table

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

Footprint

Cell Name	Area
gf180mcu_osu_sc_12T_and2_1	0.00000

Pin Capacitance Information

Cell Name	Pin Cap(pf)		Max Cap(pf)
	A	B	Y
gf180mcu_osu_sc_12T_and2_1	0.00404	0.00402	1.54145

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_12T_and2_1	0.00000	0.00146	0.00208

Delay Information

Delay(ns) to Y rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_and2_1	A->Y (RR)	0.11370	0.25078	0.42206
	B->Y (RR)	0.11919	0.17559	-0.09418

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_and2_1	A->Y (FF)	0.09511	0.25734	0.57527
	B->Y (FF)	0.10725	0.33414	1.08107

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_and2_1	A	0.02812	0.10975	0.65202
	A	0.05120	0.13310	0.67516
	B	0.02683	0.11453	0.71313
	B	0.05521	0.14291	0.74134

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_and2_1	A	0.04424	0.12868	0.67362
	A	0.02098	0.10537	0.65048
	B	0.05596	0.14828	0.75410
	B	0.02769	0.12008	0.72601

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_and2_1	(!B * !Y)	-0.01400	-0.01412	-0.01413
	(!B * !Y)	0.00187	0.00189	0.00178

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_and2_1	(!B * !Y)	0.01420	0.01431	0.01418
	(!B * !Y)	-0.00176	-0.00177	-0.00175

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_and2_1	(!A * !Y)	-0.01352	-0.01360	-0.01352
	(!A * !Y)	0.00648	0.00654	0.00646

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_and2_1	(!A * !Y)	0.01358	0.01367	0.01355
	(!A * !Y)	-0.00640	-0.00652	-0.00646

GF180MCU_OSU_SC_12T_AOI21_1

gf180mcu_12T_TT_3P3_25C.ccs
Cell Library: Process , Voltage 3.30, Temp 25.00

Truth Table

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

Footprint

Cell Name	Area
gf180mcu_osu_sc_12T_aoi21_1	0.00000

Pin Capacitance Information

Cell Name	Pin Cap(pf)			Max Cap(pf)
	A0	A1	B	Y
gf180mcu_osu_sc_12T_aoi21_1	0.00395	0.00398	0.00404	0.78130

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_12T_aoi21_1	0.00000	0.00095	0.00180

Delay Information

Delay(ns) to Y rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_aoi21_1	A0->Y (FR)	0.11592	0.29935	1.12028
	A1->Y (FR)	0.09101	0.20391	0.56140
	B->Y (FR)	0.08263	0.40209	1.83666

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_aoi21_1	A0->Y (RF)	0.08686	0.08923	-0.39126
	A1->Y (RF)	0.08036	0.17738	0.17295
	B->Y (RF)	0.03983	-0.03924	-1.10123

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_aoi21_1	A0	0.04789	0.11432	0.64012
	A0	0.01003	0.07628	0.60230
	A1	0.03566	0.09746	0.57321
	A1	0.00271	0.06440	0.54034
	B	0.02644	0.10489	0.62189
	B	0.00393	0.08227	0.59940

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_aoi21_1	A0	0.01545	0.08275	0.60677
	A0	0.05305	0.12039	0.64421
	A1	0.01599	0.07966	0.55301
	A1	0.04856	0.11234	0.58538
	B	0.00007	0.07753	0.59441
	B	0.02252	0.10023	0.61689

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_aoi21_1	(A1 * B * !Y)	-0.01313	-0.01339	-0.01331
	(A1 * B * !Y)	0.00659	0.00658	0.00651
	(!A1 * B * !Y)	-0.01352	-0.01358	-0.01352
	(!A1 * B * !Y)	0.00649	0.00654	0.00647
	(!A1 * !B * Y)	-0.01351	-0.01350	-0.01352
	(!A1 * !B * Y)	0.00649	0.00645	0.00646

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_aoi21_1	(A1 * B * !Y)	0.01337	0.01339	0.01331
	(A1 * B * !Y)	-0.00648	-0.00652	-0.00649
	(!A1 * B * !Y)	0.01366	0.01367	0.01355
	(!A1 * B * !Y)	-0.00639	-0.00652	-0.00647
	(!A1 * !B * Y)	0.01358	0.01366	0.01355
	(!A1 * !B * Y)	-0.00639	-0.00645	-0.00646

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_aoi21_1	(B * !Y)	-0.01315	-0.01339	-0.01333
	(B * !Y)	0.00656	0.00658	0.00651
	(!A0 * !B * Y)	-0.01398	-0.01412	-0.01413
	(!A0 * !B * Y)	0.00187	0.00188	0.00178

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_aoi21_1	(B * !Y)	0.01337	0.01339	0.01333
	(B * !Y)	-0.00649	-0.00651	-0.00649
	(!A0 * !B * Y)	0.01424	0.01430	0.01418
	(!A0 * !B * Y)	-0.00176	-0.00177	-0.00175

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_aoi21_1	(A0 * A1 * !Y)	-0.00461	-0.00456	-0.00451
	(A0 * A1 * !Y)	0.00790	0.00786	0.00780

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_aoi21_1	(A0 * A1 * !Y)	0.00495	0.00497	0.00463
	(A0 * A1 * !Y)	-0.00734	-0.00745	-0.00779

GF180MCU_OSU_SC_12T_AOI22_1

gf180mcu_12T_TT_3P3_25C.ccs
Cell Library: Process , Voltage 3.30, Temp 25.00

Truth Table

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

Footprint

Cell Name	Area
gf180mcu_osu_sc_12T_aoi22_1	0.00000

Pin Capacitance Information

Cell Name	Pin Cap(pf)				Max Cap(pf)
	A0	A1	B0	B1	Y
gf180mcu_osu_sc_12T_aoi22_1	0.00395	0.00398	0.00404	0.00402	0.77202

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_12T_aoi22_1	0.00000	0.00123	0.00180

Delay Information

Delay(ns) to Y rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_aoi22_1	A0->Y (FR)	0.16288	0.36828	1.26308
	A1->Y (FR)	0.13873	0.29082	0.74802
	B0->Y (FR)	0.09471	0.37196	1.40635
	B1->Y (FR)	0.11711	0.45798	1.93164

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_aoi22_1	A0->Y (RF)	0.12923	0.18115	-0.14192
	A1->Y (RF)	0.12249	0.27601	0.42743
	B0->Y (RF)	0.06634	0.09640	-0.42081
	B1->Y (RF)	0.07121	0.02329	-0.92598

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_aoi22_1	A0	0.05766	0.12206	0.65196
	A0	0.01008	0.07421	0.60437
	A1	0.04557	0.10449	0.58366
	A1	0.00287	0.06179	0.54103
	B0	0.02803	0.09433	0.54560
	B0	0.00426	0.07037	0.52184
	B1	0.03946	0.11029	0.60174
	B1	0.01066	0.08132	0.57302

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_aoi22_1	A0	0.03072	0.09373	0.61895
	A0	0.07795	0.14102	0.66592
	A1	0.03120	0.09107	0.56532
	A1	0.07329	0.13328	0.60722
	B0	0.00657	0.07131	0.52259
	B0	0.03037	0.09523	0.54636
	B1	0.00528	0.07352	0.56546
	B1	0.03415	0.10246	0.59430

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_aoi22_1	(A1 * B0 * B1 * !Y)	-0.01304	-0.01330	-0.01331
	(A1 * B0 * B1 * !Y)	0.00654	0.00658	0.00651
	(!A1 * B0 * B1 * !Y)	-0.01354	-0.01355	-0.01352
	(!A1 * B0 * B1 * !Y)	0.00649	0.00647	0.00646
	(!A1 * B0 * !B1 * Y)	-0.01353	-0.01356	-0.01352
	(!A1 * B0 * !B1 * Y)	0.00650	0.00650	0.00648
	(!A1 * !B0 * Y)	-0.01353	-0.01356	-0.01352
	(!A1 * !B0 * Y)	0.00650	0.00650	0.00648

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_aoi22_1	(A1 * B0 * B1 * !Y)	0.01333	0.01330	0.01331
	(A1 * B0 * B1 * !Y)	-0.00648	-0.00648	-0.00649
	(!A1 * B0 * B1 * !Y)	0.01358	0.01367	0.01355
	(!A1 * B0 * B1 * !Y)	-0.00639	-0.00647	-0.00646
	(!A1 * B0 * !B1 * Y)	0.01358	0.01366	0.01355
	(!A1 * B0 * !B1 * Y)	-0.00641	-0.00650	-0.00647
	(!A1 * !B0 * Y)	0.01358	0.01366	0.01355
	(!A1 * !B0 * Y)	-0.00641	-0.00650	-0.00647

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_aoi22_1	(B0 * B1 * !Y)	-0.01310	-0.01336	-0.01331
	(B0 * B1 * !Y)	0.00654	0.00658	0.00651
	(!A0 * B0 * !B1 * Y)	-0.01410	-0.01412	-0.01413
	(!A0 * B0 * !B1 * Y)	0.00190	0.00188	0.00178
	(!A0 * !B0 * Y)	-0.01410	-0.01412	-0.01413
	(!A0 * !B0 * Y)	0.00190	0.00188	0.00178

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_aoi22_1	(B0 * B1 * !Y)	0.01335	0.01336	0.01331
	(B0 * B1 * !Y)	-0.00649	-0.00650	-0.00649
	(!A0 * B0 * !B1 * Y)	0.01422	0.01430	0.01418
	(!A0 * B0 * !B1 * Y)	-0.00175	-0.00177	-0.00175
	(!A0 * !B0 * Y)	0.01422	0.01430	0.01418
	(!A0 * !B0 * Y)	-0.00175	-0.00177	-0.00175

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_aoi22_1	(A0 * A1 * !Y)	-0.00456	-0.00456	-0.00451
	(A0 * A1 * !Y)	0.00780	0.00786	0.00780
	(!A1 * !B1 * Y)	-0.01407	-0.01401	-0.01414
	(!A1 * !B1 * Y)	0.00189	0.00186	0.00178
	(!A0 * A1 * !B1 * Y)	-0.01407	-0.01401	-0.01414
	(!A0 * A1 * !B1 * Y)	0.00189	0.00186	0.00178

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_aoi22_1	(A0 * A1 * !Y)	0.00509	0.00511	0.00465
	(A0 * A1 * !Y)	-0.00719	-0.00730	-0.00777
	(!A1 * !B1 * Y)	0.01422	0.01428	0.01417
	(!A1 * !B1 * Y)	-0.00178	-0.00177	-0.00175
	(!A0 * A1 * !B1 * Y)	0.01421	0.01428	0.01417
	(!A0 * A1 * !B1 * Y)	-0.00178	-0.00177	-0.00175

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_aoi22_1	(A0 * A1 * !Y)	-0.00454	-0.00456	-0.00451
	(A0 * A1 * !Y)	0.00782	0.00785	0.00780
	(!A1 * !B0 * Y)	-0.01351	-0.01359	-0.01352
	(!A1 * !B0 * Y)	0.00645	0.00651	0.00644
	(!A0 * A1 * !B0 * Y)	-0.01351	-0.01359	-0.01352
	(!A0 * A1 * !B0 * Y)	0.00645	0.00651	0.00644

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_aoi22_1	(A0 * A1 * !Y)	0.00509	0.00510	0.00465
	(A0 * A1 * !Y)	-0.00718	-0.00730	-0.00777
	(!A1 * !B0 * Y)	0.01355	0.01364	0.01354
	(!A1 * !B0 * Y)	-0.00642	-0.00651	-0.00644
	(!A0 * A1 * !B0 * Y)	0.01355	0.01364	0.01354
	(!A0 * A1 * !B0 * Y)	-0.00642	-0.00651	-0.00644

GF180MCU_OSU_SC_12T_AOI31_1

gf180mcu_12T_TT_3P3_25C.ccs
Cell Library: Process , Voltage 3.30, Temp 25.00

Truth Table

INPUT				OUTPUT
A0	A1	A2	B	Y
x	0	x	0	1
x	x	x	1	0
x	1	0	0	1
x	1	1	x	0

Footprint

Cell Name	Area
gf180mcu_osu_sc_12T_aoi31_1	0.00000

Pin Capacitance Information

Cell Name	Pin Cap(pf)				Max Cap(pf)
	A0	A1	A2	B	Y
gf180mcu_osu_sc_12T_aoi31_1	0.00000	0.00394	0.00396	0.00404	0.74671

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_12T_aoi31_1	0.00000	0.00084	0.00128

Delay Information

Delay(ns) to Y rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_aoi31_1	B->Y (FR)	0.09744	0.44345	1.93737

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_aoi31_1	A1->Y (RF)	0.12786	0.22843	0.31926
	A2->Y (RF)	0.11053	0.28842	0.72474
	B->Y (RF)	0.03886	-0.00278	-0.78961

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_aoi31_1	B	0.02654	0.10840	0.64666
	B	0.00408	0.08581	0.62417

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_aoi31_1	A1	0.02083	0.07636	0.52852
	A1	0.05846	0.11403	0.56594
	A2	0.02136	0.07571	0.49308
	A2	0.05395	0.10834	0.52543
	B	-0.00012	0.08077	0.61898
	B	0.02232	0.10341	0.64147

Passive power(pJ) for A0 rising :

Cell Name	Power(pJ)		
	first	mid	last
gf180mcu_osu_sc_12T_aoi31_1	0.00000	0.00000	0.00000
	0.00000	0.00000	0.00000

Passive power(pJ) for A0 falling :

Cell Name	Power(pJ)		
	first	mid	last
gf180mcu_osu_sc_12T_aoi31_1	0.00000	0.00000	0.00000
	0.00000	0.00000	0.00000

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_aoi31_1	(A2 * B * !Y)	-0.01315	-0.01340	-0.01334
	(A2 * B * !Y)	0.00662	0.00659	0.00652
	(!A2 * B * !Y)	-0.01352	-0.01355	-0.01352
	(!A2 * B * !Y)	0.00646	0.00651	0.00644
	(!A2 * !B * Y)	-0.01352	-0.01355	-0.01352
	(!A2 * !B * Y)	0.00644	0.00651	0.00644

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_aoi31_1	(A2 * B * !Y)	0.01335	0.01340	0.01334
	(A2 * B * !Y)	-0.00652	-0.00654	-0.00652
	(!A2 * B * !Y)	0.01352	0.01355	0.01355
	(!A2 * B * !Y)	-0.00637	-0.00645	-0.00644
	(!A2 * !B * Y)	0.01353	0.01355	0.01355
	(!A2 * !B * Y)	-0.00635	-0.00645	-0.00644

Passive power(pJ) for A2 rising (conditional):

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_aoi31_1	(A1 * B * !Y)	-0.01311	-0.01341	-0.01333
	(A1 * B * !Y)	0.00657	0.00659	0.00652
	(!A1 * B * !Y)	-0.01354	-0.01362	-0.01352
	(!A1 * B * !Y)	0.00645	0.00650	0.00644
	(!A1 * !B * Y)	-0.01409	-0.01412	-0.01413
	(!A1 * !B * Y)	0.00190	0.00188	0.00178

Passive power(pJ) for A2 falling (conditional):

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_aoi31_1	(A1 * B * !Y)	0.01352	0.01341	0.01333
	(A1 * B * !Y)	-0.00654	-0.00655	-0.00652
	(!A1 * B * !Y)	0.01371	0.01369	0.01355
	(!A1 * B * !Y)	-0.00639	-0.00648	-0.00644
	(!A1 * !B * Y)	0.01423	0.01430	0.01418
	(!A1 * !B * Y)	-0.00175	-0.00177	-0.00175

GF180MCU_OSU_SC_12T_BUF_16

gf180mcu_12T_TT_3P3_25C.ccs
Cell Library: Process , Voltage 3.30, Temp 25.00

Truth Table

INPUT	OUTPUT
A	Y
0	0
1	1

Footprint

Cell Name	Area
gf180mcu_osu_sc_12T_buf_16	0.00000

Pin Capacitance Information

Cell Name	Pin Cap(pf)	Max Cap(pf)
	A	Y
gf180mcu_osu_sc_12T_buf_16	0.00404	24.76612

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_12T_buf_16	0.00000	0.01267	0.01499

Delay Information

Delay(ns) to Y rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_buf_16	A->Y (RR)	0.33673	0.60898	0.86629

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_buf_16	A->Y (FF)	0.36306	0.78512	2.18525

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_buf_16	A	0.71430	1.09465	3.16660
	A	0.73614	1.11665	3.18846

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_buf_16	A	0.78874	1.12211	3.17773
	A	0.76687	1.10023	3.15587

GF180MCU_OSU_SC_12T_BUF_1

gf180mcu_12T_TT_3P3_25C.ccs
Cell Library: Process , Voltage 3.30, Temp 25.00

Truth Table

INPUT	OUTPUT
A	Y
0	0
1	1

Footprint

Cell Name	Area
gf180mcu_osu_sc_12T_buf_1	0.00000

Pin Capacitance Information

Cell Name	Pin Cap(pf)	Max Cap(pf)
	A	Y
gf180mcu_osu_sc_12T_buf_1	0.00404	1.55566

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_12T_buf_1	0.00000	0.00149	0.00149

Delay Information

Delay(ns) to Y rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_buf_1	A->Y (RR)	0.07839	0.11107	-0.27280

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_buf_1	A->Y (FF)	0.08663	0.29618	1.04583

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_buf_1	A	0.02007	0.11670	0.74305
	A	0.04194	0.13872	0.76491

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_buf_1	A	0.04220	0.13981	0.76437
	A	0.02031	0.11780	0.74251

GF180MCU_OSU_SC_12T_BUF_2

gf180mcu_12T_TT_3P3_25C.ccs
Cell Library: Process , Voltage 3.30, Temp 25.00

Truth Table

INPUT	OUTPUT
A	Y
0	0
1	1

Footprint

Cell Name	Area
gf180mcu_osu_sc_12T_buf_2	0.00000

Pin Capacitance Information

Cell Name	Pin Cap(pf)	Max Cap(pf)
	A	Y
gf180mcu_osu_sc_12T_buf_2	0.00404	3.10294

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_12T_buf_2	0.00000	0.00224	0.00239

Delay Information

Delay(ns) to Y rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_buf_2	A->Y (RR)	0.09725	0.16872	-0.14241

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_buf_2	A->Y (FF)	0.10611	0.35327	1.17839

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_buf_2	A	0.04231	0.15122	0.83367
	A	0.06412	0.17321	0.85554

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_buf_2	A	0.06416	0.17445	0.85432
	A	0.04217	0.15247	0.83246

GF180MCU_OSU_SC_12T_BUF_4

gf180mcu_12T_TT_3P3_25C.ccs
Cell Library: Process , Voltage 3.30, Temp 25.00

Truth Table

INPUT	OUTPUT
A	Y
0	0
1	1

Footprint

Cell Name	Area
gf180mcu_osu_sc_12T_buf_4	0.00000

Pin Capacitance Information

Cell Name	Pin Cap(pf)	Max Cap(pf)
	A	Y
gf180mcu_osu_sc_12T_buf_4	0.00404	6.15334

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_12T_buf_4	0.00000	0.00373	0.00419

Delay Information

Delay(ns) to Y rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_buf_4	A->Y (RR)	0.13262	0.25761	0.06486

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_buf_4	A->Y (FF)	0.14383	0.44219	1.38995

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_buf_4	A	0.09422	0.23931	1.06115
	A	0.11627	0.26134	1.08301

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_buf_4	A	0.11811	0.26116	1.07515
	A	0.09598	0.23921	1.05329

GF180MCU_OSU_SC_12T_BUF_8

gf180mcu_12T_TT_3P3_25C.ccs
Cell Library: Process , Voltage 3.30, Temp 25.00

Truth Table

INPUT	OUTPUT
A	Y
0	0
1	1

Footprint

Cell Name	Area
gf180mcu_osu_sc_12T_buf_8	0.00000

Pin Capacitance Information

Cell Name	Pin Cap(pf)	Max Cap(pf)
	A	Y
gf180mcu_osu_sc_12T_buf_8	0.00404	12.28096

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_12T_buf_8	0.00000	0.00671	0.00779

Delay Information

Delay(ns) to Y rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_buf_8	**A->Y (RR)**	0.20177	0.39618	0.38513

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_buf_8	**A->Y (FF)**	0.21793	0.57688	1.70940

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_buf_8	A	0.24013	0.47527	1.64097
	A	0.26211	0.49724	1.66283

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_buf_8	A	0.27359	0.48927	1.65511
	A	0.25159	0.46726	1.63325

GF180MCU_OSU_SC_12T_CLKBUF_16

gf180mcu_12T_TT_3P3_25C.ccs
Cell Library: Process , Voltage 3.30, Temp 25.00

Truth Table

INPUT	OUTPUT
A	Y
0	0
1	1

Footprint

Cell Name	Area
gf180mcu_osu_sc_12T_clkbuf_16	0.00000

Pin Capacitance Information

Cell Name	Pin Cap(pf)	Max Cap(pf)
	A	Y
gf180mcu_osu_sc_12T_clkbuf_16	0.00404	24.76612

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_12T_clkbuf_16	0.00000	0.01267	0.01499

Delay Information

Delay(ns) to Y rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_clkbuf_16	A->Y (RR)	0.33673	0.60898	0.86629

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_clkbuf_16	A->Y (FF)	0.36306	0.78512	2.18525

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_clkbuf_16	A	0.71430	1.09465	3.16660
	A	0.73614	1.11665	3.18846

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_clkbuf_16	A	0.78874	1.12211	3.17773
	A	0.76687	1.10023	3.15587

GF180MCU_OSU_SC_12T_CLKBUF_1

gf180mcu_12T_TT_3P3_25C.ccs
Cell Library: Process , Voltage 3.30, Temp 25.00

Truth Table

INPUT	OUTPUT
A	Y
0	0
1	1

Footprint

Cell Name	Area
gf180mcu_osu_sc_12T_clkbuf_1	0.00000

Pin Capacitance Information

Cell Name	Pin Cap(pf)	Max Cap(pf)
	A	Y
gf180mcu_osu_sc_12T_clkbuf_1	0.00404	1.55566

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_12T_clkbuf_1	0.00000	0.00149	0.00149

Delay Information

Delay(ns) to Y rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_clkbuf_1	A->Y (RR)	0.07839	0.11107	-0.27280

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_clkbuf_1	A->Y (FF)	0.08663	0.29618	1.04583

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_clkbuf_1	A	0.02007	0.11670	0.74305
	A	0.04194	0.13872	0.76491

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_clkbuf_1	A	0.04220	0.13981	0.76437
	A	0.02031	0.11780	0.74251

GF180MCU_OSU_SC_12T_CLKBUF_2

gf180mcu_12T_TT_3P3_25C.ccs
Cell Library: Process , Voltage 3.30, Temp 25.00

Truth Table

INPUT	OUTPUT
A	Y
0	0
1	1

Footprint

Cell Name	Area
gf180mcu_osu_sc_12T_clkbuf_2	0.00000

Pin Capacitance Information

Cell Name	Pin Cap(pf)	Max Cap(pf)
	A	Y
gf180mcu_osu_sc_12T_clkbuf_2	0.00404	3.10294

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_12T_clkbuf_2	0.00000	0.00224	0.00239

Delay Information

Delay(ns) to Y rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_clkbuf_2	A->Y (RR)	0.09725	0.16872	-0.14241

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_clkbuf_2	A->Y (FF)	0.10611	0.35327	1.17839

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_clkbuf_2	A	0.04231	0.15122	0.83367
	A	0.06412	0.17321	0.85554

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_clkbuf_2	A	0.06416	0.17445	0.85432
	A	0.04217	0.15247	0.83246

GF180MCU_OSU_SC_12T_CLKBUF_4

gf180mcu_12T_TT_3P3_25C.ccs
Cell Library: Process , Voltage 3.30, Temp 25.00

Truth Table

INPUT	OUTPUT
A	Y
0	0
1	1

Footprint

Cell Name	Area
gf180mcu_osu_sc_12T_clkbuf_4	0.00000

Pin Capacitance Information

Cell Name	Pin Cap(pf)	Max Cap(pf)
	A	Y
gf180mcu_osu_sc_12T_clkbuf_4	0.00404	6.15334

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_12T_clkbuf_4	0.00000	0.00373	0.00419

Delay Information

Delay(ns) to Y rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_clkbuf_4	**A->Y (RR)**	0.13262	0.25761	0.06486

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_clkbuf_4	**A->Y (FF)**	0.14383	0.44219	1.38995

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_clkbuf_4	A	0.09422	0.23931	1.06115
	A	0.11627	0.26134	1.08301

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_clkbuf_4	A	0.11811	0.26116	1.07515
	A	0.09598	0.23921	1.05329

GF180MCU_OSU_SC_12T_CLKBUF_8

gf180mcu_12T_TT_3P3_25C.ccs
Cell Library: Process , Voltage 3.30, Temp 25.00

Truth Table

INPUT	OUTPUT
A	Y
0	0
1	1

Footprint

Cell Name	Area
gf180mcu_osu_sc_12T_clkbuf_8	0.00000

Pin Capacitance Information

Cell Name	Pin Cap(pf)	Max Cap(pf)
	A	Y
gf180mcu_osu_sc_12T_clkbuf_8	0.00404	12.28096

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_12T_clkbuf_8	0.00000	0.00671	0.00779

Delay Information

Delay(ns) to Y rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_clkbuf_8	**A->Y (RR)**	0.20177	0.39618	0.38513

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_clkbuf_8	**A->Y (FF)**	0.21793	0.57688	1.70940

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_clkbuf_8	A	0.24013	0.47527	1.64097
	A	0.26211	0.49724	1.66283

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_clkbuf_8	A	0.27359	0.48927	1.65511
	A	0.25159	0.46726	1.63325

GF180MCU_OSU_SC_12T_CLKINV_16

gf180mcu_12T_TT_3P3_25C.ccs
Cell Library: Process , Voltage 3.30, Temp 25.00

Truth Table

INPUT	OUTPUT
A	Y
0	1
1	0

Footprint

Cell Name	Area
gf180mcu_osu_sc_12T_clkinv_16	0.00000

Pin Capacitance Information

Cell Name	Pin Cap(pf)	Max Cap(pf)
	A	Y
gf180mcu_osu_sc_12T_clkinv_16	0.06458	23.88324

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_12T_clkinv_16	0.00000	0.01192	0.01439

Delay Information

Delay(ns) to Y rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_clkinv_16	A->Y (FR)	0.03813	0.18831	0.83797

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_clkinv_16	A->Y (RF)	0.02956	-0.01302	-0.54942

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_clkinv_16	A	0.35796	1.81271	11.20410
	A	0.00897	1.46040	10.85430

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_clkinv_16	A	-0.00731	1.43087	10.82280
	A	0.34156	1.78336	11.17260

GF180MCU_OSU_SC_12T_CLKINV_1

gf180mcu_12T_TT_3P3_25C.ccs
Cell Library: Process , Voltage 3.30, Temp 25.00

Truth Table

INPUT	OUTPUT
A	Y
0	1
1	0

Footprint

Cell Name	Area
gf180mcu_osu_sc_12T_clkinv_1	0.00000

Pin Capacitance Information

Cell Name	Pin Cap(pf)	Max Cap(pf)
	A	Y
gf180mcu_osu_sc_12T_clkinv_1	0.00404	1.50748

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_12T_clkinv_1	0.00000	0.00075	0.00090

Delay Information

Delay(ns) to Y rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_clkinv_1	A->Y (FR)	0.03813	0.18831	0.83797

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_clkinv_1	A->Y (RF)	0.02956	-0.01302	-0.54942

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_clkinv_1	A	0.02237	0.11330	0.70026
	A	0.00056	0.09127	0.67839

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_clkinv_1	A	-0.00046	0.08944	0.67642
	A	0.02135	0.11147	0.69829

GF180MCU_OSU_SC_12T_CLKINV_2

gf180mcu_12T_TT_3P3_25C.ccs
Cell Library: Process , Voltage 3.30, Temp 25.00

Truth Table

INPUT	OUTPUT
A	Y
0	1
1	0

Footprint

Cell Name	Area
gf180mcu_osu_sc_12T_clkinv_2	0.00000

Pin Capacitance Information

Cell Name	Pin Cap(pf)	Max Cap(pf)
	A	Y
gf180mcu_osu_sc_12T_clkinv_2	0.00807	2.98498

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_12T_clkinv_2	0.00000	0.00149	0.00180

Delay Information

Delay(ns) to Y rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_clkinv_2	A->Y (FR)	0.03813	0.18831	0.83797

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_clkinv_2	A->Y (RF)	0.02956	-0.01302	-0.54942

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_clkinv_2	A	0.04474	0.22659	1.40052
	A	0.00112	0.18255	1.35679

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_clkinv_2	A	-0.00091	0.17886	1.35285
	A	0.04270	0.22292	1.39658

GF180MCU_OSU_SC_12T_CLKINV_4

gf180mcu_12T_TT_3P3_25C.ccs
Cell Library: Process , Voltage 3.30, Temp 25.00

Truth Table

INPUT	OUTPUT
A	Y
0	1
1	0

Footprint

Cell Name	Area
gf180mcu_osu_sc_12T_clkinv_4	0.00000

Pin Capacitance Information

Cell Name	Pin Cap(pf)	Max Cap(pf)
	A	Y
gf180mcu_osu_sc_12T_clkinv_4	0.01614	5.97048

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_12T_clkinv_4	0.00000	0.00298	0.00360

Delay Information

Delay(ns) to Y rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_clkinv_4	A->Y (FR)	0.03813	0.18831	0.83797

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_clkinv_4	A->Y (RF)	0.02956	-0.01302	-0.54942

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_clkinv_4	A	0.08949	0.45318	2.80103
	A	0.00224	0.36510	2.71358

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_clkinv_4	A	-0.00183	0.35772	2.70570
	A	0.08539	0.44584	2.79315

GF180MCU_OSU_SC_12T_CLKINV_8

gf180mcu_12T_TT_3P3_25C.ccs
Cell Library: Process , Voltage 3.30, Temp 25.00

Truth Table

INPUT	OUTPUT
A	Y
0	1
1	0

Footprint

Cell Name	Area
gf180mcu_osu_sc_12T_clkinv_8	0.00000

Pin Capacitance Information

Cell Name	Pin Cap(pf)	Max Cap(pf)
	A	Y
gf180mcu_osu_sc_12T_clkinv_8	0.03229	11.94140

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_12T_clkinv_8	0.00000	0.00596	0.00720

Delay Information

Delay(ns) to Y rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_clkinv_8	**A->Y (FR)**	0.03813	0.18831	0.83797

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_clkinv_8	**A->Y (RF)**	0.02956	-0.01302	-0.54942

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_clkinv_8	A	0.17898	0.90636	5.60206
	A	0.00448	0.73020	5.42716

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_clkinv_8	A	-0.00366	0.71543	5.41139
	A	0.17078	0.89168	5.58631

GF180MCU_OSU_SC_12T_DFFN_1

gf180mcu_12T_TT_3P3_25C.ccs
Cell Library: Process , Voltage 3.30, Temp 25.00

Truth Table

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

Footprint

Cell Name	Area
gf180mcu_osu_sc_12T_dffn_1	0.00000

Pin Capacitance Information

Cell Name	Pin Cap(pf)		Max Cap(pf)	
	D	CLKN	Q	QN
gf180mcu_osu_sc_12T_dffn_1	0.00393	0.01038	1.56141	1.56075

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_12T_dffn_1	0.00000	0.00595	0.00661

Delay Information

Delay(ns) to Q rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_dffn_1	CLKN->Q (RR)	0.25666	0.36429	0.00950
	QN->Q (FR)	0.03813	0.18833	0.83797

Delay(ns) to Q falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_dffn_1	CLKN->Q (RF)	0.34513	0.41135	0.13459
	QN->Q (RF)	0.02956	-0.01309	-0.54942

Delay(ns) to QN rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_dffn_1	CLKN->QN (RR)	0.31700	0.38322	0.10650

Delay(ns) to QN falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_dffn_1	CLKN->QN (RF)	0.22573	0.33277	-0.02402

Constraint Information

Constraints(ns) for D rising :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_12T_dffn_1	hold	CLKN (R)	-0.10179	-0.09468	0.57178
	setup	CLKN (R)	0.19162	0.26313	1.03011

Constraints(ns) for D falling :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_12T_dffn_1	hold	CLKN (R)	-0.20156	-0.59850	-2.60930
	setup	CLKN (R)	0.22307	0.61333	5.16150

Constraints(ns) for CLKN rising (conditional):

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_12T_dffn_1	min_pulse_width	CLKN ()	0.15663	1.45264	16.50020
	min_pulse_width	CLKN ()	0.19026	1.45264	16.50020

Constraints(ns) for CLKN falling (conditional):

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_12T_dffn_1	min_pulse_width	CLKN ()	0.25493	1.45264	16.50020
	min_pulse_width	CLKN ()	0.17991	1.45264	16.50020

Power Information

Internal switching power(pJ) to Q rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dffn_1	CLKN	0.04904	0.12506	0.56121
	CLKN	0.07710	0.15310	0.58930

Internal switching power(pJ) to Q falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dffn_1	CLKN	0.05821	0.10133	0.40738
	CLKN	0.07971	0.12283	0.42875

Internal switching power(pJ) to QN rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dffn_1	CLKN	0.05819	0.10134	0.40738
	CLKN	0.07970	0.12278	0.42875

Internal switching power(pJ) to QN falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dffn_1	CLKN	0.04902	0.12495	0.56118
	CLKN	0.07709	0.15317	0.58927

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dffn_1	CLKN	-0.01322	-0.01337	-0.01335
	CLKN	0.00655	0.00646	0.00649
	(!CLKN * Q * !QN) + (!CLKN * !Q * QN)	0.05981	0.13506	0.71342
	(!CLKN * Q * !QN) + (!CLKN * !Q * QN)	0.09137	0.16672	0.74479

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dffn_1	CLKN	0.01350	0.01350	0.01335
	CLKN	-0.00644	-0.00646	-0.00648
	(!CLKN * Q * !QN) + (!CLKN * !Q * QN)	0.09185	0.16866	0.74724
	(!CLKN * Q * !QN) + (!CLKN * !Q * QN)	0.06027	0.13709	0.71567

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dffn_1	(D * Q * !QN)	-0.00023	0.08403	0.66646
	(D * Q * !QN)	0.04663	0.13083	0.71314
	(!D * !Q * QN)	-0.00085	0.08434	0.66610
	(!D * !Q * QN)	0.05311	0.13817	0.71997

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dffn_1	(D * Q * !QN)	0.04727	0.13521	0.71738
	(D * Q * !QN)	0.00046	0.08823	0.67051
	(D * !Q * QN)	0.12425	0.21409	0.99209
	(D * !Q * QN)	0.08250	0.17213	0.94983
	(!D * Q * !QN)	0.12088	0.27456	1.16805
	(!D * Q * !QN)	0.06420	0.21753	1.11108
	(!D * !Q * QN)	0.05373	0.13904	0.72024
	(!D * !Q * QN)	-0.00033	0.08480	0.66630

GF180MCU_OSU_SC_12T_DFFRN_1

gf180mcu_12T_TT_3P3_25C.ccs
Cell Library: Process , Voltage 3.30, Temp 25.00

Truth Table

INPUT			OUTPUT	
D	**RN**	**CLKN**	**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
gf180mcu_osu_sc_12T_dffrn_1	0.00000

Pin Capacitance Information

Cell Name	Pin Cap(pf)			Max Cap(pf)	
	D	**RN**	**CLKN**	**Q**	**QN**
gf180mcu_osu_sc_12T_dffrn_1	0.00393	0.00405	0.01038	1.55894	1.56019

Leakage Information

Cell Name	Leakage(nW)		
	Min.	**Avg**	**Max.**
gf180mcu_osu_sc_12T_dffrn_1	0.00000	0.00703	0.00851

Delay Information

Delay(ns) to Q rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_dffrn_1	CLKN->Q (RR)	0.33830	0.42684	0.08660
	QN->Q (FR)	0.03813	0.18833	0.83797

Delay(ns) to Q falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_dffrn_1	CLKN->Q (RF)	0.37694	0.44260	0.16554
	QN->Q (RF)	0.02956	-0.01309	-0.54942
	RN->Q (FF)	0.23211	0.49378	1.35717

Delay(ns) to QN rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_dffrn_1	CLKN->QN (RR)	0.34896	0.41450	0.13748
	RN->QN (FR)	0.20400	0.46572	1.32916

Delay(ns) to QN falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_dffrn_1	CLKN->QN (RF)	0.30459	0.39273	0.05087

Constraint Information

Constraints(ns) for D rising :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_12T_dffrn_1	hold	CLKN (R)	-0.12582	-0.11059	0.55029
	setup	CLKN (R)	0.26310	0.34091	0.67729

Constraints(ns) for D falling :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_12T_dffrn_1	hold	CLKN (R)	-0.21585	-0.59850	-4.97481
	setup	CLKN (R)	0.23887	0.61757	5.13981

Constraints(ns) for D rising (conditional):

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_12T_dffrn_1	hold	CLKN (R)	-0.12582	-0.11059	0.55029
	setup	CLKN (R)	0.26310	0.34091	0.67729

Constraints(ns) for D falling (conditional):

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_12T_dffrn_1	hold	CLKN (R)	-0.21585	-0.59850	-4.97481
	setup	CLKN (R)	0.23887	0.61757	5.13981

Constraints(ns) for RN rising :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_12T_dffrn_1	recovery	CLKN (R)	0.15911	0.28314	1.49548
	removal	CLKN (R)	0.00015	-0.00430	-0.02840

Constraints(ns) for RN rising (conditional):

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_12T_dffrn_1	recovery	CLKN (R)	0.15911	0.28314	1.49548
	removal	CLKN (R)	0.00015	-0.00430	-0.02840

Constraints(ns) for RN falling (conditional):

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_12T_dffrn_1	min_pulse_width	RN ()	0.15922	1.45264	16.50020
	min_pulse_width	RN ()	0.15922	1.45264	16.50020

Constraints(ns) for CLKN rising (conditional):

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_12T_dffrn_1	min_pulse_width	CLKN ()	0.18508	1.45264	16.50020
	min_pulse_width	CLKN ()	0.21095	1.45264	16.50020

Constraints(ns) for CLKN falling (conditional):

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_12T_dffrn_1	min_pulse_width	CLKN ()	0.32477	1.45264	16.50020
	min_pulse_width	CLKN ()	0.19802	1.45264	16.50020

Power Information

Internal switching power(pJ) to Q rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dffrn_1	CLKN	0.05691	0.13042	0.56531
	CLKN	0.08500	0.15843	0.59340

Internal switching power(pJ) to Q falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dffrn_1	CLKN	0.06395	0.10698	0.41248
	CLKN	0.08545	0.12848	0.43386
	RN	0.11705	0.16539	0.49657
	RN	0.09946	0.14788	0.47907

Internal switching power(pJ) to QN rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dffrn_1	CLKN	0.06397	0.10698	0.41247
	CLKN	0.08547	0.12848	0.43385
	RN	0.11704	0.16540	0.49646
	RN	0.09945	0.14783	0.47896

Internal switching power(pJ) to QN falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dffrn_1	CLKN	0.05690	0.13031	0.56531
	CLKN	0.08499	0.15853	0.59340

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dffrn_1	CLKN	-0.01322	-0.01337	-0.01335
	CLKN	0.00655	0.00646	0.00649
	(!CLKN * RN * Q * !QN) + (!CLKN * RN * !Q * QN)	0.07158	0.14128	0.70925
	(!CLKN * RN * Q * !QN) + (!CLKN * RN * !Q * QN)	0.10314	0.17294	0.74064
	(!CLKN * !RN * !Q * QN)	0.03722	0.10100	0.62219
	(!CLKN * !RN * !Q * QN)	0.06894	0.13272	0.65365

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dffrn_1	CLKN	0.01350	0.01350	0.01335
	CLKN	-0.00643	-0.00646	-0.00648
	(!CLKN * RN * Q * !QN) + (!CLKN * RN * !Q * QN)	0.10243	0.17545	0.74669
	(!CLKN * RN * Q * !QN) + (!CLKN * RN * !Q * QN)	0.07083	0.14382	0.71519
	(!CLKN * !RN * !Q * QN)	0.04834	0.11325	0.63628
	(!CLKN * !RN * !Q * QN)	0.01680	0.08163	0.60475

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dffrn_1	(CLKN * !Q * QN) + (!CLKN * !D * !Q * QN)	0.00925	0.09305	0.67560
	(CLKN * !Q * QN) + (!CLKN * !D * !Q * QN)	0.03119	0.11496	0.69756
	(!CLKN * D * !Q * QN)	0.04285	0.13110	0.74159
	(!CLKN * D * !Q * QN)	0.06470	0.15299	0.76344

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dffrn_1	(CLKN * !Q * QN) + (!CLKN * !D * !Q * QN)	0.03759	0.12476	0.70804
	(CLKN * !Q * QN) + (!CLKN * !D * !Q * QN)	0.01556	0.10265	0.68610
	(!CLKN * D * !Q * QN)	0.07900	0.17029	0.78483
	(!CLKN * D * !Q * QN)	0.05709	0.14834	0.76292

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dffrn_1	(D * RN * Q * !QN)	-0.00023	0.08404	0.66646
	(D * RN * Q * !QN)	0.04663	0.13084	0.71314
	(D * !RN * !Q * QN)	0.03581	0.12423	0.73390
	(D * !RN * !Q * QN)	0.08029	0.16847	0.77664
	(!D * !Q * QN)	-0.00084	0.08434	0.66610
	(!D * !Q * QN)	0.05311	0.13817	0.71997

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dffrn_1	(D * RN * Q * !QN)	0.04727	0.13491	0.71738
	(D * RN * Q * !QN)	0.00047	0.08836	0.67051
	(D * RN * !Q * QN)	0.13595	0.22427	0.99368
	(D * RN * !Q * QN)	0.09421	0.18277	0.95135
	(D * !RN * !Q * QN)	0.09412	0.18864	0.79682
	(D * !RN * !Q * QN)	0.04954	0.14446	0.75322
	(!D * RN * Q * !QN)	0.13160	0.28256	1.17200
	(!D * RN * Q * !QN)	0.07494	0.22541	1.11486
	(!D * !Q * QN)	0.05372	0.13904	0.72024
	(!D * !Q * QN)	-0.00034	0.08480	0.66631

GF180MCU_OSU_SC_12T_DFFR_1

gf180mcu_12T_TT_3P3_25C.ccs
Cell Library: Process , Voltage 3.30, 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
gf180mcu_osu_sc_12T_dffr_1	0.00000

Pin Capacitance Information

Cell Name	Pin Cap(pf)			Max Cap(pf)	
	D	**RN**	**CLK**	**Q**	**QN**
gf180mcu_osu_sc_12T_dffr_1	0.00393	0.00405	0.01038	1.55894	1.56019

Leakage Information

Cell Name	Leakage(nW)		
	Min.	**Avg**	**Max.**
gf180mcu_osu_sc_12T_dffr_1	0.00000	0.00703	0.00851

Delay Information

Delay(ns) to Q rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_dffr_1	CLK->Q (RR)	0.33830	0.42684	0.08660
	QN->Q (FR)	0.03813	0.18833	0.83797

Delay(ns) to Q falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_dffr_1	CLK->Q (RF)	0.37694	0.44260	0.16554
	QN->Q (RF)	0.02956	-0.01309	-0.54942
	RN->Q (FF)	0.23211	0.49378	1.35717

Delay(ns) to QN rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_dffr_1	CLK->QN (RR)	0.34896	0.41450	0.13748
	RN->QN (FR)	0.20400	0.46572	1.32916

Delay(ns) to QN falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_dffr_1	CLK->QN (RF)	0.30459	0.39273	0.05087

Constraint Information

Constraints(ns) for D rising :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_12T_dffr_1	hold	CLK (R)	-0.12582	-0.11059	0.55029
	setup	CLK (R)	0.26310	0.34091	0.67729

Constraints(ns) for D falling :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_12T_dffr_1	hold	CLK (R)	-0.21585	-0.59850	-4.97481
	setup	CLK (R)	0.23887	0.61757	5.13981

Constraints(ns) for D rising (conditional):

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_12T_dffr_1	hold	CLK (R)	-0.12582	-0.11059	0.55029
	setup	CLK (R)	0.26310	0.34091	0.67729

Constraints(ns) for D falling (conditional):

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_12T_dffr_1	hold	CLK (R)	-0.21585	-0.59850	-4.97481
	setup	CLK (R)	0.23887	0.61757	5.13981

Constraints(ns) for RN rising :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_12T_dffr_1	recovery	CLK (R)	0.15911	0.28314	1.49548
	removal	CLK (R)	0.00015	-0.00430	-0.02840

Constraints(ns) for RN rising (conditional):

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_12T_dffr_1	recovery	CLK (R)	0.15911	0.28314	1.49548
	removal	CLK (R)	0.00015	-0.00430	-0.02840

Constraints(ns) for RN falling (conditional):

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_12T_dffr_1	min_pulse_width	RN ()	0.15922	1.45264	16.50020
	min_pulse_width	RN ()	0.15922	1.45264	16.50020

Constraints(ns) for CLK rising (conditional):

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_12T_dffr_1	min_pulse_width	CLK ()	0.18508	1.45264	16.50020
	min_pulse_width	CLK ()	0.21095	1.45264	16.50020

Constraints(ns) for CLK falling (conditional):

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_12T_dffr_1	min_pulse_width	CLK ()	0.32477	1.45264	16.50020
	min_pulse_width	CLK ()	0.19802	1.45264	16.50020

Power Information

Internal switching power(pJ) to Q rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dffr_1	CLK	0.05691	0.13042	0.56531
	CLK	0.08500	0.15843	0.59340

Internal switching power(pJ) to Q falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dffr_1	CLK	0.06395	0.10698	0.41248
	CLK	0.08545	0.12848	0.43386
	RN	0.11705	0.16539	0.49657
	RN	0.09946	0.14788	0.47907

Internal switching power(pJ) to QN rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dffr_1	CLK	0.06397	0.10698	0.41247
	CLK	0.08547	0.12848	0.43385
	RN	0.11704	0.16540	0.49646
	RN	0.09945	0.14783	0.47896

Internal switching power(pJ) to QN falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dffr_1	CLK	0.05690	0.13031	0.56531
	CLK	0.08499	0.15853	0.59340

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dffr_1	CLK	-0.01322	-0.01337	-0.01335
	CLK	0.00655	0.00646	0.00649
	(!CLK * RN * Q * !QN) + (!CLK * RN * !Q * QN)	0.07158	0.14128	0.70925
	(!CLK * RN * Q * !QN) + (!CLK * RN * !Q * QN)	0.10314	0.17294	0.74064
	(!CLK * !RN * !Q * QN)	0.03722	0.10100	0.62219
	(!CLK * !RN * !Q * QN)	0.06894	0.13272	0.65365

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dffr_1	CLK	0.01350	0.01350	0.01335
	CLK	-0.00643	-0.00646	-0.00648
	(!CLK * RN * Q * !QN) + (!CLK * RN * !Q * QN)	0.10243	0.17545	0.74669
	(!CLK * RN * Q * !QN) + (!CLK * RN * !Q * QN)	0.07083	0.14382	0.71519
	(!CLK * !RN * !Q * QN)	0.04834	0.11325	0.63628
	(!CLK * !RN * !Q * QN)	0.01680	0.08163	0.60475

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dffr_1	(CLK * !Q * QN) + (!CLK * !D * !Q * QN)	0.00925	0.09305	0.67560
	(CLK * !Q * QN) + (!CLK * !D * !Q * QN)	0.03119	0.11496	0.69756
	(!CLK * D * !Q * QN)	0.04285	0.13110	0.74159
	(!CLK * D * !Q * QN)	0.06470	0.15299	0.76344

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dffr_1	(CLK * !Q * QN) + (!CLK * !D * !Q * QN)	0.03759	0.12476	0.70804
	(CLK * !Q * QN) + (!CLK * !D * !Q * QN)	0.01556	0.10265	0.68610
	(!CLK * D * !Q * QN)	0.07900	0.17029	0.78483
	(!CLK * D * !Q * QN)	0.05709	0.14834	0.76292

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dffr_1	(D * RN * Q * !QN)	-0.00023	0.08404	0.66646
	(D * RN * Q * !QN)	0.04663	0.13084	0.71314
	(D * !RN * !Q * QN)	0.03581	0.12423	0.73390
	(D * !RN * !Q * QN)	0.08029	0.16847	0.77664
	(!D * !Q * QN)	-0.00084	0.08434	0.66610
	(!D * !Q * QN)	0.05311	0.13817	0.71997

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dffr_1	(D * RN * Q * !QN)	0.04727	0.13491	0.71738
	(D * RN * Q * !QN)	0.00047	0.08836	0.67051
	(D * RN * !Q * QN)	0.13595	0.22427	0.99368
	(D * RN * !Q * QN)	0.09421	0.18277	0.95135
	(D * !RN * !Q * QN)	0.09412	0.18864	0.79682
	(D * !RN * !Q * QN)	0.04954	0.14446	0.75322
	(!D * RN * Q * !QN)	0.13160	0.28256	1.17200
	(!D * RN * Q * !QN)	0.07494	0.22541	1.11486
	(!D * !Q * QN)	0.05372	0.13904	0.72024
	(!D * !Q * QN)	-0.00034	0.08480	0.66631

GF180MCU_OSU_SC_12T_DFFSN_1

gf180mcu_12T_TT_3P3_25C.ccs
Cell Library: Process , Voltage 3.30, Temp 25.00

Truth Table

INPUT			OUTPUT	
D	SN	CLKN	Q	QN
x	x	x	1	1

Footprint

Cell Name	Area
gf180mcu_osu_sc_12T_dffsn_1	0.00000

Pin Capacitance Information

Cell Name	Pin Cap(pf)			Max Cap(pf)	
	D	SN	CLKN	Q	QN
gf180mcu_osu_sc_12T_dffsn_1	0.00393	2.10339	0.01211	1.75019	1.75019

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_12T_dffsn_1	0.00000	922916.00000	2599040.00000

Delay Information

Delay(ns) to Q rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_dffsn_1	QN->Q (FR)	0.03813	0.18833	0.83797

Delay(ns) to Q falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_dffsn_1	QN->Q (RF)	0.02956	-0.01309	-0.54942

Constraint Information

Constraints(ns) for SN rising (conditional):

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_12T_dffsn_1	**min_pulse_width**	**SN ()**	4.51710	4.50808	17.66910

Passive Power Information

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dffsn_1	CLKN	-0.01316	-0.01344	-0.01337
	CLKN	0.00662	0.00651	0.00649
	(!CLKN * SN)	0.03106	0.09500	0.61568
	(!CLKN * SN)	0.15378	0.70759	4.08711
	(!CLKN * !SN)	22.50590	21.78750	17.63940
	(!CLKN * !SN)	0.06696	0.13109	0.65183

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dffsn_1	CLKN	0.01333	0.01344	0.01337
	CLKN	-0.00643	-0.00651	-0.00647
	(!CLKN * SN)	0.05444	0.11954	0.64280
	(!CLKN * SN)	7.61663	7.08280	3.99006
	(!CLKN * !SN)	11.47970	12.33060	17.61980
	(!CLKN * !SN)	0.01672	0.08206	0.60560

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dffsn_1	(CLKN * Q * !QN)	0.09777	0.99112	7.45039
	(CLKN * Q * !QN)	0.23291	0.41349	1.73505
	(CLKN * !Q * QN)	0.04418	0.91255	7.28579
	(CLKN * !Q * QN)	0.18099	0.33244	1.57256
	(!CLKN * Q * !QN)	0.02433	1.55806	11.28670
	(!CLKN * Q * !QN)	0.02493	0.02472	0.02445
	(!CLKN * !Q * QN)	0.02400	1.55740	11.28640
	(!CLKN * !Q * QN)	0.02851	0.02855	0.02813

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dffsn_1	(CLKN * Q * !QN)	11.50580	11.22180	8.38726
	(CLKN * Q * !QN)	0.04575	0.35003	1.46732
	(CLKN * !Q * QN)	11.50840	11.05410	8.30701
	(CLKN * !Q * QN)	0.04358	0.17865	1.38140
	(!CLKN * Q * !QN)	22.60860	21.21340	12.37990
	(!CLKN * Q * !QN)	-0.02423	-0.02457	-0.02436
	(!CLKN * !Q * QN)	22.61020	21.21320	12.37960
	(!CLKN * !Q * QN)	-0.02731	-0.02855	-0.02813

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dffsn_1	(D * SN * Q * !QN)	-0.00043	0.08383	0.66628
	(D * SN * Q * !QN)	0.04669	0.13089	0.71320
	(D * SN * !Q * QN)	0.02528	0.16584	1.15810
	(D * SN * !Q * QN)	0.08214	0.22234	1.21449
	(D * !SN * Q * !QN)	11.51260	12.38090	17.43570
	(D * !SN * Q * !QN)	0.10771	0.20021	0.83672
	(D * !SN * !Q * QN)	11.47350	12.33560	17.35950
	(D * !SN * !Q * QN)	0.08026	0.16842	0.77670
	(!D * SN * Q * !QN)	0.01854	0.15960	1.15153
	(!D * SN * Q * !QN)	0.15101	0.78787	4.62583
	(!D * SN * !Q * QN)	0.04453	0.24212	1.64331
	(!D * SN * !Q * QN)	0.18621	0.87940	5.12727
	(!D * !SN * Q * !QN)	11.34770	11.43600	12.04540
	(!D * !SN * Q * !QN)	0.08023	0.16844	0.77707
	(!D * !SN * !Q * QN)	11.31110	11.39630	11.97810
	(!D * !SN * !Q * QN)	0.05302	0.13812	0.71994

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dffsn_1	(D * SN * Q * !QN)	0.04739	0.13511	0.71752
	(D * SN * Q * !QN)	0.00039	0.08821	0.67044
	(D * SN * !Q * QN)	0.06893	0.21433	1.20750
	(D * SN * !Q * QN)	0.01213	0.15759	1.15074
	(D * !SN * Q * !QN)	22.57500	21.76950	17.18890
	(D * !SN * Q * !QN)	0.09854	0.20496	0.84217
	(D * !SN * !Q * QN)	22.53670	21.72340	17.13160
	(D * !SN * !Q * QN)	0.04768	0.14274	0.75161
	(!D * SN * Q * !QN)	0.07547	0.22082	1.21321
	(!D * SN * Q * !QN)	7.63694	7.16032	4.49557
	(!D * SN * !Q * QN)	0.09677	0.30025	1.70345
	(!D * SN * !Q * QN)	7.64920	7.23161	4.97836
	(!D * !SN * Q * !QN)	11.40620	11.50080	12.10870
	(!D * !SN * Q * !QN)	0.04970	0.14471	0.75358
	(!D * !SN * !Q * QN)	11.36560	11.45230	12.03210
	(!D * !SN * !Q * QN)	-0.00028	0.08621	0.66636

GF180MCU_OSU_SC_12T_DFFSRN_1

gf180mcu_12T_TT_3P3_25C.ccs
Cell Library: Process , Voltage 3.30, Temp 25.00

Truth Table

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

Footprint

Cell Name	Area
gf180mcu_osu_sc_12T_dffsrn_1	0.00000

Pin Capacitance Information

Cell Name	Pin Cap(pf)				Max Cap(pf)	
	D	RN	SN	CLKN	Q	QN
gf180mcu_osu_sc_12T_dffsrn_1	0.00393	0.00405	0.00801	0.01038	1.54794	1.55977

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_12T_dffsrn_1	0.00000	0.00708	0.00862

Delay Information

Delay(ns) to Q rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_dffsrn_1	CLKN->Q (RR)	0.37699	0.45957	0.10686
	QN->Q (FR)	0.03813	0.18829	0.83797
	RN->Q (RR)	0.27263	0.35548	0.11826
	SN->Q (FR)	0.25522	0.44554	0.99212

Delay(ns) to Q falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_dffsrn_1	CLKN->Q (RF)	0.43530	0.50128	0.22052
	QN->Q (RF)	0.02956	-0.01309	-0.54942
	RN->Q (FF)	0.24213	0.50675	1.37954

Delay(ns) to QN rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_dffsrn_1	CLKN->QN (RR)	0.40691	0.47289	0.19227
	RN->QN (FR)	0.21399	0.47863	1.35117

Delay(ns) to QN falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_dffsrn_1	CLKN->QN (RF)	0.34248	0.42461	0.07028
	RN->QN (RF)	0.23888	0.32159	0.08308
	SN->QN (FF)	0.22147	0.40539	0.94137

Constraint Information

Constraints(ns) for D rising :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_12T_dffsrn_1	hold	CLKN (R)	-0.14322	-0.12450	0.55145
	setup	CLKN (R)	0.29512	0.37654	0.72352

Constraints(ns) for D falling :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_12T_dffsrn_1	hold	CLKN (R)	-0.22765	-0.60650	-4.98183
	setup	CLKN (R)	0.26704	0.62402	5.14842

Constraints(ns) for D rising (conditional):

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_12T_dffsrn_1	hold	CLKN (R)	-0.14322	-0.12450	0.55145
	setup	CLKN (R)	0.29512	0.37654	0.72352

Constraints(ns) for D falling (conditional):

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_12T_dffsrn_1	hold	CLKN (R)	-0.22765	-0.60650	-4.98183
	setup	CLKN (R)	0.26704	0.62402	5.14842

Constraints(ns) for RN rising :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_12T_dffsrn_1	recovery	CLKN (R)	0.17741	0.29891	1.47140
	removal	CLKN (R)	-0.01479	-0.01937	-0.04926
	hold	SN (R)	-0.20665	-0.41530	-0.83053
	setup	SN (R)	0.24672	0.55886	5.54522

Constraints(ns) for RN rising (conditional):

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_12T_dffsrn_1	recovery	CLKN (R)	0.17741	0.29891	1.47140
	removal	CLKN (R)	-0.01479	-0.01937	-0.04926
	hold	SN (R)	-0.20665	-0.41530	-0.83053
	hold	SN (R)	-0.20716	-0.41745	-0.83452
	setup	SN (R)	0.24329	0.55875	5.25696
	setup	SN (R)	0.24672	0.55886	5.54522

Constraints(ns) for RN falling (conditional):

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_12T_dffsrn_1	min_pulse_width	RN ()	0.16698	1.45264	16.50020
	min_pulse_width	RN ()	0.16698	1.45264	16.50020

Constraints(ns) for SN rising :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_12T_dffsrn_1	recovery	CLKN (R)	0.07579	0.17122	5.76466
	removal	CLKN (R)	-0.03777	-0.08822	-0.61803

Constraints(ns) for SN rising (conditional):

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_12T_dffsrn_1	recovery	CLKN (R)	0.07579	0.17122	5.76466
	removal	CLKN (R)	-0.03777	-0.08822	-0.61803

Constraints(ns) for SN falling (conditional):

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_12T_dffsrn_1	min_pulse_width	SN ()	0.22647	1.45264	16.50020
	min_pulse_width	SN ()	0.23165	1.45264	16.50020

Constraints(ns) for CLKN rising (conditional):

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_12T_dffsrn_1	min_pulse_width	CLKN ()	0.20578	1.45264	16.50020
	min_pulse_width	CLKN ()	0.22906	1.45264	16.50020

Constraints(ns) for CLKN falling (conditional):

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_12T_dffsrn_1	min_pulse_width	CLKN ()	0.35840	1.45264	16.50020
	min_pulse_width	CLKN ()	0.22906	1.45264	16.50020

Power Information

Internal switching power(pJ) to Q rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dffsrn_1	CLKN	0.06438	0.13680	0.57011
	CLKN	0.08943	0.16192	0.59517
	RN	0.10472	0.15184	0.47808
	RN	0.12149	0.16887	0.49482
	SN	0.09510	0.15849	0.57031
	SN	0.07877	0.14204	0.55396

Internal switching power(pJ) to Q falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dffsrn_1	CLKN	0.06739	0.11035	0.41506
	CLKN	0.09191	0.13488	0.43946
	RN	0.11610	0.16590	0.50008
	RN	0.10489	0.15357	0.48498

Internal switching power(pJ) to QN rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dffsrn_1	CLKN	0.06736	0.11037	0.41507
	CLKN	0.09188	0.13484	0.43947
	RN	0.11609	0.16591	0.49995
	RN	0.10488	0.15353	0.48494

Internal switching power(pJ) to QN falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dffsrn_1	CLKN	0.06439	0.13675	0.57008
	CLKN	0.08944	0.16175	0.59513
	RN	0.10470	0.15222	0.47802
	RN	0.12147	0.16882	0.49475
	SN	0.09508	0.15856	0.57028
	SN	0.07875	0.14211	0.55393

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dffsrn_1	CLKN	-0.01321	-0.01337	-0.01335
	CLKN	0.00655	0.00646	0.00649
	(!CLKN * RN * SN * Q * !QN) + (!CLKN * RN * SN * !Q * QN)	0.08460	0.15207	0.71637
	(!CLKN * RN * SN * Q * !QN) + (!CLKN * RN * SN * !Q * QN)	0.11018	0.17770	0.74184
	(!CLKN * RN * !SN * Q * !QN)	0.03740	0.10116	0.62199
	(!CLKN * RN * !SN * Q * !QN)	0.06908	0.13285	0.65351
	(!CLKN * !RN * SN * !Q * QN)	0.03715	0.10043	0.62211
	(!CLKN * !RN * SN * !Q * QN)	0.06896	0.13219	0.65366
	(!CLKN * !RN * !SN * !Q * QN)	0.03740	0.10117	0.62199
	(!CLKN * !RN * !SN * !Q * QN)	0.06908	0.13285	0.65351

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dffsrn_1	CLKN	0.01350	0.01350	0.01335
	CLKN	-0.00643	-0.00646	-0.00648
	(!CLKN * RN * SN * Q * !QN) + (!CLKN * RN * SN * !Q * QN)	0.10616	0.17630	0.74263
	(!CLKN * RN * SN * Q * !QN) + (!CLKN * RN * SN * !Q * QN)	0.08055	0.15069	0.71713
	(!CLKN * RN * !SN * Q * !QN)	0.04832	0.11345	0.63649
	(!CLKN * RN * !SN * Q * !QN)	0.01674	0.08172	0.60486
	(!CLKN * !RN * SN * !Q * QN)	0.04844	0.11331	0.63632
	(!CLKN * !RN * SN * !Q * QN)	0.01680	0.08162	0.60475
	(!CLKN * !RN * !SN * !Q * QN)	0.04832	0.11345	0.63650
	(!CLKN * !RN * !SN * !Q * QN)	0.01674	0.08169	0.60486

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dffsrn_1	(CLKN * SN * !Q * QN) + (!CLKN * !D * SN * !Q * QN)	0.00944	0.09321	0.67565
	(CLKN * SN * !Q * QN) + (!CLKN * !D * SN * !Q * QN)	0.03158	0.11532	0.69779
	(!CLKN * D * SN * !Q * QN)	0.05545	0.14325	0.75218
	(!CLKN * D * SN * !Q * QN)	0.07228	0.16021	0.76910

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dffsrn_1	(CLKN * SN * !Q * QN) + (!CLKN * !D * SN * !Q * QN)	0.03773	0.12489	0.70816
	(CLKN * SN * !Q * QN) + (!CLKN * !D * SN * !Q * QN)	0.01555	0.10264	0.68608
	(!CLKN * D * SN * !Q * QN)	0.07900	0.17018	0.78403
	(!CLKN * D * SN * !Q * QN)	0.06214	0.15321	0.76718

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dffsrn_1	(CLKN * RN * Q * !QN) + (!CLKN * D * RN * Q * !QN)	-0.02792	-0.02816	-0.02827
	(CLKN * RN * Q * !QN) + (!CLKN * D * RN * Q * !QN)	0.00386	0.00388	0.00366
	(!RN * !Q * QN)	-0.02695	-0.02700	-0.02698
	(!RN * !Q * QN)	0.01311	0.01316	0.01302
	(!CLKN * !D * RN * Q * !QN)	0.02956	0.08786	0.55614
	(!CLKN * !D * RN * Q * !QN)	0.06710	0.12562	0.59362

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dffsrn_1	(CLKN * RN * Q * !QN) + (!CLKN * D * RN * Q * !QN)	0.02846	0.02860	0.02836
	(CLKN * RN * Q * !QN) + (!CLKN * D * RN * Q * !QN)	-0.00361	-0.00364	-0.00359
	(!RN * !Q * QN)	0.02707	0.02700	0.02698
	(!RN * !Q * QN)	-0.01298	-0.01298	-0.01298
	(!CLKN * !D * RN * Q * !QN)	0.06258	0.11832	0.58926
	(!CLKN * !D * RN * Q * !QN)	0.02492	0.08056	0.55161

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dffsrn_1	(D * RN * Q * !QN)	-0.00023	0.08403	0.66646
	(D * RN * Q * !QN)	0.04663	0.13084	0.71314
	(D * !RN * SN * !Q * QN)	0.03591	0.12430	0.73405
	(D * !RN * SN * !Q * QN)	0.08030	0.16846	0.77671
	(D * !RN * !SN * !Q * QN)	0.03579	0.12417	0.73378
	(D * !RN * !SN * !Q * QN)	0.08023	0.16840	0.77637
	(!D * RN * SN * !Q * QN) + (!D * !RN * !Q * QN)	-0.00084	0.08435	0.66610
	(!D * RN * SN * !Q * QN) + (!D * !RN * !Q * QN)	0.05311	0.13816	0.71997
	(!D * RN * !SN * Q * !QN)	0.02507	0.16588	1.15806
	(!D * RN * !SN * Q * !QN)	0.08157	0.22248	1.21437

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dffsrn_1	(D * RN * SN * !Q * QN)	0.14913	0.23706	1.00237
	(D * RN * SN * !Q * QN)	0.10131	0.18937	0.95592
	(D * RN * Q * !QN)	0.04727	0.13492	0.71738
	(D * RN * Q * !QN)	0.00047	0.08835	0.67051
	(D * !RN * SN * !Q * QN)	0.09405	0.18861	0.79676
	(D * !RN * SN * !Q * QN)	0.04958	0.14450	0.75327
	(D * !RN * !SN * !Q * QN)	0.09422	0.18891	0.79678
	(D * !RN * !SN * !Q * QN)	0.04975	0.14471	0.75318
	(!D * RN * SN * Q * !QN)	0.13534	0.28430	1.17447
	(!D * RN * SN * Q * !QN)	0.08470	0.23344	1.12334
	(!D * RN * SN * !Q * QN) + (!D * !RN * !Q * QN)	0.05371	0.13904	0.72024
	(!D * RN * SN * !Q * QN) + (!D * !RN * !Q * QN)	-0.00034	0.08480	0.66631
	(!D * RN * !SN * Q * !QN)	0.06922	0.21447	1.20685
	(!D * RN * !SN * Q * !QN)	0.01267	0.15805	1.15038

GF180MCU_OSU_SC_12T_DFFSR_1

gf180mcu_12T_TT_3P3_25C.ccs
Cell Library: Process , Voltage 3.30, 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	x	x	0	1
x	1	0	x	1	0
x	1	1	x	IQ	IQN

Footprint

Cell Name	Area
gf180mcu_osu_sc_12T_dffsr_1	0.00000

Pin Capacitance Information

Cell Name	Pin Cap(pf)				Max Cap(pf)	
	D	RN	SN	CLK	Q	QN
gf180mcu_osu_sc_12T_dffsr_1	0.00393	0.00405	0.00801	0.01038	1.54794	1.55977

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_12T_dffsr_1	0.00000	0.00708	0.00862

Delay Information

Delay(ns) to Q rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_dffsr_1	CLK->Q (RR)	0.37699	0.45957	0.10686
	QN->Q (FR)	0.03813	0.18829	0.83797
	RN->Q (RR)	0.27263	0.35548	0.11826
	SN->Q (FR)	0.25522	0.44554	0.99212

Delay(ns) to Q falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_dffsr_1	CLK->Q (RF)	0.43530	0.50128	0.22052
	QN->Q (RF)	0.02956	-0.01309	-0.54942
	RN->Q (FF)	0.24213	0.50675	1.37954

Delay(ns) to QN rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_dffsr_1	CLK->QN (RR)	0.40691	0.47289	0.19227
	RN->QN (FR)	0.21399	0.47863	1.35117

Delay(ns) to QN falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_dffsr_1	CLK->QN (RF)	0.34248	0.42461	0.07028
	RN->QN (RF)	0.23888	0.32159	0.08308
	SN->QN (FF)	0.22147	0.40539	0.94137

Constraint Information

Constraints(ns) for D rising :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_12T_dffsr_1	hold	CLK (R)	-0.14322	-0.12450	0.55145
	setup	CLK (R)	0.29512	0.37654	0.72352

Constraints(ns) for D falling :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_12T_dffsr_1	hold	CLK (R)	-0.22765	-0.60650	-4.98183
	setup	CLK (R)	0.26704	0.62402	5.14842

Constraints(ns) for D rising (conditional):

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_12T_dffsr_1	hold	CLK (R)	-0.14322	-0.12450	0.55145
	setup	CLK (R)	0.29512	0.37654	0.72352

Constraints(ns) for D falling (conditional):

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_12T_dffsr_1	hold	CLK (R)	-0.22765	-0.60650	-4.98183
	setup	CLK (R)	0.26704	0.62402	5.14842

Constraints(ns) for RN rising :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_12T_dffsr_1	recovery	CLK (R)	0.17741	0.29891	1.47140
	removal	CLK (R)	-0.01479	-0.01937	-0.04926
	hold	SN (R)	-0.20665	-0.41530	-0.83053
	setup	SN (R)	0.24672	0.55886	5.54522

Constraints(ns) for RN rising (conditional):

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_12T_dffsr_1	recovery	CLK (R)	0.17741	0.29891	1.47140
	removal	CLK (R)	-0.01479	-0.01937	-0.04926
	hold	SN (R)	-0.20665	-0.41530	-0.83053
	hold	SN (R)	-0.20716	-0.41745	-0.83452
	setup	SN (R)	0.24329	0.55875	5.25696
	setup	SN (R)	0.24672	0.55886	5.54522

Constraints(ns) for RN falling (conditional):

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_12T_dffsr_1	min_pulse_width	RN ()	0.16698	1.45264	16.50020
	min_pulse_width	RN ()	0.16698	1.45264	16.50020

Constraints(ns) for SN rising :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_12T_dffsr_1	recovery	CLK (R)	0.07579	0.17122	5.76466
	removal	CLK (R)	-0.03777	-0.08822	-0.61803

Constraints(ns) for SN rising (conditional):

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_12T_dffsr_1	recovery	CLK (R)	0.07579	0.17122	5.76466
	removal	CLK (R)	-0.03777	-0.08822	-0.61803

Constraints(ns) for SN falling (conditional):

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_12T_dffsr_1	min_pulse_width	SN ()	0.22647	1.45264	16.50020
	min_pulse_width	SN ()	0.23165	1.45264	16.50020

Constraints(ns) for CLK rising (conditional):

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_12T_dffsr_1	min_pulse_width	CLK ()	0.20578	1.45264	16.50020
	min_pulse_width	CLK ()	0.22906	1.45264	16.50020

Constraints(ns) for CLK falling (conditional):

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_12T_dffsr_1	min_pulse_width	CLK ()	0.35840	1.45264	16.50020
	min_pulse_width	CLK ()	0.22906	1.45264	16.50020

Power Information

Internal switching power(pJ) to Q rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dffsr_1	CLK	0.06438	0.13680	0.57011
	CLK	0.08943	0.16192	0.59517
	RN	0.10472	0.15184	0.47808
	RN	0.12149	0.16887	0.49482
	SN	0.09510	0.15849	0.57031
	SN	0.07877	0.14204	0.55396

Internal switching power(pJ) to Q falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dffsr_1	CLK	0.06739	0.11035	0.41506
	CLK	0.09191	0.13488	0.43946
	RN	0.11610	0.16590	0.50008
	RN	0.10489	0.15357	0.48498

Internal switching power(pJ) to QN rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dffsr_1	CLK	0.06736	0.11037	0.41507
	CLK	0.09188	0.13484	0.43947
	RN	0.11609	0.16591	0.49995
	RN	0.10488	0.15353	0.48494

Internal switching power(pJ) to QN falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dffsr_1	CLK	0.06439	0.13675	0.57008
	CLK	0.08944	0.16175	0.59513
	RN	0.10470	0.15222	0.47802
	RN	0.12147	0.16882	0.49475
	SN	0.09508	0.15856	0.57028
	SN	0.07875	0.14211	0.55393

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dffsr_1	CLK	-0.01321	-0.01337	-0.01335
	CLK	0.00655	0.00646	0.00649
	(!CLK * RN * SN * Q * !QN) + (!CLK * RN * SN * !Q * QN)	0.08460	0.15207	0.71637
	(!CLK * RN * SN * Q * !QN) + (!CLK * RN * SN * !Q * QN)	0.11018	0.17770	0.74184
	(!CLK * RN * !SN * Q * !QN)	0.03740	0.10116	0.62199
	(!CLK * RN * !SN * Q * !QN)	0.06908	0.13285	0.65351
	(!CLK * !RN * SN * !Q * QN)	0.03715	0.10043	0.62211
	(!CLK * !RN * SN * !Q * QN)	0.06896	0.13219	0.65366
	(!CLK * !RN * !SN * !Q * QN)	0.03740	0.10117	0.62199
	(!CLK * !RN * !SN * !Q * QN)	0.06908	0.13285	0.65351

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dffsr_1	CLK	0.01350	0.01350	0.01335
	CLK	-0.00643	-0.00646	-0.00648
	(!CLK * RN * SN * Q * !QN) + (!CLK * RN * SN * !Q * QN)	0.10616	0.17630	0.74263
	(!CLK * RN * SN * Q * !QN) + (!CLK * RN * SN * !Q * QN)	0.08055	0.15069	0.71713
	(!CLK * RN * !SN * Q * !QN)	0.04832	0.11345	0.63649
	(!CLK * RN * !SN * Q * !QN)	0.01674	0.08172	0.60486
	(!CLK * !RN * SN * !Q * QN)	0.04844	0.11331	0.63632
	(!CLK * !RN * SN * !Q * QN)	0.01680	0.08162	0.60475
	(!CLK * !RN * !SN * !Q * QN)	0.04832	0.11345	0.63650
	(!CLK * !RN * !SN * !Q * QN)	0.01674	0.08169	0.60486

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dffsr_1	(CLK * SN * !Q * QN) + (!CLK * !D * SN * !Q * QN)	0.00944	0.09321	0.67565
	(CLK * SN * !Q * QN) + (!CLK * !D * SN * !Q * QN)	0.03158	0.11532	0.69779
	(!CLK * D * SN * !Q * QN)	0.05545	0.14325	0.75218
	(!CLK * D * SN * !Q * QN)	0.07228	0.16021	0.76910

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dffsr_1	(CLK * SN * !Q * QN) + (!CLK * !D * SN * !Q * QN)	0.03773	0.12489	0.70816
	(CLK * SN * !Q * QN) + (!CLK * !D * SN * !Q * QN)	0.01555	0.10264	0.68608
	(!CLK * D * SN * !Q * QN)	0.07900	0.17018	0.78403
	(!CLK * D * SN * !Q * QN)	0.06214	0.15321	0.76718

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dffsr_1	(CLK * RN * Q * !QN) + (!CLK * D * RN * Q * !QN)	-0.02792	-0.02816	-0.02827
	(CLK * RN * Q * !QN) + (!CLK * D * RN * Q * !QN)	0.00386	0.00388	0.00366
	(!RN * !Q * QN)	-0.02695	-0.02700	-0.02698
	(!RN * !Q * QN)	0.01311	0.01316	0.01302
	(!CLK * !D * RN * Q * !QN)	0.02956	0.08786	0.55614
	(!CLK * !D * RN * Q * !QN)	0.06710	0.12562	0.59362

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dffsr_1	(CLK * RN * Q * !QN) + (!CLK * D * RN * Q * !QN)	0.02846	0.02860	0.02836
	(CLK * RN * Q * !QN) + (!CLK * D * RN * Q * !QN)	-0.00361	-0.00364	-0.00359
	(!RN * !Q * QN)	0.02707	0.02700	0.02698
	(!RN * !Q * QN)	-0.01298	-0.01298	-0.01298
	(!CLK * !D * RN * Q * !QN)	0.06258	0.11832	0.58926
	(!CLK * !D * RN * Q * !QN)	0.02492	0.08056	0.55161

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dffsr_1	(D * RN * Q * !QN)	-0.00023	0.08403	0.66646
	(D * RN * Q * !QN)	0.04663	0.13084	0.71314
	(D * !RN * SN * !Q * QN)	0.03591	0.12430	0.73405
	(D * !RN * SN * !Q * QN)	0.08030	0.16846	0.77671
	(D * !RN * !SN * !Q * QN)	0.03579	0.12417	0.73378
	(D * !RN * !SN * !Q * QN)	0.08023	0.16840	0.77637
	(!D * RN * SN * !Q * QN) + (!D * !RN * !Q * QN)	-0.00084	0.08435	0.66610
	(!D * RN * SN * !Q * QN) + (!D * !RN * !Q * QN)	0.05311	0.13816	0.71997
	(!D * RN * !SN * Q * !QN)	0.02507	0.16588	1.15806
	(!D * RN * !SN * Q * !QN)	0.08157	0.22248	1.21437

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dffsr_1	(D * RN * SN * !Q * QN)	0.14913	0.23706	1.00237
	(D * RN * SN * !Q * QN)	0.10131	0.18937	0.95592
	(D * RN * Q * !QN)	0.04727	0.13492	0.71738
	(D * RN * Q * !QN)	0.00047	0.08835	0.67051
	(D * !RN * SN * !Q * QN)	0.09405	0.18861	0.79676
	(D * !RN * SN * !Q * QN)	0.04958	0.14450	0.75327
	(D * !RN * !SN * !Q * QN)	0.09422	0.18891	0.79678
	(D * !RN * !SN * !Q * QN)	0.04975	0.14471	0.75318
	(!D * RN * SN * Q * !QN)	0.13534	0.28430	1.17447
	(!D * RN * SN * Q * !QN)	0.08470	0.23344	1.12334
	(!D * RN * SN * !Q * QN) + (!D * !RN * !Q * QN)	0.05371	0.13904	0.72024
	(!D * RN * SN * !Q * QN) + (!D * !RN * !Q * QN)	-0.00034	0.08480	0.66631
	(!D * RN * !SN * Q * !QN)	0.06922	0.21447	1.20685
	(!D * RN * !SN * Q * !QN)	0.01267	0.15805	1.15038

GF180MCU_OSU_SC_12T_DFFS_1

gf180mcu_12T_TT_3P3_25C.ccs
Cell Library: Process , Voltage 3.30, Temp 25.00

Truth Table

INPUT			OUTPUT	
D	SN	CLK	Q	QN
x	x	x	1	1

Footprint

Cell Name	Area
gf180mcu_osu_sc_12T_dffs_1	0.00000

Pin Capacitance Information

Cell Name	Pin Cap(pf)			Max Cap(pf)	
	D	SN	CLK	Q	QN
gf180mcu_osu_sc_12T_dffs_1	0.00393	2.10339	0.01211	1.75019	1.75019

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_12T_dffs_1	0.00000	922916.00000	2599040.00000

Delay Information

Delay(ns) to Q rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_dffs_1	**QN->Q (FR)**	0.03813	0.18833	0.83797

Delay(ns) to Q falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_dffs_1	**QN->Q (RF)**	0.02956	-0.01309	-0.54942

Constraint Information

Constraints(ns) for SN rising (conditional):

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_12T_dffs_1	**min_pulse_width**	**SN ()**	4.51710	4.50808	17.66910

Passive Power Information

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dffs_1	CLK	-0.01316	-0.01344	-0.01337
	CLK	0.00662	0.00651	0.00649
	(!CLK * SN)	0.03106	0.09500	0.61568
	(!CLK * SN)	0.15378	0.70759	4.08711
	(!CLK * !SN)	22.50590	21.78750	17.63940
	(!CLK * !SN)	0.06696	0.13109	0.65183

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dffs_1	CLK	0.01333	0.01344	0.01337
	CLK	-0.00643	-0.00651	-0.00647
	(!CLK * SN)	0.05444	0.11954	0.64280
	(!CLK * SN)	7.61663	7.08280	3.99006
	(!CLK * !SN)	11.47970	12.33060	17.61980
	(!CLK * !SN)	0.01672	0.08206	0.60560

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dffs_1	(CLK * Q * !QN)	0.09777	0.99112	7.45039
	(CLK * Q * !QN)	0.23291	0.41349	1.73505
	(CLK * !Q * QN)	0.04418	0.91255	7.28579
	(CLK * !Q * QN)	0.18099	0.33244	1.57256
	(!CLK * Q * !QN)	0.02433	1.55806	11.28670
	(!CLK * Q * !QN)	0.02493	0.02472	0.02445
	(!CLK * !Q * QN)	0.02400	1.55740	11.28640
	(!CLK * !Q * QN)	0.02851	0.02855	0.02813

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dffs_1	(CLK * Q * !QN)	11.50580	11.22180	8.38726
	(CLK * Q * !QN)	0.04575	0.35003	1.46732
	(CLK * !Q * QN)	11.50840	11.05410	8.30701
	(CLK * !Q * QN)	0.04358	0.17865	1.38140
	(!CLK * Q * !QN)	22.60860	21.21340	12.37990
	(!CLK * Q * !QN)	-0.02423	-0.02457	-0.02436
	(!CLK * !Q * QN)	22.61020	21.21320	12.37960
	(!CLK * !Q * QN)	-0.02731	-0.02855	-0.02813

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dffs_1	(D * SN * Q * !QN)	-0.00043	0.08383	0.66628
	(D * SN * Q * !QN)	0.04669	0.13089	0.71320
	(D * SN * !Q * QN)	0.02528	0.16584	1.15810
	(D * SN * !Q * QN)	0.08214	0.22234	1.21449
	(D * !SN * Q * !QN)	11.51260	12.38090	17.43570
	(D * !SN * Q * !QN)	0.10771	0.20021	0.83672
	(D * !SN * !Q * QN)	11.47350	12.33560	17.35950
	(D * !SN * !Q * QN)	0.08026	0.16842	0.77670
	(!D * SN * Q * !QN)	0.01854	0.15960	1.15153
	(!D * SN * Q * !QN)	0.15101	0.78787	4.62583
	(!D * SN * !Q * QN)	0.04453	0.24212	1.64331
	(!D * SN * !Q * QN)	0.18621	0.87940	5.12727
	(!D * !SN * Q * !QN)	11.34770	11.43600	12.04540
	(!D * !SN * Q * !QN)	0.08023	0.16844	0.77707
	(!D * !SN * !Q * QN)	11.31110	11.39630	11.97810
	(!D * !SN * !Q * QN)	0.05302	0.13812	0.71994

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dffs_1	(D * SN * Q * !QN)	0.04739	0.13511	0.71752
	(D * SN * Q * !QN)	0.00039	0.08821	0.67044
	(D * SN * !Q * QN)	0.06893	0.21433	1.20750
	(D * SN * !Q * QN)	0.01213	0.15759	1.15074
	(D * !SN * Q * !QN)	22.57500	21.76950	17.18890
	(D * !SN * Q * !QN)	0.09854	0.20496	0.84217
	(D * !SN * !Q * QN)	22.53670	21.72340	17.13160
	(D * !SN * !Q * QN)	0.04768	0.14274	0.75161
	(!D * SN * Q * !QN)	0.07547	0.22082	1.21321
	(!D * SN * Q * !QN)	7.63694	7.16032	4.49557
	(!D * SN * !Q * QN)	0.09677	0.30025	1.70345
	(!D * SN * !Q * QN)	7.64920	7.23161	4.97836
	(!D * !SN * Q * !QN)	11.40620	11.50080	12.10870
	(!D * !SN * Q * !QN)	0.04970	0.14471	0.75358
	(!D * !SN * !Q * QN)	11.36560	11.45230	12.03210
	(!D * !SN * !Q * QN)	-0.00028	0.08621	0.66636

GF180MCU_OSU_SC_12T_DFF_1

gf180mcu_12T_TT_3P3_25C.ccs
Cell Library: Process , Voltage 3.30, Temp 25.00

Truth Table

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

Footprint

Cell Name	Area
gf180mcu_osu_sc_12T_dff_1	0.00000

Pin Capacitance Information

Cell Name	Pin Cap(pf)		Max Cap(pf)	
	D	CLK	Q	QN
gf180mcu_osu_sc_12T_dff_1	0.00393	0.01038	1.56141	1.56075

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_12T_dff_1	0.00000	0.00595	0.00661

Delay Information

Delay(ns) to Q rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_dff_1	CLK->Q (RR)	0.25666	0.36429	0.00950
	QN->Q (FR)	0.03813	0.18833	0.83797

Delay(ns) to Q falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_dff_1	CLK->Q (RF)	0.34513	0.41135	0.13459
	QN->Q (RF)	0.02956	-0.01309	-0.54942

Delay(ns) to QN rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_dff_1	CLK->QN (RR)	0.31700	0.38322	0.10650

Delay(ns) to QN falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_dff_1	CLK->QN (RF)	0.22573	0.33277	-0.02402

Constraint Information

Constraints(ns) for D rising :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_12T_dff_1	hold	CLK (R)	-0.10179	-0.09468	0.57178
	setup	CLK (R)	0.19162	0.26313	1.03011

Constraints(ns) for D falling :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_12T_dff_1	hold	CLK (R)	-0.20156	-0.59850	-2.60930
	setup	CLK (R)	0.22307	0.61333	5.16150

Constraints(ns) for CLK rising (conditional):

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_12T_dff_1	min_pulse_width	CLK ()	0.15663	1.45264	16.50020
	min_pulse_width	CLK ()	0.19026	1.45264	16.50020

Constraints(ns) for CLK falling (conditional):

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_12T_dff_1	min_pulse_width	CLK ()	0.25493	1.45264	16.50020
	min_pulse_width	CLK ()	0.17991	1.45264	16.50020

Power Information

Internal switching power(pJ) to Q rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dff_1	CLK	0.04904	0.12506	0.56121
	CLK	0.07710	0.15310	0.58930

Internal switching power(pJ) to Q falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dff_1	CLK	0.05821	0.10133	0.40738
	CLK	0.07971	0.12283	0.42875

Internal switching power(pJ) to QN rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dff_1	CLK	0.05819	0.10134	0.40738
	CLK	0.07970	0.12278	0.42875

Internal switching power(pJ) to QN falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dff_1	CLK	0.04902	0.12495	0.56118
	CLK	0.07709	0.15317	0.58927

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dff_1	CLK	-0.01322	-0.01337	-0.01335
	CLK	0.00655	0.00646	0.00649
	(!CLK * Q * !QN) + (!CLK * !Q * QN)	0.05981	0.13506	0.71342
	(!CLK * Q * !QN) + (!CLK * !Q * QN)	0.09137	0.16672	0.74479

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dff_1	CLK	0.01350	0.01350	0.01335
	CLK	-0.00644	-0.00646	-0.00648
	(!CLK * Q * !QN) + (!CLK * !Q * QN)	0.09185	0.16866	0.74724
	(!CLK * Q * !QN) + (!CLK * !Q * QN)	0.06027	0.13709	0.71567

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dff_1	(D * Q * !QN)	-0.00023	0.08403	0.66646
	(D * Q * !QN)	0.04663	0.13083	0.71314
	(!D * !Q * QN)	-0.00085	0.08434	0.66610
	(!D * !Q * QN)	0.05311	0.13817	0.71997

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dff_1	(D * Q * !QN)	0.04727	0.13521	0.71738
	(D * Q * !QN)	0.00046	0.08823	0.67051
	(D * !Q * QN)	0.12425	0.21409	0.99209
	(D * !Q * QN)	0.08250	0.17213	0.94983
	(!D * Q * !QN)	0.12088	0.27456	1.16805
	(!D * Q * !QN)	0.06420	0.21753	1.11108
	(!D * !Q * QN)	0.05373	0.13904	0.72024
	(!D * !Q * QN)	-0.00033	0.08480	0.66630

GF180MCU_OSU_SC_12T_DLATN_1

gf180mcu_12T_TT_3P3_25C.ccs
Cell Library: Process , Voltage 3.30, Temp 25.00

Truth Table

INPUT		OUTPUT
D	CLKN	Q
x	0	IQ
0	1	0
1	1	1

Footprint

Cell Name	Area
gf180mcu_osu_sc_12T_dlatn_1	0.00000

Pin Capacitance Information

Cell Name	Pin Cap(pf)		Max Cap(pf)
	D	CLKN	Q
gf180mcu_osu_sc_12T_dlatn_1	0.00395	0.00812	1.56358

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_12T_dlatn_1	0.00000	0.00418	0.00475

Delay Information

Delay(ns) to Q rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_dlatn_1	CLKN->Q (RR)	0.25723	0.36836	0.03670
	D->Q (RR)	0.28946	0.35572	0.06505

Delay(ns) to Q falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_dlatn_1	CLKN->Q (RF)	0.32659	0.36029	0.02146
	D->Q (FF)	0.32226	0.55604	1.50539

Constraint Information

Constraints(ns) for D rising :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_12T_dlatn_1	hold	CLKN (F)	-0.17614	-0.36581	-2.23116
	setup	CLKN (F)	0.18783	0.52825	6.98326

Constraints(ns) for D falling :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_12T_dlatn_1	hold	CLKN (F)	-0.15553	-0.18936	0.12727
	setup	CLKN (F)	0.16814	0.19581	-0.12419

Constraints(ns) for CLKN rising (conditional):

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_12T_dlatn_1	min_pulse_width	CLKN ()	0.15663	1.45264	16.50020
	min_pulse_width	CLKN ()	0.18250	1.45264	16.50020

Power Information

Internal switching power(pJ) to Q rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dlatn_1	CLKN	0.09221	0.24605	1.12369
	CLKN	0.13672	0.29092	1.16852
	D	0.08961	0.16603	0.74893
	D	0.11729	0.19381	0.77659

Internal switching power(pJ) to Q falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dlatn_1	CLKN	0.11185	0.19998	0.81096
	CLKN	0.13857	0.22670	0.83750
	D	0.12841	0.20514	0.79069
	D	0.10014	0.17687	0.76257

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dlatn_1	!CLKN	-0.01334	-0.01350	-0.01346
	!CLKN	0.00659	0.00649	0.00646

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dlatn_1	!CLKN	0.01344	0.01354	0.01346
	!CLKN	-0.00639	-0.00649	-0.00646

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dlatn_1	(D * Q)	-0.00055	0.08657	0.67099
	(D * Q)	0.03386	0.12129	0.70541
	(!D * !Q)	-0.00070	0.08683	0.67094
	(!D * !Q)	0.03722	0.12474	0.70871

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dlatn_1	(D * Q)	0.03503	0.12480	0.70878
	(D * Q)	0.00045	0.09026	0.67426
	(!D * !Q)	0.03794	0.12622	0.70996
	(!D * !Q)	-0.00003	0.08820	0.67209

GF180MCU_OSU_SC_12T_DLAT_1

gf180mcu_12T_TT_3P3_25C.ccs
Cell Library: Process , Voltage 3.30, Temp 25.00

Truth Table

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

Footprint

Cell Name	Area
gf180mcu_osu_sc_12T_dlat_1	0.00000

Pin Capacitance Information

Cell Name	Pin Cap(pf)		Max Cap(pf)
	D	CLK	Q
gf180mcu_osu_sc_12T_dlat_1	0.00395	0.00812	1.56358

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_12T_dlat_1	0.00000	0.00418	0.00475

Delay Information

Delay(ns) to Q rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_dlat_1	CLK->Q (RR)	0.25723	0.36836	0.03670
	D->Q (RR)	0.28946	0.35572	0.06505

Delay(ns) to Q falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_dlat_1	CLK->Q (RF)	0.32659	0.36029	0.02146
	D->Q (FF)	0.32226	0.55604	1.50539

Constraint Information

Constraints(ns) for D rising :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_12T_dlat_1	hold	CLK (F)	-0.17614	-0.36581	-2.23116
	setup	CLK (F)	0.18783	0.52825	6.98326

Constraints(ns) for D falling :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_12T_dlat_1	hold	CLK (F)	-0.15553	-0.18936	0.12727
	setup	CLK (F)	0.16814	0.19581	-0.12419

Constraints(ns) for CLK rising (conditional):

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_12T_dlat_1	min_pulse_width	CLK ()	0.15663	1.45264	16.50020
	min_pulse_width	CLK ()	0.18250	1.45264	16.50020

Power Information

Internal switching power(pJ) to Q rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dlat_1	CLK	0.09221	0.24605	1.12369
	CLK	0.13672	0.29092	1.16852
	D	0.08961	0.16603	0.74893
	D	0.11729	0.19381	0.77659

Internal switching power(pJ) to Q falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dlat_1	CLK	0.11185	0.19998	0.81096
	CLK	0.13857	0.22670	0.83750
	D	0.12841	0.20514	0.79069
	D	0.10014	0.17687	0.76257

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dlat_1	!CLK	-0.01334	-0.01350	-0.01346
	!CLK	0.00659	0.00649	0.00646

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dlat_1	!CLK	0.01344	0.01354	0.01346
	!CLK	-0.00639	-0.00649	-0.00646

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dlat_1	(D * Q)	-0.00055	0.08657	0.67099
	(D * Q)	0.03386	0.12129	0.70541
	(!D * !Q)	-0.00070	0.08683	0.67094
	(!D * !Q)	0.03722	0.12474	0.70871

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_dlat_1	(D * Q)	0.03503	0.12480	0.70878
	(D * Q)	0.00045	0.09026	0.67426
	(!D * !Q)	0.03794	0.12622	0.70996
	(!D * !Q)	-0.00003	0.08820	0.67209

GF180MCU_OSU_SC_12T_INV_16

gf180mcu_12T_TT_3P3_25C.ccs
Cell Library: Process , Voltage 3.30, Temp 25.00

Truth Table

INPUT	OUTPUT
A	Y
0	1
1	0

Footprint

Cell Name	Area
gf180mcu_osu_sc_12T_inv_16	0.00000

Pin Capacitance Information

Cell Name	Pin Cap(pf)	Max Cap(pf)
	A	Y
gf180mcu_osu_sc_12T_inv_16	0.06458	23.88324

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_12T_inv_16	0.00000	0.01192	0.01439

Delay Information

Delay(ns) to Y rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_inv_16	A->Y (FR)	0.03813	0.18831	0.83797

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_inv_16	A->Y (RF)	0.02956	-0.01302	-0.54942

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_inv_16	A	0.35796	1.81271	11.20410
	A	0.00897	1.46040	10.85430

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_inv_16	A	-0.00731	1.43087	10.82280
	A	0.34156	1.78336	11.17260

GF180MCU_OSU_SC_12T_INV_1

gf180mcu_12T_TT_3P3_25C.ccs
Cell Library: Process , Voltage 3.30, Temp 25.00

Truth Table

INPUT	OUTPUT
A	Y
0	1
1	0

Footprint

Cell Name	Area
gf180mcu_osu_sc_12T_inv_1	0.00000

Pin Capacitance Information

Cell Name	Pin Cap(pf)	Max Cap(pf)
	A	Y
gf180mcu_osu_sc_12T_inv_1	0.00404	1.50748

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_12T_inv_1	0.00000	0.00075	0.00090

Delay Information

Delay(ns) to Y rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_inv_1	A->Y (FR)	0.03813	0.18831	0.83797

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_inv_1	A->Y (RF)	0.02956	-0.01302	-0.54942

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_inv_1	A	0.02237	0.11330	0.70026
	A	0.00056	0.09127	0.67839

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_inv_1	A	-0.00046	0.08944	0.67642
	A	0.02135	0.11147	0.69829

GF180MCU_OSU_SC_12T_INV_2

gf180mcu_12T_TT_3P3_25C.ccs
Cell Library: Process , Voltage 3.30, Temp 25.00

Truth Table

INPUT	OUTPUT
A	Y
0	1
1	0

Footprint

Cell Name	Area
gf180mcu_osu_sc_12T_inv_2	0.00000

Pin Capacitance Information

Cell Name	Pin Cap(pf)	Max Cap(pf)
	A	Y
gf180mcu_osu_sc_12T_inv_2	0.00807	2.98498

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_12T_inv_2	0.00000	0.00149	0.00180

Delay Information

Delay(ns) to Y rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_inv_2	A->Y (FR)	0.03813	0.18831	0.83797

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_inv_2	A->Y (RF)	0.02956	-0.01302	-0.54942

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_inv_2	A	0.04474	0.22659	1.40052
	A	0.00112	0.18255	1.35679

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_inv_2	A	-0.00091	0.17886	1.35285
	A	0.04270	0.22292	1.39658

GF180MCU_OSU_SC_12T_INV_4

gf180mcu_12T_TT_3P3_25C.ccs
Cell Library: Process , Voltage 3.30, Temp 25.00

Truth Table

INPUT	OUTPUT
A	Y
0	1
1	0

Footprint

Cell Name	Area
gf180mcu_osu_sc_12T_inv_4	0.00000

Pin Capacitance Information

Cell Name	Pin Cap(pf)	Max Cap(pf)
	A	Y
gf180mcu_osu_sc_12T_inv_4	0.01614	5.97048

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_12T_inv_4	0.00000	0.00298	0.00360

Delay Information

Delay(ns) to Y rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_inv_4	A->Y (FR)	0.03813	0.18831	0.83797

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_inv_4	A->Y (RF)	0.02956	-0.01302	-0.54942

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_inv_4	A	0.08949	0.45318	2.80103
	A	0.00224	0.36510	2.71358

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_inv_4	A	-0.00183	0.35772	2.70570
	A	0.08539	0.44584	2.79315

GF180MCU_OSU_SC_12T_INV_8

gf180mcu_12T_TT_3P3_25C.ccs
Cell Library: Process , Voltage 3.30, Temp 25.00

Truth Table

INPUT	OUTPUT
A	Y
0	1
1	0

Footprint

Cell Name	Area
gf180mcu_osu_sc_12T_inv_8	0.00000

Pin Capacitance Information

Cell Name	Pin Cap(pf)	Max Cap(pf)
	A	Y
gf180mcu_osu_sc_12T_inv_8	0.03229	11.94140

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_12T_inv_8	0.00000	0.00596	0.00720

Delay Information

Delay(ns) to Y rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_inv_8	A->Y (FR)	0.03813	0.18831	0.83797

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_inv_8	A->Y (RF)	0.02956	-0.01302	-0.54942

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_inv_8	A	0.17898	0.90636	5.60206
	A	0.00448	0.73020	5.42716

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_inv_8	A	-0.00366	0.71543	5.41139
	A	0.17078	0.89168	5.58631

GF180MCU_OSU_SC_12T_LSHIFDOWN

gf180mcu_12T_TT_3P3_25C.ccs
Cell Library: Process , Voltage 3.30, Temp 25.00

Truth Table

INPUT	OUTPUT
A	Y
0	0
1	1

Footprint

Cell Name	Area
gf180mcu_osu_sc_12T_lshifdown	0.00000

Pin Capacitance Information

Cell Name	Pin Cap(pf)	Max Cap(pf)
	A	Y
gf180mcu_osu_sc_12T_lshifdown	0.00404	1.55566

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_12T_lshifdown	0.00000	0.00149	0.00149

Delay Information

Delay(ns) to Y rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_lshifdown	A->Y (RR)	0.07839	0.11107	-0.27280

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_lshifdown	A->Y (FF)	0.08663	0.29618	1.04583

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_lshifdown	A	0.02007	0.11670	0.74305
	A	0.04194	0.13872	0.76491

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_lshifdown	A	0.04220	0.13981	0.76437
	A	0.02031	0.11780	0.74251

GF180MCU_OSU_SC_12T_LSHIFUP

gf180mcu_12T_TT_3P3_25C.ccs
Cell Library: Process , Voltage 3.30, Temp 25.00

Truth Table

INPUT	OUTPUT
A	Y
x	0

Footprint

Cell Name	Area
gf180mcu_osu_sc_12T_lshifup	0.00000

Pin Capacitance Information

Cell Name	Pin Cap(pf)	Max Cap(pf)
	A	Y
gf180mcu_osu_sc_12T_lshifup	0.00728	0.08462

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_12T_lshifup	0.00000	0.00000	0.00000

Delay Information

Delay(ns) to Y rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_lshifup	A->Y (RR)	0.05086	0.93955	6.56566
	A->Y (FR)	0.05086	0.93955	6.56566

Passive Power Information

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_lshifup	!Y	0.04030	0.04062	0.03953

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_lshifup	Y	-0.01548	-0.01543	-0.01600
	!Y	-0.02369	-0.02395	-0.02405

GF180MCU_OSU_SC_12T_MUX2_1

gf180mcu_12T_TT_3P3_25C.ccs
Cell Library: Process , Voltage
3.30, Temp 25.00

Truth Table

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

Footprint

Cell Name	Area
gf180mcu_osu_sc_12T_mux2_1	0.00000

Pin Capacitance Information

Cell Name	Pin Cap(pf)			Max Cap(pf)
	A	B	Sel	Y
gf180mcu_osu_sc_12T_mux2_1	0.00997	0.00997	0.00807	0.24039

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_12T_mux2_1	0.00000	0.00201	0.00207

Delay Information

Delay(ns) to Y rising (conditional):

Cell Name	Timing Arc(Dir)	When	Delay(ns)		
			First	Mid	Last
gf180mcu_osu_sc_12T_mux2_1	A->Y (RR)	-	0.01995	0.02065	0.02084
	B->Y (RR)	-	0.02162	0.02083	0.02086
	Sel->Y (RR)	(!A * B)	0.07142	0.12174	-0.25297
	Sel->Y (FR)	(A * !B)	0.05026	0.22741	0.92479

Delay(ns) to Y falling (conditional):

Cell Name	Timing Arc(Dir)	When	Delay(ns)		
			First	Mid	Last
gf180mcu_osu_sc_12T_mux2_1	A->Y (FF)	-	0.02431	0.02099	0.02065
	B->Y (FF)	-	0.02208	0.02087	0.02063
	Sel->Y (FF)	(!A * B)	0.08258	0.30735	1.06160
	Sel->Y (RF)	(A * !B)	0.04201	0.02539	-0.46836

Power Information

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

Cell Name	Input	When	Power(pJ)		
			first	mid	last
gf180mcu_osu_sc_12T_mux2_1	A	-	-0.03042	-0.03059	-0.03064
	A	-	0.01298	0.01302	0.01305
	B	-	-0.02385	-0.02395	-0.02398
	B	-	0.02375	0.02384	0.02392
	Sel	(A * !B)	0.01189	0.10175	0.68755
	Sel	(A * !B)	0.00927	0.09913	0.68642
	Sel	(!A * B)	-0.01757	0.06858	0.65237
	Sel	(!A * B)	0.05187	0.13862	0.72440

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

Cell Name	Input	When	Power(pJ)		
			first	mid	last
gf180mcu_osu_sc_12T_mux2_1	A	-	0.03042	0.03059	0.03064
	A	-	-0.01297	-0.01302	-0.01305
	B	-	0.02385	0.02395	0.02398
	B	-	-0.02375	-0.02384	-0.02390
	Sel	(A * !B)	0.01614	0.10411	0.69038
	Sel	(A * !B)	0.01876	0.10723	0.69452
	Sel	(!A * B)	0.06026	0.14708	0.73089
	Sel	(!A * B)	-0.00917	0.07782	0.66373

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_mux2_1	(B * Sel * Y) + (!B * Sel * !Y)	-0.00715	-0.00717	-0.00714
	(B * Sel * Y) + (!B * Sel * !Y)	0.00469	0.00472	0.00470

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_mux2_1	(B * Sel * Y) + (!B * Sel * !Y)	0.00720	0.00717	0.00714
	(B * Sel * Y) + (!B * Sel * !Y)	-0.00469	-0.00472	-0.00470

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_mux2_1	(A * !Sel * Y) + (!A * !Sel * !Y)	-0.00843	-0.00845	-0.00842
	(A * !Sel * Y) + (!A * !Sel * !Y)	0.00407	0.00409	0.00407

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_mux2_1	(A * !Sel * Y) + (!A * !Sel * !Y)	0.00843	0.00845	0.00842
	(A * !Sel * Y) + (!A * !Sel * !Y)	-0.00407	-0.00409	-0.00407

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_mux2_1	(A * B * Y)	-0.00081	0.08678	0.67095
	(A * B * Y)	0.03715	0.12471	0.70871
	(!A * !B * !Y)	-0.00068	0.08638	0.67087
	(!A * !B * !Y)	0.03356	0.12092	0.70522

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_mux2_1	(A * B * Y)	0.03785	0.12586	0.70976
	(A * B * Y)	-0.00009	0.08796	0.67191
	(!A * !B * !Y)	0.03457	0.12406	0.70857
	(!A * !B * !Y)	0.00020	0.08967	0.67424

GF180MCU_OSU_SC_12T_NAND2_1

gf180mcu_12T_TT_3P3_25C.ccs
Cell Library: Process , Voltage 3.30, Temp 25.00

Truth Table

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

Footprint

Cell Name	Area
gf180mcu_osu_sc_12T_nand2_1	0.00000

Pin Capacitance Information

Cell Name	Pin Cap(pf)		Max Cap(pf)
	A	B	Y
gf180mcu_osu_sc_12T_nand2_1	0.00404	0.00402	1.04725

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_12T_nand2_1	0.00000	0.00079	0.00118

Delay Information

Delay(ns) to Y rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_nand2_1	A->Y (FR)	0.04776	0.15205	0.37390
	B->Y (FR)	0.06067	0.24581	0.92724

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_nand2_1	A->Y (RF)	0.05402	0.12192	0.13307
	B->Y (RF)	0.05863	0.05361	-0.35877

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_nand2_1	A	0.02376	0.09902	0.59998
	A	0.00057	0.07582	0.57684
	B	0.03513	0.11671	0.67157
	B	0.00696	0.08846	0.64348

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_nand2_1	A	0.00586	0.07981	0.58059
	A	0.02901	0.10301	0.60373
	B	0.00452	0.08390	0.63921
	B	0.03267	0.11228	0.66742

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_nand2_1	(!B * Y)	-0.01402	-0.01412	-0.01414
	(!B * Y)	0.00188	0.00188	0.00178

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_nand2_1	(!B * Y)	0.01426	0.01431	0.01418
	(!B * Y)	-0.00177	-0.00177	-0.00175

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_nand2_1	(!A * Y)	-0.01352	-0.01358	-0.01352
	(!A * Y)	0.00650	0.00654	0.00648

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_nand2_1	(!A * Y)	0.01367	0.01367	0.01355
	(!A * Y)	-0.00639	-0.00652	-0.00647

GF180MCU_OSU_SC_12T_NOR2_1

gf180mcu_12T_TT_3P3_25C.ccs
Cell Library: Process , Voltage 3.30, Temp 25.00

Truth Table

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

Footprint

Cell Name	Area
gf180mcu_osu_sc_12T_nor2_1	0.00000

Pin Capacitance Information

Cell Name	Pin Cap(pf)		Max Cap(pf)
	A	B	Y
gf180mcu_osu_sc_12T_nor2_1	0.00398	0.00404	0.78121

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_12T_nor2_1	0.00000	0.00084	0.00180

Delay Information

Delay(ns) to Y rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_nor2_1	A->Y (FR)	0.08246	0.26059	1.08200
	B->Y (FR)	0.06130	0.34141	1.69531

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_nor2_1	A->Y (RF)	0.05410	0.03886	-0.53796
	B->Y (RF)	0.03692	-0.08363	-1.22886

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_nor2_1	A	0.03439	0.11017	0.66064
	A	0.00242	0.07816	0.62871
	B	0.02613	0.09591	0.55863
	B	0.00359	0.07321	0.53616

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_nor2_1	A	0.01122	0.08772	0.63642
	A	0.04291	0.11947	0.66796
	B	0.00061	0.06868	0.53160
	B	0.02313	0.09132	0.55410

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_nor2_1	(B * !Y)	-0.01309	-0.01344	-0.01336
	(B * !Y)	0.00654	0.00659	0.00651

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_nor2_1	(B * !Y)	0.01340	0.01344	0.01336
	(B * !Y)	-0.00648	-0.00652	-0.00649

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_nor2_1	(A * !Y)	-0.00461	-0.00454	-0.00451
	(A * !Y)	0.00792	0.00782	0.00780

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_nor2_1	(A * !Y)	0.00488	0.00484	0.00460
	(A * !Y)	-0.00756	-0.00760	-0.00780

GF180MCU_OSU_SC_12T_OAI21_1

gf180mcu_12T_TT_3P3_25C.ccs
Cell Library: Process , Voltage 3.30, Temp 25.00

Truth Table

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

Footprint

Cell Name	Area
gf180mcu_osu_sc_12T_oai21_1	0.00000

Pin Capacitance Information

Cell Name	Pin Cap(pf)			Max Cap(pf)
	A0	A1	B	Y
gf180mcu_osu_sc_12T_oai21_1	0.00395	0.00402	0.00404	0.77902

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_12T_oai21_1	0.00000	0.00097	0.00152

Delay Information

Delay(ns) to Y rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_oai21_1	A0->Y (FR)	0.11888	0.31318	1.14879
	A1->Y (FR)	0.09423	0.41062	1.82116
	B->Y (FR)	0.04745	0.18339	0.62376

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_oai21_1	A0->Y (RF)	0.09284	0.09379	-0.38427
	A1->Y (RF)	0.06609	-0.02162	-1.04882
	B->Y (RF)	0.08270	0.21188	0.34213

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_oai21_1	A0	0.04736	0.11500	0.64020
	A0	0.00927	0.07677	0.60220
	A1	0.03828	0.10149	0.54324
	A1	0.00963	0.07279	0.51468
	B	0.02359	0.10550	0.64577
	B	0.00042	0.08214	0.62262

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_oai21_1	A0	0.01727	0.08382	0.60794
	A0	0.05524	0.12192	0.64571
	A1	0.00549	0.06566	0.50831
	A1	0.03425	0.09451	0.53704
	B	0.00612	0.08631	0.62668
	B	0.02930	0.10959	0.64982

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_oai21_1	(A1 * B * !Y)	-0.01308	-0.01344	-0.01338
	(A1 * B * !Y)	0.00653	0.00659	0.00651
	(A1 * !B * Y)	-0.01314	-0.01344	-0.01336
	(A1 * !B * Y)	0.00651	0.00659	0.00651
	(!A1 * !B * Y)	-0.01352	-0.01357	-0.01352
	(!A1 * !B * Y)	0.00652	0.00648	0.00645

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_oai21_1	(A1 * B * !Y)	0.01351	0.01344	0.01338
	(A1 * B * !Y)	-0.00648	-0.00652	-0.00649
	(A1 * !B * Y)	0.01341	0.01344	0.01336
	(A1 * !B * Y)	-0.00648	-0.00653	-0.00649
	(!A1 * !B * Y)	0.01358	0.01366	0.01355
	(!A1 * !B * Y)	-0.00637	-0.00648	-0.00645

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_oai21_1	(A0 * B * !Y)	-0.00461	-0.00454	-0.00451
	(A0 * B * !Y)	0.00789	0.00782	0.00780
	(!B * Y)	-0.01311	-0.01344	-0.01331
	(!B * Y)	0.00654	0.00654	0.00651

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_oai21_1	(A0 * B * !Y)	0.00488	0.00484	0.00460
	(A0 * B * !Y)	-0.00752	-0.00759	-0.00780
	(!B * Y)	0.01331	0.01344	0.01331
	(!B * Y)	-0.00650	-0.00654	-0.00649

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_oai21_1	(!A0 * !A1 * Y)	-0.01396	-0.01405	-0.01413
	(!A0 * !A1 * Y)	0.00194	0.00194	0.00179

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_oai21_1	(!A0 * !A1 * Y)	0.01412	0.01430	0.01418
	(!A0 * !A1 * Y)	-0.00174	-0.00177	-0.00175

GF180MCU_OSU_SC_12T_OAI22_1

gf180mcu_12T_TT_3P3_25C.ccs
Cell Library: Process , Voltage 3.30, Temp 25.00

Truth Table

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

Footprint

Cell Name	Area
gf180mcu_osu_sc_12T_oai22_1	0.00000

Pin Capacitance Information

Cell Name	Pin Cap(pf)				Max Cap(pf)
	A0	A1	B0	B1	Y
gf180mcu_osu_sc_12T_oai22_1	0.00395	0.00402	0.00404	0.00398	0.77583

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_12T_oai22_1	0.00000	0.00127	0.00180

Delay Information

Delay(ns) to Y rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_oai22_1	A0->Y (FR)	0.14006	0.35807	1.31354
	A1->Y (FR)	0.11505	0.46120	2.01044
	B0->Y (FR)	0.07373	0.34308	1.50879
	B1->Y (FR)	0.09611	0.25478	0.86061

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_oai22_1	A0->Y (RF)	0.13741	0.17537	-0.22355
	A1->Y (RF)	0.10716	0.08323	-0.81867
	B0->Y (RF)	0.09081	0.15149	-0.32104
	B1->Y (RF)	0.11947	0.26127	0.34835

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_oai22_1	A0	0.06524	0.13061	0.65425
	A0	0.01766	0.08312	0.61048
	A1	0.05611	0.11735	0.55738
	A1	0.01794	0.07907	0.52195
	B0	0.02749	0.09148	0.52644
	B0	0.00377	0.06750	0.50269
	B1	0.03602	0.10401	0.61391
	B1	0.00279	0.07066	0.58070

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_oai22_1	A0	0.01730	0.08304	0.61045
	A0	0.07846	0.13684	0.65447
	A1	0.00555	0.06467	0.50936
	A1	0.05824	0.11027	0.54710
	B0	0.00736	0.06933	0.50439
	B0	0.03118	0.09329	0.52815
	B1	0.01811	0.08657	0.59468
	B1	0.05105	0.11971	0.62749

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_oai22_1	(A1 * B0 * !Y)	-0.01308	-0.01344	-0.01338
	(A1 * B0 * !Y)	0.00653	0.00659	0.00651
	(A1 * !B0 * B1 * !Y)	-0.01308	-0.01344	-0.01338
	(A1 * !B0 * B1 * !Y)	0.00653	0.00659	0.00651
	(A1 * !B0 * !B1 * Y)	-0.01312	-0.01344	-0.01336
	(A1 * !B0 * !B1 * Y)	0.00650	0.00659	0.00651
	(!A1 * !B0 * !B1 * Y)	-0.01349	-0.01357	-0.01352
	(!A1 * !B0 * !B1 * Y)	0.00645	0.00646	0.00644

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_oai22_1	(A1 * B0 * !Y)	0.01342	0.01344	0.01338
	(A1 * B0 * !Y)	-0.00648	-0.00651	-0.00649
	(A1 * !B0 * B1 * !Y)	0.01350	0.01344	0.01338
	(A1 * !B0 * B1 * !Y)	-0.00649	-0.00652	-0.00649
	(A1 * !B0 * !B1 * Y)	0.01349	0.01344	0.01336
	(A1 * !B0 * !B1 * Y)	-0.00650	-0.00653	-0.00649
	(!A1 * !B0 * !B1 * Y)	0.01354	0.01360	0.01355
	(!A1 * !B0 * !B1 * Y)	-0.00636	-0.00646	-0.00644

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_oai22_1	(A0 * B0 * !Y)	-0.00456	-0.00454	-0.00451
	(A0 * B0 * !Y)	0.00784	0.00782	0.00780
	(A0 * !B0 * B1 * !Y)	-0.00461	-0.00454	-0.00451
	(A0 * !B0 * B1 * !Y)	0.00790	0.00782	0.00780
	(!B0 * !B1 * Y)	-0.01309	-0.01339	-0.01328
	(!B0 * !B1 * Y)	0.00653	0.00654	0.00651

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_oai22_1	(A0 * B0 * !Y)	0.00483	0.00484	0.00460
	(A0 * B0 * !Y)	-0.00747	-0.00759	-0.00780
	(A0 * !B0 * B1 * !Y)	0.00487	0.00484	0.00460
	(A0 * !B0 * B1 * !Y)	-0.00750	-0.00759	-0.00780
	(!B0 * !B1 * Y)	0.01323	0.01339	0.01328
	(!B0 * !B1 * Y)	-0.00646	-0.00654	-0.00649

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_oai22_1	(A1 * B1 * !Y)	-0.00449	-0.00454	-0.00451
	(A1 * B1 * !Y)	0.00776	0.00782	0.00780
	(A0 * !A1 * B1 * !Y)	-0.00453	-0.00456	-0.00451
	(A0 * !A1 * B1 * !Y)	0.00778	0.00786	0.00779
	(!A0 * !A1 * Y)	-0.01371	-0.01404	-0.01391
	(!A0 * !A1 * Y)	0.00172	0.00173	0.00172

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_oai22_1	(A1 * B1 * !Y)	0.00482	0.00485	0.00460
	(A1 * B1 * !Y)	-0.00749	-0.00758	-0.00780
	(A0 * !A1 * B1 * !Y)	0.00486	0.00485	0.00460
	(A0 * !A1 * B1 * !Y)	-0.00752	-0.00758	-0.00779
	(!A0 * !A1 * Y)	0.01400	0.01404	0.01391
	(!A0 * !A1 * Y)	-0.00172	-0.00173	-0.00172

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_oai22_1	(A1 * B0 * !Y)	-0.01313	-0.01347	-0.01336
	(A1 * B0 * !Y)	0.00654	0.00658	0.00651
	(A0 * !A1 * B0 * !Y)	-0.01314	-0.01347	-0.01335
	(A0 * !A1 * B0 * !Y)	0.00655	0.00658	0.00651
	(!A0 * !A1 * Y)	-0.01375	-0.01409	-0.01402
	(!A0 * !A1 * Y)	0.00171	0.00174	0.00172

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_oai22_1	(A1 * B0 * !Y)	0.01347	0.01351	0.01336
	(A1 * B0 * !Y)	-0.00650	-0.00654	-0.00649
	(A0 * !A1 * B0 * !Y)	0.01345	0.01351	0.01335
	(A0 * !A1 * B0 * !Y)	-0.00650	-0.00653	-0.00649
	(!A0 * !A1 * Y)	0.01408	0.01409	0.01402
	(!A0 * !A1 * Y)	-0.00171	-0.00172	-0.00172

GF180MCU_OSU_SC_12T_OAI31_1

gf180mcu_12T_TT_3P3_25C.ccs
Cell Library: Process , Voltage 3.30, Temp 25.00

Truth Table

INPUT				OUTPUT
A0	A1	A2	B	Y
0	0	0	x	1
0	x	1	0	1
0	x	1	1	0
x	1	x	0	1
x	1	x	1	0
1	x	x	0	1
1	x	x	1	0

Footprint

Cell Name	Area
gf180mcu_osu_sc_12T_oai31_1	0.00000

Pin Capacitance Information

Cell Name	Pin Cap(pf)				Max Cap(pf)
	A0	A1	A2	B	Y
gf180mcu_osu_sc_12T_oai31_1	0.00395	0.00395	0.00402	0.00404	0.52736

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_12T_oai31_1	0.00000	0.00103	0.00216

Delay Information

Delay(ns) to Y rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_oai31_1	A0->Y (FR)	0.20773	0.39507	1.41930
	A1->Y (FR)	0.18110	0.47109	2.00413
	A2->Y (FR)	0.12413	0.52371	2.41923
	B->Y (FR)	0.05039	0.20797	0.78695

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_oai31_1	A0->Y (RF)	0.10968	0.09482	-0.60325
	A1->Y (RF)	0.10071	0.03918	-1.00954
	A2->Y (RF)	0.07149	-0.05919	-1.47785
	B->Y (RF)	0.09437	0.26484	0.48281

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_oai31_1	A0	0.06055	0.11374	0.62491
	A0	0.01259	0.06568	0.57705
	A1	0.05109	0.10230	0.52277
	A1	0.01256	0.06362	0.48431
	A2	0.04185	0.09404	0.46290
	A2	0.01273	0.06482	0.43389
	B	0.02357	0.10773	0.66252
	B	0.00039	0.08451	0.63938

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_oai31_1	A0	0.02968	0.08536	0.59201
	A0	0.07709	0.13287	0.63902
	A1	0.01882	0.06805	0.48677
	A1	0.05718	0.10654	0.52505
	A2	0.00590	0.05368	0.42314
	A2	0.03511	0.08312	0.45238
	B	0.00622	0.08877	0.64355
	B	0.02942	0.11203	0.66669

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_oai31_1	(A1 * A2 * B * !Y)	-0.01312	-0.01344	-0.01338
	(A1 * A2 * B * !Y)	0.00649	0.00659	0.00651
	(A1 * !B * Y)	-0.01321	-0.01347	-0.01339
	(A1 * !B * Y)	0.00657	0.00659	0.00651
	(A1 * !A2 * B * !Y) + (!A1 * A2 * B * !Y)	-0.01312	-0.01344	-0.01338
	(A1 * !A2 * B * !Y) + (!A1 * A2 * B * !Y)	0.00649	0.00659	0.00651
	(!A1 * A2 * !B * Y)	-0.01254	-0.01316	-0.01302
	(!A1 * A2 * !B * Y)	0.00659	0.00657	0.00651
	(!A1 * !A2 * !B * Y)	-0.01349	-0.01357	-0.01352
	(!A1 * !A2 * !B * Y)	0.00645	0.00646	0.00644

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_oai31_1	(A1 * A2 * B * !Y)	0.01351	0.01344	0.01338
	(A1 * A2 * B * !Y)	-0.00649	-0.00652	-0.00649
	(A1 * !B * Y)	0.01351	0.01349	0.01339
	(A1 * !B * Y)	-0.00649	-0.00654	-0.00649
	(A1 * !A2 * B * !Y) + (!A1 * A2 * B * !Y)	0.01343	0.01344	0.01338
	(A1 * !A2 * B * !Y) + (!A1 * A2 * B * !Y)	-0.00648	-0.00652	-0.00649
	(!A1 * A2 * !B * Y)	0.01302	0.01316	0.01302
	(!A1 * A2 * !B * Y)	-0.00649	-0.00653	-0.00649
	(!A1 * !A2 * !B * Y)	0.01355	0.01360	0.01355
	(!A1 * !A2 * !B * Y)	-0.00636	-0.00646	-0.00644

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_oai31_1	(A2 * !B * Y)	-0.00961	-0.00972	-0.00964
	(A2 * !B * Y)	0.00658	0.00653	0.00651
	(A0 * B * !Y) + (!A0 * A2 * B * !Y)	-0.00839	-0.00849	-0.00845
	(A0 * B * !Y) + (!A0 * A2 * B * !Y)	0.00659	0.00653	0.00650
	(!A2 * !B * Y)	-0.01309	-0.01339	-0.01327
	(!A2 * !B * Y)	0.00653	0.00655	0.00651

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_oai31_1	(A2 * !B * Y)	0.00961	0.00972	0.00964
	(A2 * !B * Y)	-0.00646	-0.00653	-0.00649
	(A0 * B * !Y) + (!A0 * A2 * B * !Y)	0.00839	0.00849	0.00845
	(A0 * B * !Y) + (!A0 * A2 * B * !Y)	-0.00645	-0.00652	-0.00649
	(!A2 * !B * Y)	0.01323	0.01339	0.01327
	(!A2 * !B * Y)	-0.00646	-0.00655	-0.00649

Passive power(pJ) for A2 rising (conditional):

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_oai31_1	(A1 * B * !Y)	-0.00457	-0.00454	-0.00451
	(A1 * B * !Y)	0.00785	0.00782	0.00780
	(A1 * !B * Y)	-0.01316	-0.01345	-0.01333
	(A1 * !B * Y)	0.00661	0.00654	0.00651
	(A0 * !A1 * B * !Y)	-0.00454	-0.00446	-0.00442
	(A0 * !A1 * B * !Y)	0.00789	0.00782	0.00780
	(!A1 * !B * Y)	-0.01207	-0.01282	-0.01279
	(!A1 * !B * Y)	0.00652	0.00650	0.00651

Passive power(pJ) for A2 falling (conditional):

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_oai31_1	(A1 * B * !Y)	0.00487	0.00484	0.00460
	(A1 * B * !Y)	-0.00751	-0.00759	-0.00780
	(A1 * !B * Y)	0.01325	0.01345	0.01333
	(A1 * !B * Y)	-0.00645	-0.00654	-0.00649
	(A0 * !A1 * B * !Y)	0.00498	0.00494	0.00442
	(A0 * !A1 * B * !Y)	-0.00698	-0.00709	-0.00775
	(!A1 * !B * Y)	0.01289	0.01282	0.01279
	(!A1 * !B * Y)	-0.00648	-0.00650	-0.00649

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_oai31_1	(!A0 * !A1 * !A2 * Y)	-0.01389	-0.01398	-0.01412
	(!A0 * !A1 * !A2 * Y)	0.00200	0.00200	0.00180

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_oai31_1	(!A0 * !A1 * !A2 * Y)	0.01412	0.01430	0.01418
	(!A0 * !A1 * !A2 * Y)	-0.00174	-0.00177	-0.00175

GF180MCU_OSU_SC_12T_OR2_1

gf180mcu_12T_TT_3P3_25C.ccs
Cell Library: Process , Voltage 3.30, Temp 25.00

Truth Table

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

Footprint

Cell Name	Area
gf180mcu_osu_sc_12T_or2_1	0.00000

Pin Capacitance Information

Cell Name	Pin Cap(pf)		Max Cap(pf)
	A	B	Y
gf180mcu_osu_sc_12T_or2_1	0.00404	0.00398	1.55634

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_12T_or2_1	0.00000	0.00166	0.00239

Delay Information

Delay(ns) to Y rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_or2_1	A->Y (RR)	0.08509	0.04674	-0.93430
	B->Y (RR)	0.10291	0.15318	-0.28502

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_or2_1	A->Y (FF)	0.12430	0.45809	1.92389
	B->Y (FF)	0.14786	0.36550	1.26862

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_or2_1	A	0.02159	0.09841	0.60599
	A	0.04402	0.12103	0.62848
	B	0.03248	0.12052	0.72333
	B	0.06423	0.15234	0.75486

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_or2_1	A	0.04830	0.12524	0.62767
	A	0.02570	0.10267	0.60520
	B	0.05708	0.14030	0.73559
	B	0.02508	0.10830	0.70366

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_or2_1	(B * Y)	-0.00462	-0.00454	-0.00451
	(B * Y)	0.00789	0.00782	0.00780

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_or2_1	(B * Y)	0.00488	0.00485	0.00460
	(B * Y)	-0.00753	-0.00759	-0.00780

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_or2_1	(A * Y)	-0.01309	-0.01345	-0.01338
	(A * Y)	0.00653	0.00659	0.00651

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_or2_1	(A * Y)	0.01349	0.01345	0.01338
	(A * Y)	-0.00649	-0.00652	-0.00649

GF180MCU_OSU_SC_12T_TBUF_16

gf180mcu_12T_TT_3P3_25C.ccs
Cell Library: Process , Voltage 3.30, Temp 25.00

Truth Table

INPUT			OUTPUT
A	EN	EN_BAR	Y
0	x	0	0
0	x	1	1
1	x	x	1

Footprint

Cell Name	Area
gf180mcu_osu_sc_12T_tbuf_16	0.00000

Pin Capacitance Information

Cell Name	Pin Cap(pf)			Max Cap(pf)
	A	EN	EN_BAR	Y
gf180mcu_osu_sc_12T_tbuf_16	0.00395	0.00131	0.00272	24.97480

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_12T_tbuf_16	0.00000	1583270.00000	4460640.00000

Delay Information

Delay(ns) to Y rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_tbuf_16	A->Y (RR)	0.55267	0.70486	0.89438
	EN->Y (RR)	0.53470	0.72157	-0.91989

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_tbuf_16	A->Y (FF)	0.68221	0.95369	2.37394
	EN_BAR->Y (FF)	0.65068	0.96344	0.25918

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_tbuf_16	A	1.10210	1.31656	3.45518
	A	1.13825	1.35277	3.49115
	EN	1.11062	1.40973	3.51307
	EN	1.12819	1.42729	3.53060

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_tbuf_16	A	1.34985	1.50565	3.56640
	A	1.31355	1.46936	3.53015
	EN_BAR	1.33648	1.58146	3.99429
	EN_BAR	1.31609	1.56105	3.97394

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_tbuf_16	(EN * EN_BAR * Y)	-0.01422	-0.01411	-0.01365
	(EN * EN_BAR * Y)	0.00541	0.00542	0.00536
	(!EN * EN_BAR)	-0.01320	-0.01340	-0.01335
	(!EN * EN_BAR)	0.00653	0.00646	0.00646
	(!EN * !EN_BAR * !Y)	-0.01121	-0.01181	-0.01171
	(!EN * !EN_BAR * !Y)	0.00863	0.00750	0.00702

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_tbuf_16	(EN * EN_BAR * Y)	0.01498	0.01411	0.01365
	(EN * EN_BAR * Y)	-0.00494	-0.00542	-0.00536
	(!EN * EN_BAR)	0.01350	0.01350	0.01335
	(!EN * EN_BAR)	-0.00639	-0.00646	-0.00646
	(!EN * !EN_BAR * !Y)	0.01183	0.01181	0.01171
	(!EN * !EN_BAR * !Y)	-0.00804	-0.00750	-0.00702

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_tbuf_16	(EN_BAR * Y)	-0.00210	-0.00090	-0.00035
	(EN_BAR * Y)	0.00442	0.00446	0.00441
	(A * !EN_BAR * Y)	-0.00210	-0.00090	-0.00035
	(A * !EN_BAR * Y)	0.00442	0.00445	0.00441
	(!A * EN_BAR * !Y)	-0.00022	-0.00022	-0.00027
	(!A * EN_BAR * !Y)	0.00217	0.00216	0.00212
	(!A * !EN_BAR * !Y)	-0.00050	-0.00050	-0.00061
	(!A * !EN_BAR * !Y)	0.00190	0.00188	0.00178

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_tbuf_16	(EN_BAR * Y)	0.00296	0.00090	0.00035
	(EN_BAR * Y)	-0.00354	-0.00446	-0.00441
	(A * !EN_BAR * Y)	0.00296	0.00090	0.00035
	(A * !EN_BAR * Y)	-0.00354	-0.00445	-0.00441
	(!A * EN_BAR * !Y)	0.00029	0.00028	0.00028
	(!A * EN_BAR * !Y)	-0.00213	-0.00210	-0.00209
	(!A * !EN_BAR * !Y)	0.00064	0.00063	0.00063
	(!A * !EN_BAR * !Y)	-0.00179	-0.00176	-0.00174

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_tbuf_16	(A * EN * Y)	-0.00458	-0.00454	-0.00451
	(A * EN * Y)	0.00130	0.00129	0.00129
	(A * !EN * Y)	-0.00566	-0.00561	-0.00558
	(A * !EN * Y)	0.00021	0.00021	0.00021
	(!EN * !Y)	-0.00712	-0.00715	-0.00708
	(!EN * !Y)	0.00541	0.00598	0.00613
	(!A * EN * !Y)	-0.00945	-0.01029	-0.01018
	(!A * EN * !Y)	0.00397	0.00156	0.00066

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_tbuf_16	(A * EN * Y)	0.00491	0.00484	0.00460
	(A * EN * Y)	-0.00100	-0.00102	-0.00129
	(A * !EN * Y)	0.00574	0.00570	0.00570
	(A * !EN * Y)	-0.00016	-0.00016	-0.00020
	(!EN * !Y)	0.00712	0.00715	0.00708
	(!EN * !Y)	-0.00541	-0.00571	-0.00565
	(!A * EN * !Y)	0.01022	0.01029	0.01018
	(!A * EN * !Y)	-0.00333	-0.00156	-0.00066

GF180MCU_OSU_SC_12T_TBUF_1

gf180mcu_12T_TT_3P3_25C.ccs
Cell Library: Process , Voltage 3.30, Temp 25.00

Truth Table

INPUT			OUTPUT
A	EN	EN_BAR	Y
0	0	x	HiZ
0	1	x	0
1	x	0	1
1	x	1	HiZ

Footprint

Cell Name	Area
gf180mcu_osu_sc_12T_tbuf_1	0.00000

Pin Capacitance Information

Cell Name	Pin Cap(pf)			Max Cap(pf)
	A	EN	EN_BAR	Y
gf180mcu_osu_sc_12T_tbuf_1	0.00404	0.00131	0.00273	0.74778

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_12T_tbuf_1	0.00000	0.00104	0.00146

Delay Information

Delay(ns) to Y rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_tbuf_1	A->Y (RR)	0.14205	0.16560	-0.20793
	A->Y (RR)	0.08115	0.18375	0.26659
	EN_BAR->Y (FR)	0.07080	-0.10622	-2.89941

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_tbuf_1	A->Y (FF)	0.13370	0.34001	1.10229
	A->Y (RF)	0.10070	0.40105	2.01891
	EN->Y (RF)	0.06029	-0.21038	-3.56578

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_tbuf_1	A	0.04179	0.12907	0.74302
	A	0.04890	0.13624	0.75002
	EN_BAR	0.03171	0.03177	0.03168
	EN_BAR	0.01179	0.01179	0.01180

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_tbuf_1	A	0.05373	0.14373	0.75782
	A	0.04652	0.13641	0.75067
	EN	0.02056	0.02054	0.02062
	EN	0.03724	0.03725	0.03730

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_tbuf_1	(EN * EN_BAR * !Y)	0.01272	0.09875	0.68257
	(EN * EN_BAR * !Y)	0.03524	0.12110	0.70482
	(!EN * EN_BAR)	0.01246	0.09842	0.68247
	(!EN * EN_BAR)	0.03469	0.12067	0.70462
	(!EN * !EN_BAR * Y)	0.01161	0.09765	0.68146
	(!EN * !EN_BAR * Y)	0.03455	0.12048	0.70432

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_tbuf_1	(EN * EN_BAR * !Y)	0.02878	0.11591	0.69949
	(EN * EN_BAR * !Y)	0.00631	0.09338	0.67719
	(!EN * EN_BAR)	0.02876	0.11594	0.69978
	(!EN * EN_BAR)	0.00648	0.09381	0.67766
	(!EN * !EN_BAR * Y)	0.02983	0.11674	0.70014
	(!EN * !EN_BAR * Y)	0.00670	0.09390	0.67774

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_tbuf_1	(EN_BAR * !Y)	-0.00123	-0.00122	-0.00124
	(EN_BAR * !Y)	0.00368	0.00368	0.00365
	(A * EN_BAR * Y)	-0.00036	-0.00036	-0.00039
	(A * EN_BAR * Y)	0.00210	0.00209	0.00202
	(A * !EN_BAR * Y)	-0.00050	-0.00051	-0.00061
	(A * !EN_BAR * Y)	0.00195	0.00193	0.00183
	(!A * !EN_BAR * !Y)	-0.00016	-0.00012	-0.00009
	(!A * !EN_BAR * !Y)	0.00632	0.00634	0.00631

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_tbuf_1	(EN_BAR * !Y)	0.00123	0.00122	0.00128
	(EN_BAR * !Y)	-0.00368	-0.00368	-0.00365
	(A * EN_BAR * Y)	0.00039	0.00039	0.00039
	(A * EN_BAR * Y)	-0.00199	-0.00196	-0.00195
	(A * !EN_BAR * Y)	0.00063	0.00063	0.00063
	(A * !EN_BAR * Y)	-0.00179	-0.00180	-0.00179
	(!A * !EN_BAR * !Y)	0.00039	0.00012	0.00009
	(!A * !EN_BAR * !Y)	-0.00595	-0.00634	-0.00631

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_tbuf_1	(A * EN * Y)	-0.01284	-0.01308	-0.01297
	(A * EN * Y)	0.00040	0.00019	0.00013
	(!EN * Y)	-0.01287	-0.01311	-0.01299
	(!EN * Y)	0.00040	0.00019	0.00013
	(!A * EN * !Y)	-0.00466	-0.00464	-0.00461
	(!A * EN * !Y)	0.00129	0.00129	0.00129
	(!A * !EN * !Y)	-0.00530	-0.00525	-0.00522
	(!A * !EN * !Y)	0.00049	0.00049	0.00049

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_tbuf_1	(A * EN * Y)	0.01291	0.01308	0.01297
	(A * EN * Y)	-0.00034	-0.00019	-0.00013
	(!EN * Y)	0.01295	0.01311	0.01299
	(!EN * Y)	-0.00034	-0.00019	-0.00013
	(!A * EN * !Y)	0.00497	0.00496	0.00472
	(!A * EN * !Y)	-0.00100	-0.00104	-0.00129
	(!A * !EN * !Y)	0.00560	0.00555	0.00546
	(!A * !EN * !Y)	-0.00041	-0.00040	-0.00046

GF180MCU_OSU_SC_12T_TBUF_2

gf180mcu_12T_TT_3P3_25C.ccs
Cell Library: Process , Voltage 3.30, Temp 25.00

Truth Table

INPUT			OUTPUT
A	EN	EN_BAR	Y
0	x	0	0
0	x	1	1
1	x	x	1

Footprint

Cell Name	Area
gf180mcu_osu_sc_12T_tbuf_2	0.00000

Pin Capacitance Information

Cell Name	Pin Cap(pf)			Max Cap(pf)
	A	EN	EN_BAR	Y
gf180mcu_osu_sc_12T_tbuf_2	0.00395	0.00132	0.00274	3.10304

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_12T_tbuf_2	0.00000	197909.00000	557580.00000

Delay Information

Delay(ns) to Y rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_tbuf_2	A->Y (RR)	0.17220	0.23538	-0.07194
	EN->Y (RR)	0.15506	0.03870	-2.87861

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_tbuf_2	A->Y (FF)	0.20195	0.42805	1.36009
	EN_BAR->Y (FF)	0.17199	0.16821	-2.11327

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_tbuf_2	A	0.06160	0.15464	0.80422
	A	0.09778	0.19088	0.84020
	EN	0.07101	0.10701	0.23779
	EN	0.08858	0.12457	0.25534

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_tbuf_2	A	0.09607	0.18823	0.83322
	A	0.05969	0.15184	0.79697
	EN_BAR	0.08515	0.12637	0.27729
	EN_BAR	0.06470	0.10587	0.25693

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_tbuf_2	(EN * EN_BAR * Y)	-0.01351	-0.01366	-0.01350
	(EN * EN_BAR * Y)	0.00606	0.00608	0.00601
	(!EN * EN_BAR)	-0.01321	-0.01340	-0.01335
	(!EN * EN_BAR)	0.00653	0.00646	0.00646
	(!EN * !EN_BAR * !Y)	-0.01184	-0.01265	-0.01253
	(!EN * !EN_BAR * !Y)	0.00748	0.00685	0.00667

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_tbuf_2	(EN * EN_BAR * Y)	0.01427	0.01366	0.01350
	(EN * EN_BAR * Y)	-0.00553	-0.00608	-0.00601
	(!EN * EN_BAR)	0.01350	0.01350	0.01335
	(!EN * EN_BAR)	-0.00639	-0.00646	-0.00646
	(!EN * !EN_BAR * !Y)	0.01264	0.01265	0.01253
	(!EN * !EN_BAR * !Y)	-0.00696	-0.00685	-0.00667

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_tbuf_2	(EN_BAR * Y)	-0.00081	-0.00028	-0.00018
	(EN_BAR * Y)	0.00570	0.00570	0.00568
	(A * !EN_BAR * Y)	-0.00081	-0.00028	-0.00018
	(A * !EN_BAR * Y)	0.00570	0.00570	0.00568
	(!A * EN_BAR * !Y)	-0.00025	-0.00025	-0.00030
	(!A * EN_BAR * !Y)	0.00215	0.00213	0.00209
	(!A * !EN_BAR * !Y)	-0.00050	-0.00051	-0.00061
	(!A * !EN_BAR * !Y)	0.00189	0.00188	0.00178

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_tbuf_2	(EN_BAR * Y)	0.00143	0.00028	0.00018
	(EN_BAR * Y)	-0.00496	-0.00570	-0.00568
	(A * !EN_BAR * Y)	0.00143	0.00028	0.00018
	(A * !EN_BAR * Y)	-0.00495	-0.00570	-0.00568
	(!A * EN_BAR * !Y)	0.00031	0.00031	0.00031
	(!A * EN_BAR * !Y)	-0.00208	-0.00205	-0.00204
	(!A * !EN_BAR * !Y)	0.00063	0.00063	0.00063
	(!A * !EN_BAR * !Y)	-0.00179	-0.00176	-0.00175

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_tbuf_2	(A * EN * Y)	-0.00459	-0.00454	-0.00451
	(A * EN * Y)	0.00129	0.00129	0.00129
	(A * !EN * Y)	-0.00555	-0.00550	-0.00547
	(A * !EN * Y)	0.00028	0.00028	0.00027
	(!EN * !Y)	-0.00830	-0.00831	-0.00784
	(!EN * !Y)	0.00324	0.00327	0.00345
	(!A * EN * !Y)	-0.01118	-0.01252	-0.01239
	(!A * EN * !Y)	0.00209	0.00057	0.00034

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_tbuf_2	(A * EN * Y)	0.00490	0.00483	0.00460
	(A * EN * Y)	-0.00100	-0.00103	-0.00129
	(A * !EN * Y)	0.00572	0.00568	0.00574
	(A * !EN * Y)	-0.00017	-0.00016	-0.00015
	(!EN * !Y)	0.00830	0.00831	0.00784
	(!EN * !Y)	-0.00267	-0.00277	-0.00313
	(!A * EN * !Y)	0.01241	0.01252	0.01239
	(!A * EN * !Y)	-0.00107	-0.00057	-0.00034

GF180MCU_OSU_SC_12T_TBUF_4

gf180mcu_12T_TT_3P3_25C.ccs
Cell Library: Process , Voltage 3.30, Temp 25.00

Truth Table

INPUT			OUTPUT
A	EN	EN_BAR	Y
0	x	0	0
0	x	1	1
1	x	x	1

Footprint

Cell Name	Area
gf180mcu_osu_sc_12T_tbuf_4	0.00000

Pin Capacitance Information

Cell Name	Pin Cap(pf)			Max Cap(pf)
	A	EN	EN_BAR	Y
gf180mcu_osu_sc_12T_tbuf_4	0.00395	0.00131	0.00273	6.20353

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_12T_tbuf_4	0.00000	395818.00000	1115160.00000

Delay Information

Delay(ns) to Y rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_tbuf_4	A->Y (RR)	0.22952	0.32259	0.11369
	EN->Y (RR)	0.21202	0.17771	-2.46945

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_tbuf_4	A->Y (FF)	0.27219	0.52081	1.55975
	EN_BAR->Y (FF)	0.24163	0.33708	-1.59170

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_tbuf_4	A	0.13522	0.25320	1.06959
	A	0.17137	0.28946	1.10556
	EN	0.14442	0.22781	0.55303
	EN	0.16198	0.24538	0.57058

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_tbuf_4	A	0.17894	0.29384	1.09639
	A	0.14255	0.25742	1.06013
	EN_BAR	0.16775	0.26113	0.63438
	EN_BAR	0.14732	0.24067	0.61401

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_tbuf_4	(EN * EN_BAR * Y)	-0.01371	-0.01379	-0.01352
	(EN * EN_BAR * Y)	0.00587	0.00589	0.00582
	(!EN * EN_BAR)	-0.01321	-0.01340	-0.01335
	(!EN * EN_BAR)	0.00653	0.00646	0.00646
	(!EN * !EN_BAR * !Y)	-0.01162	-0.01242	-0.01231
	(!EN * !EN_BAR * !Y)	0.00789	0.00701	0.00678

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_tbuf_4	(EN * EN_BAR * Y)	0.01450	0.01379	0.01352
	(EN * EN_BAR * Y)	-0.00532	-0.00589	-0.00582
	(!EN * EN_BAR)	0.01350	0.01350	0.01335
	(!EN * EN_BAR)	-0.00639	-0.00646	-0.00646
	(!EN * !EN_BAR * !Y)	0.01241	0.01242	0.01231
	(!EN * !EN_BAR * !Y)	-0.00726	-0.00701	-0.00678

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_tbuf_4	(EN_BAR * Y)	-0.00109	-0.00040	-0.00022
	(EN_BAR * Y)	0.00541	0.00542	0.00540
	(A * !EN_BAR * Y)	-0.00109	-0.00040	-0.00022
	(A * !EN_BAR * Y)	0.00541	0.00542	0.00540
	(!A * EN_BAR * !Y)	-0.00024	-0.00024	-0.00029
	(!A * EN_BAR * !Y)	0.00216	0.00215	0.00210
	(!A * !EN_BAR * !Y)	-0.00050	-0.00051	-0.00061
	(!A * !EN_BAR * !Y)	0.00190	0.00188	0.00178

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_tbuf_4	(EN_BAR * Y)	0.00199	0.00040	0.00022
	(EN_BAR * Y)	-0.00447	-0.00542	-0.00540
	(A * !EN_BAR * Y)	0.00199	0.00040	0.00022
	(A * !EN_BAR * Y)	-0.00446	-0.00542	-0.00540
	(!A * EN_BAR * !Y)	0.00030	0.00030	0.00030
	(!A * EN_BAR * !Y)	-0.00211	-0.00208	-0.00206
	(!A * !EN_BAR * !Y)	0.00063	0.00063	0.00063
	(!A * !EN_BAR * !Y)	-0.00179	-0.00176	-0.00174

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_tbuf_4	(A * EN * Y)	-0.00458	-0.00454	-0.00451
	(A * EN * Y)	0.00129	0.00129	0.00129
	(A * !EN * Y)	-0.00560	-0.00556	-0.00552
	(A * !EN * Y)	0.00024	0.00024	0.00024
	(!EN * !Y)	-0.00757	-0.00767	-0.00757
	(!EN * !Y)	0.00443	0.00461	0.00462
	(!A * EN * !Y)	-0.01067	-0.01173	-0.01175
	(!A * EN * !Y)	0.00284	0.00073	0.00042

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_tbuf_4	(A * EN * Y)	0.00490	0.00483	0.00460
	(A * EN * Y)	-0.00100	-0.00103	-0.00129
	(A * !EN * Y)	0.00571	0.00566	0.00566
	(A * !EN * Y)	-0.00019	-0.00019	-0.00023
	(!EN * !Y)	0.00757	0.00767	0.00757
	(!EN * !Y)	-0.00402	-0.00408	-0.00405
	(!A * EN * !Y)	0.01176	0.01173	0.01175
	(!A * EN * !Y)	-0.00172	-0.00073	-0.00042

GF180MCU_OSU_SC_12T_TBUF_8

gf180mcu_12T_TT_3P3_25C.ccs
Cell Library: Process , Voltage 3.30, Temp 25.00

Truth Table

INPUT			OUTPUT
A	EN	EN_BAR	Y
0	x	0	0
0	x	1	1
1	x	x	1

Footprint

Cell Name	Area
gf180mcu_osu_sc_12T_tbuf_8	0.00000

Pin Capacitance Information

Cell Name	Pin Cap(pf)			Max Cap(pf)
	A	EN	EN_BAR	Y
gf180mcu_osu_sc_12T_tbuf_8	0.00395	0.00131	0.00273	12.46914

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_12T_tbuf_8	0.00000	791637.00000	2230320.00000

Delay Information

Delay(ns) to Y rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_tbuf_8	A->Y (RR)	0.33934	0.46576	0.41578
	EN->Y (RR)	0.32159	0.39472	-1.84097

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_tbuf_8	A->Y (FF)	0.41021	0.67697	1.87695
	EN_BAR->Y (FF)	0.37914	0.59144	-0.82550

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_tbuf_8	A	0.35639	0.51934	1.73704
	A	0.39254	0.55555	1.77302
	EN	0.36532	0.54356	1.36631
	EN	0.38287	0.56114	1.38386

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_tbuf_8	A	0.43961	0.58330	1.77509
	A	0.40332	0.54690	1.73884
	EN_BAR	0.42810	0.60847	1.55658
	EN_BAR	0.40768	0.58803	1.53622

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_tbuf_8	(EN * EN_BAR * Y)	-0.01395	-0.01394	-0.01359
	(EN * EN_BAR * Y)	0.00566	0.00568	0.00561
	(!EN * EN_BAR)	-0.01321	-0.01340	-0.01335
	(!EN * EN_BAR)	0.00653	0.00646	0.00646
	(!EN * !EN_BAR * !Y)	-0.01140	-0.01211	-0.01200
	(!EN * !EN_BAR * !Y)	0.00830	0.00718	0.00689

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_tbuf_8	(EN * EN_BAR * Y)	0.01478	0.01394	0.01359
	(EN * EN_BAR * Y)	-0.00510	-0.00568	-0.00561
	(!EN * EN_BAR)	0.01350	0.01350	0.01335
	(!EN * EN_BAR)	-0.00639	-0.00646	-0.00646
	(!EN * !EN_BAR * !Y)	0.01212	0.01211	0.01200
	(!EN * !EN_BAR * !Y)	-0.00765	-0.00718	-0.00689

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_tbuf_8	(EN_BAR * Y)	-0.00147	-0.00059	-0.00027
	(EN_BAR * Y)	0.00505	0.00509	0.00504
	(A * !EN_BAR * Y)	-0.00146	-0.00059	-0.00027
	(A * !EN_BAR * Y)	0.00505	0.00509	0.00504
	(!A * EN_BAR * !Y)	-0.00023	-0.00023	-0.00028
	(!A * EN_BAR * !Y)	0.00217	0.00216	0.00211
	(!A * !EN_BAR * !Y)	-0.00050	-0.00051	-0.00061
	(!A * !EN_BAR * !Y)	0.00190	0.00188	0.00178

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_tbuf_8	(EN_BAR * Y)	0.00254	0.00059	0.00027
	(EN_BAR * Y)	-0.00394	-0.00509	-0.00504
	(A * !EN_BAR * Y)	0.00254	0.00059	0.00027
	(A * !EN_BAR * Y)	-0.00394	-0.00509	-0.00504
	(!A * EN_BAR * !Y)	0.00029	0.00029	0.00029
	(!A * EN_BAR * !Y)	-0.00213	-0.00209	-0.00208
	(!A * !EN_BAR * !Y)	0.00063	0.00063	0.00063
	(!A * !EN_BAR * !Y)	-0.00179	-0.00176	-0.00174

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_tbuf_8	(A * EN * Y)	-0.00458	-0.00454	-0.00451
	(A * EN * Y)	0.00129	0.00129	0.00129
	(A * !EN * Y)	-0.00564	-0.00559	-0.00556
	(A * !EN * Y)	0.00022	0.00022	0.00022
	(!EN * !Y)	-0.00735	-0.00730	-0.00732
	(!EN * !Y)	0.00505	0.00543	0.00554
	(!A * EN * !Y)	-0.00989	-0.01104	-0.01108
	(!A * EN * !Y)	0.00348	0.00108	0.00052

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_tbuf_8	(A * EN * Y)	0.00491	0.00484	0.00460
	(A * EN * Y)	-0.00100	-0.00102	-0.00129
	(A * !EN * Y)	0.00573	0.00568	0.00569
	(A * !EN * Y)	-0.00017	-0.00017	-0.00021
	(!EN * !Y)	0.00735	0.00730	0.00732
	(!EN * !Y)	-0.00491	-0.00489	-0.00492
	(!A * EN * !Y)	0.01111	0.01104	0.01108
	(!A * EN * !Y)	-0.00241	-0.00108	-0.00052

GF180MCU_OSU_SC_12T_TIEHI

gf180mcu_12T_TT_3P3_25C.ccs
Cell Library: Process , Voltage 3.30, Temp 25.00

Footprint

Cell Name	Area
gf180mcu_osu_sc_12T_tiehi	0.00000

Pin Capacitance Information

Cell Name	Max Cap(pf)
	Y
gf180mcu_osu_sc_12T_tiehi	3.44214

Leakage Information

Cell Name	Leakage(nW)		
	Min.	**Avg**	**Max.**
gf180mcu_osu_sc_12T_tiehi	0.00000	0.00000	0.00000

GF180MCU_OSU_SC_12T_TIELO

gf180mcu_12T_TT_3P3_25C.ccs
Cell Library: Process , Voltage 3.30, Temp 25.00

Footprint

Cell Name	Area
gf180mcu_osu_sc_12T_tielo	0.00000

Pin Capacitance Information

Cell Name	Max Cap(pf)
	Y
gf180mcu_osu_sc_12T_tielo	5.16285

Leakage Information

Cell Name	Leakage(nW)		
	Min.	**Avg**	**Max.**
gf180mcu_osu_sc_12T_tielo	0.00000	0.00000	0.00000

GF180MCU_OSU_SC_12T_TINV_16

gf180mcu_12T_TT_3P3_25C.ccs
Cell Library: Process , Voltage 3.30, Temp 25.00

Truth Table

INPUT			OUTPUT
A	EN	EN_BAR	Y
0	x	0	0
0	x	1	1
1	x	x	1

Footprint

Cell Name	Area
gf180mcu_osu_sc_12T_tinv_16	0.00000

Pin Capacitance Information

Cell Name	Pin Cap(pf)			Max Cap(pf)
	A	EN	EN_BAR	Y
gf180mcu_osu_sc_12T_tinv_16	0.00237	0.00117	0.00241	10.88077

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_12T_tinv_16	0.00000	4415470.00000	5510370.00000

Delay Information

Delay(ns) to Y rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_tinv_16	A->Y (-R)	0.04436	-0.42892	-4.35653
	EN->Y (RR)	0.03464	-0.47203	-4.41070
	EN_BAR->Y (RR)	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_tinv_16	A->Y (-F)	2.22957	2.39046	5.83278
	EN->Y (FF)	2.23677	2.49241	6.04119
	EN_BAR->Y (FF)	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_tinv_16	A	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000
	A	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000
	EN	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000
	EN	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000
	EN_BAR	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000
	EN_BAR	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_tinv_16	A	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000
	A	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000
	EN	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000
	EN	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000
	EN_BAR	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000
	EN_BAR	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000

GF180MCU_OSU_SC_12T_TINV_1

gf180mcu_12T_TT_3P3_25C.ccs
Cell Library: Process , Voltage 3.30, Temp 25.00

Truth Table

INPUT			OUTPUT
A	**EN**	**EN_BAR**	**Y**
0	**x**	**0**	**1**
0	**x**	**1**	**HiZ**
1	**0**	**x**	**HiZ**
1	**1**	**x**	**0**

Footprint

Cell Name	Area
gf180mcu_osu_sc_12T_tinv_1	0.00000

Pin Capacitance Information

Cell Name	Pin Cap(pf)			Max Cap(pf)
	A	**EN**	**EN_BAR**	**Y**
gf180mcu_osu_sc_12T_tinv_1	0.00395	0.00131	0.00273	0.74779

Leakage Information

Cell Name	Leakage(nW)		
	Min.	**Avg**	**Max.**
gf180mcu_osu_sc_12T_tinv_1	0.00000	0.00030	0.00087

Delay Information

Delay(ns) to Y rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_tinv_1	A->Y (FR)	0.09919	0.27845	1.07829
	A->Y (FR)	0.05086	0.93955	6.56566
	EN_BAR->Y (FR)	0.07083	-0.10619	-2.89941

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_tinv_1	A->Y (RF)	0.07596	0.06510	-0.43783
	A->Y (FF)	0.05086	0.93955	6.56566
	EN->Y (RF)	0.06030	-0.21038	-3.56578

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_tinv_1	A	0.04216	0.11245	0.63913
	A	0.00590	0.07600	0.60288
	EN_BAR	0.03171	0.03178	0.03168
	EN_BAR	0.01130	0.01130	0.01131

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_tinv_1	A	0.01023	0.08009	0.60567
	A	0.04630	0.11638	0.64165
	EN	0.01968	0.01966	0.01974
	EN	0.03724	0.03725	0.03730

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_tinv_1	(EN * EN_BAR * !Y)	-0.01322	-0.01353	-0.01339
	(EN * EN_BAR * !Y)	0.00632	0.00627	0.00625
	(!EN * EN_BAR)	-0.01321	-0.01340	-0.01335
	(!EN * EN_BAR)	0.00653	0.00646	0.00646
	(!EN * !EN_BAR * Y)	-0.01228	-0.01285	-0.01280
	(!EN * !EN_BAR * Y)	0.00673	0.00655	0.00650

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_tinv_1	(EN * EN_BAR * !Y)	0.01360	0.01356	0.01339
	(EN * EN_BAR * !Y)	-0.00600	-0.00627	-0.00625
	(!EN * EN_BAR)	0.01350	0.01350	0.01335
	(!EN * EN_BAR)	-0.00639	-0.00646	-0.00646
	(!EN * !EN_BAR * Y)	0.01292	0.01285	0.01280
	(!EN * !EN_BAR * Y)	-0.00652	-0.00655	-0.00650

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_tinv_1	(EN_BAR * !Y)	-0.00016	-0.00012	-0.00009
	(EN_BAR * !Y)	0.00633	0.00635	0.00631
	(A * !EN_BAR * !Y)	-0.00016	-0.00012	-0.00009
	(A * !EN_BAR * !Y)	0.00632	0.00634	0.00631
	(!A * EN_BAR * Y)	-0.00036	-0.00036	-0.00039
	(!A * EN_BAR * Y)	0.00204	0.00203	0.00197
	(!A * !EN_BAR * Y)	-0.00050	-0.00051	-0.00061
	(!A * !EN_BAR * Y)	0.00189	0.00187	0.00178

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_tinv_1	(EN_BAR * !Y)	0.00039	0.00012	0.00009
	(EN_BAR * !Y)	-0.00597	-0.00635	-0.00631
	(A * !EN_BAR * !Y)	0.00039	0.00012	0.00009
	(A * !EN_BAR * !Y)	-0.00595	-0.00634	-0.00631
	(!A * EN_BAR * Y)	0.00039	0.00039	0.00039
	(!A * EN_BAR * Y)	-0.00194	-0.00191	-0.00190
	(!A * !EN_BAR * Y)	0.00063	0.00063	0.00063
	(!A * !EN_BAR * Y)	-0.00175	-0.00176	-0.00175

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_tinv_1	(A * EN * !Y)	-0.00455	-0.00454	-0.00451
	(A * EN * !Y)	0.00129	0.00129	0.00129
	(A * !EN * !Y)	-0.00519	-0.00514	-0.00511
	(A * !EN * !Y)	0.00049	0.00049	0.00049
	(!EN * Y)	-0.00842	-0.00842	-0.00840
	(!EN * Y)	0.00092	0.00093	0.00096
	(!A * EN * Y)	-0.01284	-0.01308	-0.01297
	(!A * EN * Y)	0.00040	0.00018	0.00013

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_tinv_1	(A * EN * !Y)	0.00483	0.00482	0.00460
	(A * EN * !Y)	-0.00100	-0.00104	-0.00129
	(A * !EN * !Y)	0.00547	0.00542	0.00534
	(A * !EN * !Y)	-0.00041	-0.00040	-0.00046
	(!EN * Y)	0.00842	0.00842	0.00840
	(!EN * Y)	-0.00092	-0.00093	-0.00096
	(!A * EN * Y)	0.01288	0.01308	0.01297
	(!A * EN * Y)	-0.00033	-0.00018	-0.00013

GF180MCU_OSU_SC_12T_TINV_2

gf180mcu_12T_TT_3P3_25C.ccs
Cell Library: Process , Voltage 3.30, Temp 25.00

Truth Table

INPUT			OUTPUT
A	EN	EN_BAR	Y
0	x	0	0
0	x	1	1
1	x	x	1

Footprint

Cell Name	Area
gf180mcu_osu_sc_12T_tinv_2	0.00000

Pin Capacitance Information

Cell Name	Pin Cap(pf)			Max Cap(pf)
	A	EN	EN_BAR	Y
gf180mcu_osu_sc_12T_tinv_2	0.00238	0.00117	0.00241	1.38657

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_12T_tinv_2	0.00000	927990.00000	972297.00000

Delay Information

Delay(ns) to Y rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_tinv_2	A->Y (-R)	0.02594	-0.53452	-4.63064
	EN->Y (RR)	0.01416	-0.55735	-4.66012
	EN_BAR->Y (RR)	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_tinv_2	A->Y (-F)	0.61119	0.96514	5.11304
	EN->Y (FF)	0.68435	1.17057	5.23559
	EN_BAR->Y (FF)	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_tinv_2	A	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000
	A	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000
	EN	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000
	EN	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000
	EN_BAR	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000
	EN_BAR	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_tinv_2	A	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000
	A	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000
	EN	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000
	EN	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000
	EN_BAR	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000
	EN_BAR	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000

GF180MCU_OSU_SC_12T_TINV_4

gf180mcu_12T_TT_3P3_25C.ccs
Cell Library: Process , Voltage 3.30, Temp 25.00

Truth Table

INPUT			OUTPUT
A	EN	EN_BAR	Y
0	x	0	0
0	x	1	1
1	x	x	1

Footprint

Cell Name	Area
gf180mcu_osu_sc_12T_tinv_4	0.00000

Pin Capacitance Information

Cell Name	Pin Cap(pf)			Max Cap(pf)
	A	EN	EN_BAR	Y
gf180mcu_osu_sc_12T_tinv_4	0.00237	0.00117	0.00241	2.76800

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_12T_tinv_4	0.00000	1426200.00000	1620590.00000

Delay Information

Delay(ns) to Y rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_tinv_4	A->Y (-R)	0.02985	-0.51247	-4.58509
	EN->Y (RR)	0.01850	-0.54017	-4.61455
	EN_BAR->Y (RR)	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_tinv_4	A->Y (-F)	0.86510	1.32770	5.20489
	EN->Y (FF)	0.90330	1.33289	5.33554
	EN_BAR->Y (FF)	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_tinv_4	A	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000
	A	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000
	EN	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000
	EN	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000
	EN_BAR	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000
	EN_BAR	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_tinv_4	A	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000
	A	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000
	EN	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000
	EN	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000
	EN_BAR	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000
	EN_BAR	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000

GF180MCU_OSU_SC_12T_TINV_8

gf180mcu_12T_TT_3P3_25C.ccs
Cell Library: Process , Voltage 3.30, Temp 25.00

Truth Table

INPUT			OUTPUT
A	EN	EN_BAR	Y
0	x	0	0
0	x	1	1
1	x	x	1

Footprint

Cell Name	Area
gf180mcu_osu_sc_12T_tinv_8	0.00000

Pin Capacitance Information

Cell Name	Pin Cap(pf)			Max Cap(pf)
	A	EN	EN_BAR	Y
gf180mcu_osu_sc_12T_tinv_8	0.00237	0.00117	0.00241	5.49376

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_12T_tinv_8	0.00000	2422620.00000	2917180.00000

Delay Information

Delay(ns) to Y rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_tinv_8	A->Y (-R)	0.03572	-0.47568	-4.49600
	EN->Y (RR)	0.02512	-0.51272	-4.53566
	EN_BAR->Y (RR)	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_12T_tinv_8	A->Y (-F)	1.32954	1.63357	5.39916
	EN->Y (FF)	1.34646	1.68900	5.55114
	EN_BAR->Y (FF)	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_tinv_8	A	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000
	A	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000
	EN	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000
	EN	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000
	EN_BAR	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000
	EN_BAR	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_12T_tinv_8	A	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000
	A	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000
	EN	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000
	EN	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000
	EN_BAR	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000
	EN_BAR	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000	99999999999999963589629496524 8.00000

GF180MCU_OSU_SC_12T_XNOR2_1

gf180mcu_12T_TT_3P3_25C.ccs
Cell Library: Process , Voltage 3.30, 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
gf180mcu_osu_sc_12T_xnor2_1	0.00000

Pin Capacitance Information

Cell Name	Pin Cap(pf)		Max Cap(pf)
	A	B	Y
gf180mcu_osu_sc_12T_xnor2_1	0.00806	0.00798	0.78925

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_12T_xnor2_1	0.00000	0.00288	0.00353

Delay Information

Delay(ns) to Y rising (conditional):

Cell Name	Timing Arc(Dir)	When	Delay(ns)		
			First	Mid	Last
gf180mcu_osu_sc_12T_xnor2_1	A->Y (RR)	B	0.14106	0.16185	-0.22379
	A->Y (FR)	!B	0.10333	0.43520	1.90238
	B->Y (RR)	A	0.11190	0.14837	-0.20892
	B->Y (FR)	!A	0.12350	0.33264	1.20971

Delay(ns) to Y falling (conditional):

Cell Name	Timing Arc(Dir)	When	Delay(ns)		
			First	Mid	Last
gf180mcu_osu_sc_12T_xnor2_1	A->Y (FF)	B	0.15735	0.38321	1.17992
	A->Y (RF)	!B	0.06726	-0.01332	-1.02373
	B->Y (FF)	A	0.11642	0.33244	1.09817
	B->Y (RF)	!A	0.09810	0.12419	-0.29730

Power Information

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

Cell Name	Input	When	Power(pJ)		
			first	mid	last
gf180mcu_osu_sc_12T_xnor2_1	A	B	0.03133	0.11899	0.73055
	A	B	0.06427	0.15133	0.76157
	A	!B	0.06246	0.21264	1.23796
	A	!B	0.01828	0.16813	1.19390
	B	A	0.01341	0.10373	0.71449
	B	A	0.05378	0.14437	0.75495
	B	!A	0.07169	0.22775	1.33907
	B	!A	0.01800	0.17399	1.28557

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

Cell Name	Input	When	Power(pJ)		
			first	mid	last
gf180mcu_osu_sc_12T_xnor2_1	A	B	0.07855	0.17071	0.77791
	A	B	0.04728	0.13910	0.74624
	A	!B	0.02521	0.17196	1.19970
	A	!B	0.06892	0.21601	1.24377
	B	A	0.06433	0.15573	0.76561
	B	A	0.02359	0.11509	0.72508
	B	!A	0.03629	0.19057	1.30043
	B	!A	0.08914	0.24355	1.35315

GF180MCU_OSU_SC_12T_XOR2_1

gf180mcu_12T_TT_3P3_25C.ccs
Cell Library: Process , Voltage 3.30, 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
gf180mcu_osu_sc_12T_xor2_1	0.00000

Pin Capacitance Information

Cell Name	Pin Cap(pf)		Max Cap(pf)
	A	B	Y
gf180mcu_osu_sc_12T_xor2_1	0.00799	0.00801	0.79014

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_12T_xor2_1	0.00000	0.00288	0.00329

Delay Information

Delay(ns) to Y rising (conditional):

Cell Name	Timing Arc(Dir)	When	Delay(ns)		
			First	Mid	Last
gf180mcu_osu_sc_12T_xor2_1	A->Y (RR)	!B	0.11197	0.14838	-0.20892
	A->Y (FR)	B	0.12558	0.33272	1.20978
	B->Y (RR)	!A	0.15128	0.18582	-0.15090
	B->Y (FR)	A	0.09507	0.22111	0.60694

Delay(ns) to Y falling (conditional):

Cell Name	Timing Arc(Dir)	When	Delay(ns)		
			First	Mid	Last
gf180mcu_osu_sc_12T_xor2_1	A->Y (FF)	!B	0.11636	0.33243	1.09816
	A->Y (RF)	B	0.09657	0.12445	-0.29662
	B->Y (FF)	!A	0.12476	0.33039	1.07865
	B->Y (RF)	A	0.09128	0.21909	0.28632

Power Information

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

Cell Name	Input	When	Power(pJ)		
			first	mid	last
gf180mcu_osu_sc_12T_xor2_1	A	B	0.07675	0.23292	1.34424
	A	B	0.02832	0.18414	1.29577
	A	!B	0.01195	0.10239	0.71317
	A	!B	0.05315	0.14374	0.75432
	B	A	0.06383	0.21458	1.27633
	B	A	0.02022	0.17086	1.23281
	B	!A	0.02781	0.11646	0.72522
	B	!A	0.06391	0.15283	0.76146

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

Cell Name	Input	When	Power(pJ)		
			first	mid	last
gf180mcu_osu_sc_12T_xor2_1	A	B	0.03019	0.18443	1.29450
	A	B	0.07956	0.23416	1.34375
	A	!B	0.06561	0.15703	0.76688
	A	!B	0.02426	0.11574	0.72572
	B	A	0.03081	0.18032	1.23709
	B	A	0.07511	0.22478	1.28127
	B	!A	0.07013	0.16087	0.77100
	B	!A	0.03286	0.12405	0.73490