gf180mcu_osu_sc_gp12t3v3_TT_25C.ccs Library

Cell Groups
GF180MCU_OSU_SC_GP12T3V3__ADDF_1
GF180MCU_OSU_SC_GP12T3V3__ADDH_1
GF180MCU_OSU_SC_GP12T3V3__AND2_1
GF180MCU_OSU_SC_GP12T3V3__AOI21_1
GF180MCU_OSU_SC_GP12T3V3__AOI22_1
GF180MCU_OSU_SC_GP12T3V3__BUF_16
GF180MCU_OSU_SC_GP12T3V3__BUF_1
GF180MCU_OSU_SC_GP12T3V3__BUF_2
GF180MCU_OSU_SC_GP12T3V3__BUF_4
GF180MCU_OSU_SC_GP12T3V3__BUF_8
GF180MCU_OSU_SC_GP12T3V3__CLKBUF_16
GF180MCU_OSU_SC_GP12T3V3__CLKBUF_1
GF180MCU_OSU_SC_GP12T3V3__CLKBUF_2
GF180MCU_OSU_SC_GP12T3V3__CLKBUF_4
GF180MCU_OSU_SC_GP12T3V3__CLKBUF_8
GF180MCU_OSU_SC_GP12T3V3__CLKINV_16
GF180MCU_OSU_SC_GP12T3V3__CLKINV_1
GF180MCU_OSU_SC_GP12T3V3__CLKINV_2
GF180MCU_OSU_SC_GP12T3V3__CLKINV_4
GF180MCU_OSU_SC_GP12T3V3__CLKINV_8
GF180MCU_OSU_SC_GP12T3V3__DFFN_1
GF180MCU_OSU_SC_GP12T3V3__DFFRN_1
GF180MCU_OSU_SC_GP12T3V3__DFFR_1

GF180MCU_OSU_SC_GP12T3V3__DFFSN_1
GF180MCU_OSU_SC_GP12T3V3__DFFSRN_1
GF180MCU_OSU_SC_GP12T3V3__DFFSR_1
GF180MCU_OSU_SC_GP12T3V3__DFFS_1
GF180MCU_OSU_SC_GP12T3V3__DFF_1
GF180MCU_OSU_SC_GP12T3V3__DLATN_1
GF180MCU_OSU_SC_GP12T3V3__DLAT_1
GF180MCU_OSU_SC_GP12T3V3__INV_16
GF180MCU_OSU_SC_GP12T3V3__INV_1
GF180MCU_OSU_SC_GP12T3V3__INV_2
GF180MCU_OSU_SC_GP12T3V3__INV_4
GF180MCU_OSU_SC_GP12T3V3__INV_8
GF180MCU_OSU_SC_GP12T3V3__LSHIFDOWN
GF180MCU_OSU_SC_GP12T3V3__LSHIFUP
GF180MCU_OSU_SC_GP12T3V3__MUX2_1
GF180MCU_OSU_SC_GP12T3V3__NAND2_1
GF180MCU_OSU_SC_GP12T3V3__NOR2_1
GF180MCU_OSU_SC_GP12T3V3__OAI21_1
GF180MCU_OSU_SC_GP12T3V3__OAI22_1
GF180MCU_OSU_SC_GP12T3V3__OAI31_1
GF180MCU_OSU_SC_GP12T3V3__OR2_1
GF180MCU_OSU_SC_GP12T3V3__TBUF_1
GF180MCU_OSU_SC_GP12T3V3__TIEH
GF180MCU_OSU_SC_GP12T3V3__TIEL
GF180MCU_OSU_SC_GP12T3V3__TINV_1
GF180MCU_OSU_SC_GP12T3V3__XNOR2_1

GF180MCU_OSU_SC_GP12T3V3__XOR2_1

GF180MCU_OSU_SC_GP12T3V3__ADDF_1

gf180mcu_osu_sc_gp12t3v3_TT_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_gp12t3v3__addf_1	113.40000

Pin Capacitance Information

Cell Name	Pin Cap(pf)			Max Cap(pf)	
	A	B	CI	CO	S
gf180mcu_osu_sc_gp12t3v3__addf_1	0.01543	0.01458	0.01140	1.55550	1.54990

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_gp12t3v3__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_gp12t3v3__addf_1	A->CO (RR)	0.21559	0.84320	7.28466
	B->CO (RR)	0.22717	0.95260	7.77409
	CI->CO (RR)	0.20532	0.89034	7.27903

Delay(ns) to CO falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__addf_1	A->CO (FF)	0.24800	1.00684	8.06347
	B->CO (FF)	0.23378	1.11374	8.62006
	CI->CO (FF)	0.20034	1.08547	8.30552

Delay(ns) to S rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__addf_1	A->S (-R)	0.42844	1.17991	8.51167
	B->S (-R)	0.41180	1.30976	9.24793
	CI->S (-R)	0.37617	1.22944	8.80527

Delay(ns) to S falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__addf_1	A->S (-F)	0.25919	1.19649	9.07279
	B->S (-F)	0.30539	1.14478	8.75645
	CI->S (-F)	0.32730	1.07132	8.32990

Power Information

Internal switching power(pJ) to CO rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__addf_1	A	0.04824	0.07830	0.36351
	A	0.08806	0.11803	0.40224
	B	0.04864	0.07483	0.32982
	B	0.08933	0.11590	0.37156
	CI	0.03541	0.06511	0.28970
	CI	0.07573	0.10240	0.32645

Internal switching power(pJ) to CO falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__addf_1	A	0.09975	0.12958	0.41358
	A	0.06246	0.09238	0.37677
	B	0.08158	0.10942	0.36674
	B	0.03947	0.06745	0.32534
	CI	0.07534	0.10565	0.33568
	CI	0.04219	0.07255	0.30256

Internal switching power(pJ) to S rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__addf_1	A	0.02582	0.06833	0.48450
	A	0.10972	0.15287	0.56918
	B	0.03019	0.07979	0.53361
	B	0.11155	0.16078	0.61361
	CI	0.04215	0.09495	0.60594
	CI	0.11906	0.17156	0.68256

Internal switching power(pJ) to S falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__addf_1	A	0.10569	0.15099	0.57105
	A	0.01877	0.06428	0.48432
	B	0.10784	0.15662	0.61211
	B	0.03096	0.07991	0.53586
	CI	0.11664	0.17015	0.68970
	CI	0.05144	0.10482	0.62457

GF180MCU_OSU_SC_GP12T3V3__ADDH_1

gf180mcu_osu_sc_gp12t3v3_TT_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_gp12t3v3__addh_1	65.61000

Pin Capacitance Information

Cell Name	Pin Cap(pf)		Max Cap(pf)	
	A	B	CO	S
gf180mcu_osu_sc_gp12t3v3__addh_1	0.00767	0.00696	1.55628	1.55391

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_gp12t3v3__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_gp12t3v3__addh_1	A->CO (RR)	0.16386	0.79567	7.36131
	B->CO (RR)	0.15817	0.86939	7.77640

Delay(ns) to CO falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__addh_1	A->CO (FF)	0.14125	0.89017	7.69113
	B->CO (FF)	0.12887	0.82533	7.25281

Delay(ns) to S rising (conditional):

Cell Name	Timing Arc(Dir)	When	Delay(ns)		
			First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__addh_1	A->S (RR)	!B	0.17169	0.85731	7.61775
	A->S (FR)	B	0.24498	1.02204	8.21953
	B->S (RR)	!A	0.13882	0.74574	6.99760
	B->S (FR)	A	0.26280	0.97695	7.75826

Delay(ns) to S falling (conditional):

Cell Name	Timing Arc(Dir)	When	Delay(ns)		
			First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__addh_1	A->S (FF)	!B	0.18047	0.86643	7.50836
	A->S (RF)	B	0.25951	0.80508	6.32892
	B->S (FF)	!A	0.15646	0.94590	8.02549
	B->S (RF)	A	0.25327	0.88754	6.87189

Power Information

Internal switching power(pJ) to CO rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__addh_1	A	0.04269	0.08199	0.37997
	A	0.06100	0.10044	0.39863
	B	0.04740	0.08464	0.35633
	B	0.05947	0.09668	0.36746

Internal switching power(pJ) to CO falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__addh_1	A	0.05990	0.10319	0.40474
	A	0.04160	0.08490	0.38649
	B	0.05920	0.09626	0.36741
	B	0.04792	0.08512	0.35619

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

Cell Name	Input	When	Power(pJ)		
			first	mid	last
gf180mcu_osu_sc_gp12t3v3__addh_1	A	B	0.05993	0.10336	0.40495
	A	B	0.04164	0.08503	0.38660
	A	!B	0.02952	0.09117	0.56744
	A	!B	0.08177	0.14325	0.61823
	B	A	0.05925	0.09612	0.36600
	B	A	0.04797	0.08498	0.35454
	B	!A	0.02077	0.07825	0.49045
	B	!A	0.05868	0.11604	0.52826

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

Cell Name	Input	When	Power(pJ)		
			first	mid	last
gf180mcu_osu_sc_gp12t3v3__addh_1	A	B	0.04265	0.08181	0.37910
	A	B	0.06095	0.10013	0.39736
	A	!B	0.07173	0.13160	0.60704
	A	!B	0.01969	0.07975	0.55544
	B	A	0.04737	0.08474	0.35523
	B	A	0.05944	0.09679	0.36673
	B	!A	0.06335	0.12148	0.53310
	B	!A	0.02486	0.08333	0.49494

GF180MCU_OSU_SC_GP12T3V3__AND2_1

gf180mcu_osu_sc_gp12t3v3_TT_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_gp12t3v3__and2_1	31.59000

Pin Capacitance Information

Cell Name	Pin Cap(pf)		Max Cap(pf)
	A	B	Y
gf180mcu_osu_sc_gp12t3v3__and2_1	0.00404	0.00402	1.54145

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_gp12t3v3__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_gp12t3v3__and2_1	A->Y (RR)	0.12930	0.79723	7.57945
	B->Y (RR)	0.13479	0.73502	7.19291

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__and2_1	A->Y (FF)	0.10871	0.75987	7.06634
	B->Y (FF)	0.12151	0.83053	7.52062

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__and2_1	A	0.02776	0.10147	0.60267
	A	0.05086	0.12462	0.62581
	B	0.02649	0.10438	0.66141
	B	0.05487	0.13259	0.68909

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__and2_1	A	0.04435	0.11920	0.62096
	A	0.02106	0.09616	0.60403
	B	0.05601	0.13734	0.69514
	B	0.02770	0.10921	0.66733

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__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_gp12t3v3__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_gp12t3v3__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_gp12t3v3__and2_1	(!A * !Y)	0.01358	0.01367	0.01355
	(!A * !Y)	-0.00640	-0.00652	-0.00646

GF180MCU_OSU_SC_GP12T3V3__AOI21_1

gf180mcu_osu_sc_gp12t3v3_TT_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_gp12t3v3__aoi21_1	31.59000

Pin Capacitance Information

Cell Name	Pin Cap(pf)			Max Cap(pf)
	A0	A1	B	Y
gf180mcu_osu_sc_gp12t3v3__aoi21_1	0.00395	0.00398	0.00405	0.78130

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_gp12t3v3__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_gp12t3v3__aoi21_1	A0->Y (FR)	0.13755	1.03112	8.60718
	A1->Y (FR)	0.11349	0.99921	8.52901
	B->Y (FR)	0.10332	1.18454	9.87220

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__aoi21_1	A0->Y (RF)	0.10478	0.73088	6.15213
	A1->Y (RF)	0.09823	0.88079	7.33025
	B->Y (RF)	0.04943	0.60623	5.35620

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__aoi21_1	A0	0.04816	0.08073	0.28720
	A0	0.01026	0.04254	0.24915
	A1	0.03609	0.06651	0.25783
	A1	0.00315	0.03353	0.22455
	B	0.02628	0.07181	0.30014
	B	0.00376	0.04910	0.27768

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__aoi21_1	A0	0.01574	0.04815	0.23767
	A0	0.05351	0.08599	0.27532
	A1	0.01623	0.04751	0.21206
	A1	0.04888	0.08020	0.24502
	B	0.00014	0.04140	0.25198
	B	0.02266	0.06394	0.27849

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__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	-0.01352	-0.01352
	(!A1 * !B * Y)	0.00649	0.00646	0.00646

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__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	-0.00646	-0.00646

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__aoi21_1	(B * !Y)	-0.01315	-0.01339	-0.01333
	(B * !Y)	0.00656	0.00658	0.00651
	(!A0 * !B * Y)	-0.01399	-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_gp12t3v3__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_gp12t3v3__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_gp12t3v3__aoi21_1	(A0 * A1 * !Y)	0.00495	0.00497	0.00463
	(A0 * A1 * !Y)	-0.00734	-0.00745	-0.00779

GF180MCU_OSU_SC_GP12T3V3__AOI22_1

gf180mcu_osu_sc_gp12t3v3_TT_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_gp12t3v3__aoi22_1	43.33500

Pin Capacitance Information

Cell Name	Pin Cap(pf)				Max Cap(pf)
	A0	A1	B0	B1	Y
gf180mcu_osu_sc_gp12t3v3__aoi22_1	0.00395	0.00398	0.00404	0.00402	0.77202

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_gp12t3v3__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_gp12t3v3__aoi22_1	A0->Y (FR)	0.18395	1.07120	8.57616
	A1->Y (FR)	0.16043	1.04034	8.49813
	B0->Y (FR)	0.11529	1.16828	9.65346
	B1->Y (FR)	0.13790	1.19726	9.71440

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__aoi22_1	A0->Y (RF)	0.14618	0.77581	6.18231
	A1->Y (RF)	0.13926	0.92709	7.35755
	B0->Y (RF)	0.07689	0.84463	7.25666
	B1->Y (RF)	0.08226	0.69732	6.07316

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__aoi22_1	A0	0.05796	0.09000	0.30180
	A0	0.01026	0.04223	0.25415
	A1	0.04597	0.07593	0.27119
	A1	0.00331	0.03325	0.22854
	B0	0.02816	0.06363	0.24370
	B0	0.00436	0.03967	0.21941
	B1	0.03959	0.07757	0.27062
	B1	0.01078	0.04853	0.24150

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__aoi22_1	A0	0.03100	0.06511	0.27357
	A0	0.07851	0.11274	0.32086
	A1	0.03146	0.06373	0.24727
	A1	0.07380	0.10600	0.28950
	B0	0.00672	0.04022	0.21440
	B0	0.03051	0.06426	0.24098
	B1	0.00564	0.04107	0.23691
	B1	0.03450	0.07030	0.26575

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__aoi22_1	(A1 * B0 * B1 * !Y)	-0.01304	-0.01331	-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_gp12t3v3__aoi22_1	(A1 * B0 * B1 * !Y)	0.01333	0.01331	0.01331
	(A1 * B0 * B1 * !Y)	-0.00648	-0.00649	-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_gp12t3v3__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_gp12t3v3__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_gp12t3v3__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	-0.01403	-0.01414
	(!A1 * !B1 * Y)	0.00189	0.00187	0.00178
	(!A0 * A1 * !B1 * Y)	-0.01407	-0.01402	-0.01414
	(!A0 * A1 * !B1 * Y)	0.00189	0.00187	0.00178

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__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_gp12t3v3__aoi22_1	(A0 * A1 * !Y)	-0.00453	-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_gp12t3v3__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_GP12T3V3__BUF_16

gf180mcu_osu_sc_gp12t3v3_TT_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_gp12t3v3__buf_16	127.98000

Pin Capacitance Information

Cell Name	Pin Cap(pf)	Max Cap(pf)
	A	Y
gf180mcu_osu_sc_gp12t3v3__buf_16	0.00404	24.76612

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_gp12t3v3__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_gp12t3v3__buf_16	A->Y (RR)	0.33842	0.85211	7.91918

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__buf_16	A->Y (FF)	0.36498	1.02557	8.58056

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__buf_16	A	0.71045	0.69297	1.14194
	A	0.73230	0.71318	1.14522

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__buf_16	A	0.78525	0.72159	1.12733
	A	0.76338	0.70586	1.10816

GF180MCU_OSU_SC_GP12T3V3__BUF_1

gf180mcu_osu_sc_gp12t3v3_TT_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_gp12t3v3__buf_1	25.11000

Pin Capacitance Information

Cell Name	Pin Cap(pf)	Max Cap(pf)
	A	Y
gf180mcu_osu_sc_gp12t3v3__buf_1	0.00405	1.55566

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_gp12t3v3__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_gp12t3v3__buf_1	A->Y (RR)	0.09120	0.65409	6.93348

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__buf_1	A->Y (FF)	0.09950	0.79591	7.59185

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__buf_1	A	0.02020	0.10897	0.69832
	A	0.04207	0.13074	0.72018

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__buf_1	A	0.04230	0.13400	0.72073
	A	0.02048	0.11222	0.69903

GF180MCU_OSU_SC_GP12T3V3__BUF_2

gf180mcu_osu_sc_gp12t3v3_TT_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_gp12t3v3__buf_2	31.59000

Pin Capacitance Information

Cell Name	Pin Cap(pf)	Max Cap(pf)
	A	Y
gf180mcu_osu_sc_gp12t3v3__buf_2	0.00404	3.10294

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_gp12t3v3__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_gp12t3v3__buf_2	A->Y (RR)	0.10447	0.58459	7.01509

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__buf_2	A->Y (FF)	0.11369	0.73933	7.67275

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__buf_2	A	0.04209	0.13083	0.71774
	A	0.06404	0.15259	0.73960

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__buf_2	A	0.06405	0.15485	0.73814
	A	0.04202	0.13322	0.71639

GF180MCU_OSU_SC_GP12T3V3__BUF_4

gf180mcu_osu_sc_gp12t3v3_TT_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_gp12t3v3__buf_4	45.36000

Pin Capacitance Information

Cell Name	Pin Cap(pf)	Max Cap(pf)
	A	Y
gf180mcu_osu_sc_gp12t3v3__buf_4	0.00404	6.15334

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_gp12t3v3__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_gp12t3v3__buf_4	A->Y (RR)	0.13693	0.58388	7.13109

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__buf_4	A->Y (FF)	0.14833	0.74778	7.79491

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__buf_4	A	0.09296	0.18250	0.76428
	A	0.11502	0.20425	0.78373

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__buf_4	A	0.11674	0.20577	0.78112
	A	0.09460	0.18449	0.76264

GF180MCU_OSU_SC_GP12T3V3__BUF_8

gf180mcu_osu_sc_gp12t3v3_TT_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_gp12t3v3__buf_8	72.90000

Pin Capacitance Information

Cell Name	Pin Cap(pf)	Max Cap(pf)
	A	Y
gf180mcu_osu_sc_gp12t3v3__buf_8	0.00404	12.28096

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_gp12t3v3__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_gp12t3v3__buf_8	A->Y (RR)	0.20444	0.66602	7.39814

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__buf_8	A->Y (FF)	0.22071	0.83920	8.06740

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__buf_8	A	0.23723	0.32090	0.87603
	A	0.25921	0.34235	0.88880

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__buf_8	A	0.27090	0.33853	0.87944
	A	0.24890	0.31764	0.86069

GF180MCU_OSU_SC_GP12T3V3__CLKBUF_16

gf180mcu_osu_sc_gp12t3v3_TT_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_gp12t3v3__clkbuf_16	127.98000

Pin Capacitance Information

Cell Name	Pin Cap(pf)	Max Cap(pf)
	A	Y
gf180mcu_osu_sc_gp12t3v3__clkbuf_16	0.00404	24.76612

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_gp12t3v3__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_gp12t3v3__clkbuf_16	A->Y (RR)	0.33842	0.85211	7.91918

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__clkbuf_16	A->Y (FF)	0.36498	1.02557	8.58056

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__clkbuf_16	A	0.71045	0.69297	1.14194
	A	0.73230	0.71318	1.14522

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__clkbuf_16	A	0.78525	0.72159	1.12733
	A	0.76338	0.70586	1.10816

GF180MCU_OSU_SC_GP12T3V3__CLKBUF_1

gf180mcu_osu_sc_gp12t3v3_TT_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_gp12t3v3__clkbuf_1	25.11000

Pin Capacitance Information

Cell Name	Pin Cap(pf)	Max Cap(pf)
	A	Y
gf180mcu_osu_sc_gp12t3v3__clkbuf_1	0.00405	1.55566

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_gp12t3v3__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_gp12t3v3__clkbuf_1	A->Y (RR)	0.09120	0.65409	6.93348

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__clkbuf_1	A->Y (FF)	0.09950	0.79591	7.59185

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__clkbuf_1	A	0.02020	0.10897	0.69832
	A	0.04207	0.13074	0.72018

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__clkbuf_1	A	0.04230	0.13400	0.72073
	A	0.02048	0.11222	0.69903

GF180MCU_OSU_SC_GP12T3V3__CLKBUF_2

gf180mcu_osu_sc_gp12t3v3_TT_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_gp12t3v3__clkbuf_2	31.59000

Pin Capacitance Information

Cell Name	Pin Cap(pf)	Max Cap(pf)
	A	Y
gf180mcu_osu_sc_gp12t3v3__clkbuf_2	0.00404	3.10294

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_gp12t3v3__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_gp12t3v3__clkbuf_2	A->Y (RR)	0.10447	0.58459	7.01509

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__clkbuf_2	A->Y (FF)	0.11369	0.73933	7.67275

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__clkbuf_2	A	0.04209	0.13083	0.71774
	A	0.06404	0.15259	0.73960

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__clkbuf_2	A	0.06405	0.15485	0.73814
	A	0.04202	0.13322	0.71639

GF180MCU_OSU_SC_GP12T3V3__CLKBUF_4

gf180mcu_osu_sc_gp12t3v3_TT_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_gp12t3v3__clkbuf_4	45.36000

Pin Capacitance Information

Cell Name	Pin Cap(pf)	Max Cap(pf)
	A	Y
gf180mcu_osu_sc_gp12t3v3__clkbuf_4	0.00404	6.15334

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_gp12t3v3__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_gp12t3v3__clkbuf_4	A->Y (RR)	0.13693	0.58388	7.13109

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__clkbuf_4	A->Y (FF)	0.14833	0.74778	7.79491

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__clkbuf_4	A	0.09296	0.18250	0.76428
	A	0.11502	0.20425	0.78373

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__clkbuf_4	A	0.11674	0.20577	0.78112
	A	0.09460	0.18449	0.76264

GF180MCU_OSU_SC_GP12T3V3__CLKBUF_8

gf180mcu_osu_sc_gp12t3v3_TT_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_gp12t3v3__clkbuf_8	72.90000

Pin Capacitance Information

Cell Name	Pin Cap(pf)	Max Cap(pf)
	A	Y
gf180mcu_osu_sc_gp12t3v3__clkbuf_8	0.00404	12.28096

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_gp12t3v3__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_gp12t3v3__clkbuf_8	A->Y (RR)	0.20444	0.66602	7.39814

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__clkbuf_8	A->Y (FF)	0.22071	0.83920	8.06740

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__clkbuf_8	A	0.23723	0.32090	0.87603
	A	0.25921	0.34235	0.88880

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__clkbuf_8	A	0.27090	0.33853	0.87944
	A	0.24890	0.31764	0.86069

GF180MCU_OSU_SC_GP12T3V3__CLKINV_16

gf180mcu_osu_sc_gp12t3v3_TT_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_gp12t3v3__clkinv_16	121.50000

Pin Capacitance Information

Cell Name	Pin Cap(pf)	Max Cap(pf)
	A	Y
gf180mcu_osu_sc_gp12t3v3__clkinv_16	0.06465	23.88324

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_gp12t3v3__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_gp12t3v3__clkinv_16	A->Y (FR)	0.03922	0.57400	9.96324

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__clkinv_16	A->Y (RF)	0.03059	0.37311	8.47819

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__clkinv_16	A	0.35769	1.40350	4.08756
	A	0.00870	1.05220	3.73664

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__clkinv_16	A	-0.00747	0.97966	3.38277
	A	0.34143	1.33111	3.73611

GF180MCU_OSU_SC_GP12T3V3__CLKINV_1

gf180mcu_osu_sc_gp12t3v3_TT_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_gp12t3v3__clkinv_1	17.82000

Pin Capacitance Information

Cell Name	Pin Cap(pf)	Max Cap(pf)
	A	Y
gf180mcu_osu_sc_gp12t3v3__clkinv_1	0.00404	1.50748

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_gp12t3v3__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_gp12t3v3__clkinv_1	A->Y (FR)	0.05278	1.00655	10.02570

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__clkinv_1	A->Y (RF)	0.04413	0.80780	8.53517

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__clkinv_1	A	0.02207	0.06789	0.25366
	A	0.00025	0.04563	0.23179

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__clkinv_1	A	-0.00064	0.04125	0.21052
	A	0.02128	0.06324	0.23249

GF180MCU_OSU_SC_GP12T3V3__CLKINV_2

gf180mcu_osu_sc_gp12t3v3_TT_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_gp12t3v3__clkinv_2	25.92000

Pin Capacitance Information

Cell Name	Pin Cap(pf)	Max Cap(pf)
	A	Y
gf180mcu_osu_sc_gp12t3v3__clkinv_2	0.00808	2.98498

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_gp12t3v3__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_gp12t3v3__clkinv_2	A->Y (FR)	0.04592	0.86420	9.96233

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__clkinv_2	A->Y (RF)	0.03734	0.66519	8.47737

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__clkinv_2	A	0.04439	0.14625	0.51097
	A	0.00076	0.10216	0.46711

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__clkinv_2	A	-0.00107	0.09315	0.42288
	A	0.04270	0.13730	0.46704

GF180MCU_OSU_SC_GP12T3V3__CLKINV_4

gf180mcu_osu_sc_gp12t3v3_TT_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_gp12t3v3__clkinv_4	38.88000

Pin Capacitance Information

Cell Name	Pin Cap(pf)	Max Cap(pf)
	A	Y
gf180mcu_osu_sc_gp12t3v3__clkinv_4	0.01616	5.97048

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_gp12t3v3__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_gp12t3v3__clkinv_4	A->Y (FR)	0.04217	0.74896	9.96289

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__clkinv_4	A->Y (RF)	0.03360	0.54998	8.47788

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__clkinv_4	A	0.08935	0.31261	1.02191
	A	0.00171	0.22514	0.93418

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__clkinv_4	A	-0.00217	0.20800	0.84572
	A	0.08540	0.29585	0.93405

GF180MCU_OSU_SC_GP12T3V3__CLKINV_8

gf180mcu_osu_sc_gp12t3v3_TT_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_gp12t3v3__clkinv_8	66.01500

Pin Capacitance Information

Cell Name	Pin Cap(pf)	Max Cap(pf)
	A	Y
gf180mcu_osu_sc_gp12t3v3__clkinv_8	0.03231	11.94140

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_gp12t3v3__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_gp12t3v3__clkinv_8	A->Y (FR)	0.04022	0.65280	9.96313

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__clkinv_8	A->Y (RF)	0.03163	0.45306	8.47809

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__clkinv_8	A	0.17917	0.66335	2.04380
	A	0.00392	0.48727	1.86833

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__clkinv_8	A	-0.00411	0.45227	1.69140
	A	0.17098	0.62755	1.86807

GF180MCU_OSU_SC_GP12T3V3__DFFN_1

gf180mcu_osu_sc_gp12t3v3_TT_25C.ccs
Cell Library: Process , Voltage 3.30,
Temp 25.00

Truth Table

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

Footprint

Cell Name	Area
gf180mcu_osu_sc_gp12t3v3__dffn_1	115.42500

Pin Capacitance Information

Cell Name	Pin Cap(pf)		Max Cap(pf)	
	D	CLK	Q	QN
gf180mcu_osu_sc_gp12t3v3__dffn_1	0.00393	0.00405	1.55346	1.56080

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_gp12t3v3__dffn_1	0.00000	0.00670	0.00720

Delay Information

Delay(ns) to Q rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__dffn_1	CLK->Q (FR)	0.37847	1.86725	17.95310
	QN->Q (FR)	0.05278	1.01658	10.22050

Delay(ns) to Q falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__dffn_1	CLK->Q (FF)	0.45909	1.91298	17.66500
	QN->Q (RF)	0.04413	0.81614	8.70942

Delay(ns) to QN rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__dffn_1	CLK->QN (FR)	0.41579	1.19221	8.44575

Delay(ns) to QN falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__dffn_1	CLK->QN (FF)	0.33113	1.06957	7.71483

Constraint Information

Constraints(ns) for D rising :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffn_1	hold	CLK (F)	-0.01795	0.13408	2.01268
	setup	CLK (F)	0.01667	-0.14057	-2.01913

Constraints(ns) for D falling :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffn_1	hold	CLK (F)	-0.13070	-0.17517	-0.85038
	setup	CLK (F)	0.14056	0.19031	0.87882

Constraints(ns) for CLK rising (conditional):

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffn_1	min_pulse_width	CLK ()	0.16305	1.45508	16.50020
	min_pulse_width	CLK ()	0.17341	1.45508	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_gp12t3v3__dffn_1	min_pulse_width	CLK ()	0.18118	1.45508	16.50020
	min_pulse_width	CLK ()	0.19930	1.45508	16.50020

Power Information

Internal switching power(pJ) to Q rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffn_1	CLK	0.08882	0.14661	0.56027
	CLK	0.07780	0.13563	0.55157

Internal switching power(pJ) to Q falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffn_1	CLK	0.09076	0.14535	0.54613
	CLK	0.07982	0.13426	0.53464

Internal switching power(pJ) to QN rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffn_1	CLK	0.09079	0.14521	0.54412
	CLK	0.07985	0.13429	0.53285

Internal switching power(pJ) to QN falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffn_1	CLK	0.08872	0.14630	0.55546
	CLK	0.07770	0.13531	0.54614

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffn_1	(CLK * Q * !QN) + (CLK * !Q * QN)	0.05991	0.13578	0.71350
	(CLK * Q * !QN) + (CLK * !Q * QN)	0.08134	0.15732	0.73486
	!CLK	-0.01340	-0.01346	-0.01345
	!CLK	0.00655	0.00649	0.00648

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffn_1	(CLK * Q * !QN) + (CLK * !Q * QN)	0.09188	0.16873	0.74738
	(CLK * Q * !QN) + (CLK * !Q * QN)	0.07038	0.14726	0.72595
	!CLK	0.01361	0.01361	0.01345
	!CLK	-0.00644	-0.00649	-0.00648

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffn_1	(D * Q * !QN)	0.04584	0.13703	0.76361
	(D * Q * !QN)	0.06787	0.15917	0.78563
	(D * !Q * QN)	0.12295	0.21575	0.83745
	(D * !Q * QN)	0.14587	0.23874	0.86039
	(!D * Q * !QN)	0.11967	0.21823	0.88437
	(!D * Q * !QN)	0.14107	0.23975	0.90580
	(!D * !Q * QN)	0.05253	0.14484	0.77131
	(!D * !Q * QN)	0.07438	0.16682	0.79321

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffn_1	(D * Q * !QN)	0.06828	0.16263	0.78851
	(D * Q * !QN)	0.04615	0.14044	0.76653
	(!D * !Q * QN)	0.07492	0.16769	0.79394
	(!D * !Q * QN)	0.05294	0.14580	0.77210

GF180MCU_OSU_SC_GP12T3V3__DFFRN_1

Truth Table

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

Footprint

Cell Name	Area
gf180mcu_osu_sc_gp12t3v3__dffrn_1	155.92500

Pin Capacitance Information

Cell Name	Pin Cap(pf)			Max Cap(pf)	
	D	RN	CLK	Q	QN
gf180mcu_osu_sc_gp12t3v3__dffrn_1	0.00393	0.00405	0.00405	1.54011	1.55917

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_gp12t3v3__dffrn_1	0.00000	0.00778	0.00915

Delay Information

Delay(ns) to Q rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__dffrn_1	CLK->Q (FR)	0.46260	1.95859	17.89800
	QN->Q (FR)	0.05278	1.01369	10.16390

Delay(ns) to Q falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__dffrn_1	CLK->Q (FF)	0.49150	1.93972	17.56020
	QN->Q (RF)	0.04413	0.81378	8.65847
	RN->Q (FF)	0.25980	1.70070	17.30240

Delay(ns) to QN rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__dffrn_1	CLK->QN (FR)	0.44808	1.22505	8.47212
	RN->QN (FR)	0.21639	0.98682	8.21539

Delay(ns) to QN falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__dffrn_1	CLK->QN (FF)	0.41195	1.16658	7.79383

Constraint Information

Constraints(ns) for D rising :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffrn_1	hold	CLK (F)	-0.04679	0.09948	1.91705
	setup	CLK (F)	0.04853	-0.10597	-1.93076

Constraints(ns) for D falling :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffrn_1	hold	CLK (F)	-0.14659	-0.18382	-0.85365
	setup	CLK (F)	0.15333	0.19680	0.88155

Constraints(ns) for D rising (conditional):

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffrn_1	hold	CLK (F)	-0.04679	0.09948	1.91705
	setup	CLK (F)	0.04853	-0.10597	-1.93076

Constraints(ns) for D falling (conditional):

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffrn_1	hold	CLK (F)	-0.14659	-0.18382	-0.85365
	setup	CLK (F)	0.15333	0.19680	0.88155

Constraints(ns) for RN rising :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffrn_1	recovery	CLK (F)	-0.07109	-0.20329	-1.44543
	removal	CLK (F)	0.08466	0.20761	1.45034

Constraints(ns) for RN rising (conditional):

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffrn_1	recovery	CLK (F)	-0.07109	-0.20329	-1.44543
	removal	CLK (F)	0.08466	0.20761	1.45034

Constraints(ns) for RN falling (conditional):

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffrn_1	min_pulse_width	RN ()	0.15788	1.45508	16.50020
	min_pulse_width	RN ()	0.15788	1.45508	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_gp12t3v3__dffrn_1	min_pulse_width	CLK ()	0.18895	1.45508	16.50020
	min_pulse_width	CLK ()	0.18636	1.45508	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_gp12t3v3__dffrn_1	min_pulse_width	CLK ()	0.20448	1.45508	16.50020
	min_pulse_width	CLK ()	0.21484	1.45508	16.50020

Power Information

Internal switching power(pJ) to Q rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffrn_1	CLK	0.09631	0.15187	0.56334
	CLK	0.08529	0.14110	0.55417

Internal switching power(pJ) to Q falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffrn_1	CLK	0.09662	0.15076	0.55162
	CLK	0.08568	0.13953	0.53944
	RN	0.11087	0.16694	0.58330
	RN	0.09986	0.15563	0.57237

Internal switching power(pJ) to QN rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffrn_1	CLK	0.09659	0.15049	0.54962
	CLK	0.08565	0.13950	0.53823
	RN	0.11085	0.16701	0.58092
	RN	0.09984	0.15577	0.56961

Internal switching power(pJ) to QN falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffrn_1	CLK	0.09622	0.15201	0.55947
	CLK	0.08520	0.14113	0.54990

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffrn_1	(CLK * RN * Q * !QN) + (CLK * RN * !Q * QN)	0.07155	0.14147	0.70933
	(CLK * RN * Q * !QN) + (CLK * RN * !Q * QN)	0.09299	0.16292	0.73070
	(CLK * !RN * !Q * QN)	0.03722	0.10078	0.62223
	(CLK * !RN * !Q * QN)	0.05873	0.12227	0.64360
	!CLK	-0.01340	-0.01346	-0.01345
	!CLK	0.00655	0.00649	0.00649

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffrn_1	(CLK * RN * Q * !QN) + (CLK * RN * !Q * QN)	0.10245	0.17575	0.74726
	(CLK * RN * Q * !QN) + (CLK * RN * !Q * QN)	0.08095	0.15432	0.72585
	(CLK * !RN * !Q * QN)	0.04836	0.11330	0.63635
	(CLK * !RN * !Q * QN)	0.02699	0.09185	0.61491
	!CLK	0.01361	0.01361	0.01345
	!CLK	-0.00644	-0.00649	-0.00648

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffrn_1	(CLK * D * !Q * QN)	0.04286	0.13122	0.74160
	(CLK * D * !Q * QN)	0.06480	0.15320	0.76353
	(CLK * !D * !Q * QN) + (!CLK * !Q * QN)	0.00927	0.09317	0.67560
	(CLK * !D * !Q * QN) + (!CLK * !Q * QN)	0.03121	0.11507	0.69756

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffrn_1	(CLK * D * !Q * QN)	0.07900	0.17023	0.78482
	(CLK * D * !Q * QN)	0.05700	0.14828	0.76286
	(CLK * !D * !Q * QN) + (!CLK * !Q * QN)	0.03760	0.12487	0.70804
	(CLK * !D * !Q * QN) + (!CLK * !Q * QN)	0.01557	0.10277	0.68610

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffrn_1	(D * RN * Q * !QN)	0.04584	0.13703	0.76361
	(D * RN * Q * !QN)	0.06787	0.15917	0.78562
	(D * RN * !Q * QN)	0.13463	0.22777	0.84854
	(D * RN * !Q * QN)	0.15756	0.25072	0.87158
	(D * !RN * !Q * QN)	0.09282	0.18825	0.81595
	(D * !RN * !Q * QN)	0.11489	0.21044	0.83795
	(!D * RN * Q * !QN)	0.13035	0.22866	0.89157
	(!D * RN * Q * !QN)	0.15176	0.25008	0.91299
	(!D * !Q * QN)	0.05253	0.14484	0.77131
	(!D * !Q * QN)	0.07438	0.16682	0.79321

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffrn_1	(D * RN * Q * !QN)	0.06828	0.16263	0.78852
	(D * RN * Q * !QN)	0.04615	0.14045	0.76655
	(D * !RN * !Q * QN)	0.10211	0.19618	0.81917
	(D * !RN * !Q * QN)	0.08001	0.17399	0.79710
	(!D * !Q * QN)	0.07492	0.16769	0.79395
	(!D * !Q * QN)	0.05294	0.14580	0.77210

GF180MCU_OSU_SC_GP12T3V3__DFFR_1

gf180mcu_osu_sc_gp12t3v3_TT_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_gp12t3v3__dffr_1	142.56000

Pin Capacitance Information

Cell Name	Pin Cap(pf)			Max Cap(pf)	
	D	RN	CLK	Q	QN
gf180mcu_osu_sc_gp12t3v3__dffr_1	0.00393	0.00405	0.01039	1.55894	1.56019

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_gp12t3v3__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_gp12t3v3__dffr_1	CLK->Q (RR)	0.37014	1.68645	16.55320
	QN->Q (FR)	0.05278	1.01774	10.24350

Delay(ns) to Q falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__dffr_1	CLK->Q (RF)	0.40503	1.65928	16.30410
	QN->Q (RF)	0.04413	0.81783	8.73055
	RN->Q (FF)	0.25982	1.70956	17.49680

Delay(ns) to QN rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__dffr_1	CLK->QN (RR)	0.36167	0.93661	7.02756
	RN->QN (FR)	0.21644	0.98702	8.21992

Delay(ns) to QN falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__dffr_1	CLK->QN (RF)	0.31947	0.88663	6.26208

Constraint Information

Constraints(ns) for D rising :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffr_1	hold	CLK (R)	-0.13740	-0.12111	0.53704
	setup	CLK (R)	0.15242	0.12976	0.12836

Constraints(ns) for D falling :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffr_1	hold	CLK (R)	-0.22923	-0.61202	-5.10480
	setup	CLK (R)	0.23316	0.61635	5.13809

Constraints(ns) for D rising (conditional):

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffr_1	hold	CLK (R)	-0.13740	-0.12111	0.53704
	setup	CLK (R)	0.15242	0.12976	0.12836

Constraints(ns) for D falling (conditional):

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffr_1	hold	CLK (R)	-0.22923	-0.61202	-5.10480
	setup	CLK (R)	0.23316	0.61635	5.13809

Constraints(ns) for RN rising :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffr_1	recovery	CLK (R)	0.03650	0.03060	1.05756
	removal	CLK (R)	-0.00072	-0.00433	-0.02839

Constraints(ns) for RN rising (conditional):

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffr_1	recovery	CLK (R)	0.03650	0.03060	1.05756
	removal	CLK (R)	-0.00072	-0.00433	-0.02839

Constraints(ns) for RN falling (conditional):

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffr_1	min_pulse_width	RN ()	0.15788	1.45508	16.50020
	min_pulse_width	RN ()	0.15788	1.45508	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_gp12t3v3__dffr_1	min_pulse_width	CLK ()	0.17600	1.45508	16.50020
	min_pulse_width	CLK ()	0.19930	1.45508	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_gp12t3v3__dffr_1	min_pulse_width	CLK ()	0.21743	1.45508	16.50020
	min_pulse_width	CLK ()	0.18895	1.45508	16.50020

Power Information

Internal switching power(pJ) to Q rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffr_1	CLK	0.05714	0.13518	0.64711
	CLK	0.08522	0.16379	0.67743

Internal switching power(pJ) to Q falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffr_1	CLK	0.06432	0.11438	0.50843
	CLK	0.08581	0.13560	0.52817
	RN	0.11742	0.17355	0.59150
	RN	0.09982	0.15572	0.57349

Internal switching power(pJ) to QN rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffr_1	CLK	0.06431	0.11438	0.50674
	CLK	0.08579	0.13568	0.52806
	RN	0.11740	0.17358	0.58757
	RN	0.09980	0.15577	0.56967

Internal switching power(pJ) to QN falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffr_1	CLK	0.05704	0.13531	0.64430
	CLK	0.08513	0.16355	0.67463

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffr_1	CLK	-0.01322	-0.01337	-0.01335
	CLK	0.00655	0.00647	0.00649
	(!CLK * RN * Q * !QN) + (!CLK * RN * !Q * QN)	0.07155	0.14142	0.70925
	(!CLK * RN * Q * !QN) + (!CLK * RN * !Q * QN)	0.10311	0.17307	0.74064
	(!CLK * !RN * !Q * QN)	0.03722	0.10110	0.62219
	(!CLK * !RN * !Q * QN)	0.06894	0.13282	0.65365

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffr_1	CLK	0.01350	0.01350	0.01335
	CLK	-0.00644	-0.00647	-0.00648
	(!CLK * RN * Q * !QN) + (!CLK * RN * !Q * QN)	0.10242	0.17556	0.74669
	(!CLK * RN * Q * !QN) + (!CLK * RN * !Q * QN)	0.07083	0.14394	0.71519
	(!CLK * !RN * !Q * QN)	0.04834	0.11335	0.63628
	(!CLK * !RN * !Q * QN)	0.01680	0.08172	0.60475

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffr_1	(CLK * !Q * QN) + (!CLK * !D * !Q * QN)	0.00926	0.09317	0.67560
	(CLK * !Q * QN) + (!CLK * !D * !Q * QN)	0.03120	0.11507	0.69756
	(!CLK * D * !Q * QN)	0.04286	0.13122	0.74159
	(!CLK * D * !Q * QN)	0.06471	0.15310	0.76344

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffr_1	(CLK * !Q * QN) + (!CLK * !D * !Q * QN)	0.03760	0.12487	0.70804
	(CLK * !Q * QN) + (!CLK * !D * !Q * QN)	0.01557	0.10277	0.68610
	(!CLK * D * !Q * QN)	0.07900	0.17024	0.78483
	(!CLK * D * !Q * QN)	0.05710	0.14836	0.76292

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffr_1	(D * RN * Q * !QN)	-0.00023	0.08415	0.66646
	(D * RN * Q * !QN)	0.04664	0.13095	0.71314
	(D * !RN * !Q * QN)	0.03582	0.12435	0.73390
	(D * !RN * !Q * QN)	0.08030	0.16860	0.77664
	(!D * !Q * QN)	-0.00084	0.08446	0.66610
	(!D * !Q * QN)	0.05312	0.13828	0.71997

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffr_1	(D * RN * Q * !QN)	0.04728	0.13504	0.71738
	(D * RN * Q * !QN)	0.00047	0.08846	0.67051
	(D * RN * !Q * QN)	0.13596	0.22443	0.99368
	(D * RN * !Q * QN)	0.09421	0.18289	0.95135
	(D * !RN * !Q * QN)	0.09413	0.18877	0.79682
	(D * !RN * !Q * QN)	0.04955	0.14458	0.75322
	(!D * RN * Q * !QN)	0.13161	0.28275	1.17200
	(!D * RN * Q * !QN)	0.07494	0.22560	1.11486
	(!D * !Q * QN)	0.05374	0.13915	0.72024
	(!D * !Q * QN)	-0.00033	0.08491	0.66631

GF180MCU_OSU_SC_GP12T3V3__DFFSN_1

gf180mcu_osu_sc_gp12t3v3_TT_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_gp12t3v3__dffsn_1	139.32001

Pin Capacitance Information

Cell Name	Pin Cap(pf)			Max Cap(pf)	
	D	SN	CLK	Q	QN
gf180mcu_osu_sc_gp12t3v3__dffsn_1	0.00393	2.10339	0.00406	1.75019	1.75019

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_gp12t3v3__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_gp12t3v3__dffsn_1	QN->Q (FR)	0.05278	1.05753	11.06570

Delay(ns) to Q falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__dffsn_1	QN->Q (RF)	0.04413	0.85706	9.46589

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_gp12t3v3__dffsn_1	**min_pulse_width**	**SN ()**	2.59789	2.55248	16.50020

Passive Power Information

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffsn_1	(CLK * SN)	0.03107	0.09519	0.61574
	(CLK * SN)	0.14355	0.69821	4.07730
	(CLK * !SN)	22.50580	21.78660	17.63910
	(CLK * !SN)	0.05675	0.12106	0.64178
	!CLK	-0.01334	-0.01350	-0.01345
	!CLK	0.00662	0.00651	0.00649

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffsn_1	(CLK * SN)	0.05446	0.11963	0.64267
	(CLK * SN)	7.62584	7.09206	4.00141
	(CLK * !SN)	11.48080	12.33030	17.61990
	(CLK * !SN)	0.02691	0.09208	0.61576
	!CLK	0.01361	0.01361	0.01345
	!CLK	-0.00643	-0.00651	-0.00647

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffsn_1	(CLK * Q * !QN)	0.02458	1.55996	11.28670
	(CLK * Q * !QN)	0.02499	0.02478	0.02451
	(CLK * !Q * QN)	0.02425	1.55931	11.28640
	(CLK * !Q * QN)	0.02858	0.02860	0.02819
	(!CLK * Q * !QN)	0.10998	1.00449	7.46253
	(!CLK * Q * !QN)	0.23386	0.41376	1.73510
	(!CLK * !Q * QN)	0.05705	0.92644	7.29836
	(!CLK * !Q * QN)	0.18213	0.33214	1.57251

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffsn_1	(CLK * Q * !QN)	22.60840	21.21160	12.37990
	(CLK * Q * !QN)	-0.02432	-0.02461	-0.02439
	(CLK * !Q * QN)	22.61000	21.21150	12.37960
	(CLK * !Q * QN)	-0.02740	-0.02860	-0.02819
	(!CLK * Q * !QN)	11.49250	11.21110	8.37398
	(!CLK * Q * !QN)	0.04572	0.35375	1.46751
	(!CLK * !Q * QN)	11.49510	11.04050	8.29449
	(!CLK * !Q * QN)	0.04355	0.17928	1.38155

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffsn_1	(D * SN * Q * !QN)	0.04597	0.13717	0.76375
	(D * SN * Q * !QN)	0.06779	0.15910	0.78555
	(D * SN * !Q * QN)	0.06733	0.16550	0.82661
	(D * SN * !Q * QN)	0.08891	0.18727	0.84816
	(D * !SN * Q * !QN)	22.52910	21.82360	17.94870
	(D * !SN * Q * !QN)	0.15435	0.25350	0.88577
	(D * !SN * !Q * QN)	22.48970	21.77970	17.90750
	(D * !SN * !Q * QN)	0.11301	0.20861	0.83542
	(!D * SN * Q * !QN)	0.07400	0.17218	0.83335
	(!D * SN * Q * !QN)	7.68133	7.23520	4.83296
	(!D * SN * !Q * QN)	0.09549	0.20121	0.90161
	(!D * SN * !Q * QN)	7.70108	7.25886	4.88625
	(!D * !SN * Q * !QN)	11.40490	11.50040	12.12730
	(!D * !SN * Q * !QN)	0.11503	0.21061	0.83740
	(!D * !SN * !Q * QN)	11.36440	11.45710	12.08310
	(!D * !SN * !Q * QN)	0.07444	0.16714	0.79327

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffsn_1	(D * SN * Q * !QN)	0.06807	0.16242	0.78829
	(D * SN * Q * !QN)	0.04621	0.14050	0.76660
	(D * SN * !Q * QN)	0.10355	0.20445	0.86491
	(D * SN * !Q * QN)	0.08197	0.18279	0.84350
	(D * !SN * Q * !QN)	11.62140	12.62840	18.45950
	(D * !SN * Q * !QN)	0.10726	0.20524	0.82731
	(D * !SN * !Q * QN)	11.59610	12.60390	18.43900
	(D * !SN * !Q * QN)	0.07997	0.17555	0.79680
	(!D * SN * Q * !QN)	0.09681	0.19840	0.85863
	(!D * SN * Q * !QN)	0.19065	0.90997	5.11536
	(!D * SN * !Q * QN)	0.13282	0.24235	0.94059
	(!D * SN * !Q * QN)	0.22999	0.96249	5.22054
	(!D * !SN * Q * !QN)	11.41390	11.50970	12.13090
	(!D * !SN * Q * !QN)	0.07995	0.17561	0.79685
	(!D * !SN * !Q * QN)	11.38690	11.48080	12.10600
	(!D * !SN * !Q * QN)	0.05286	0.14692	0.77214

GF180MCU_OSU_SC_GP12T3V3__DFFSRN_1

Truth Table

INPUT				OUTPUT	
D	RN	SN	CLK	Q	QN
0	1	1	F	0	1
1	1	1	F	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_gp12t3v3__dffsrn_1	165.64500

Pin Capacitance Information

Cell Name	Pin Cap(pf)				Max Cap(pf)	
	D	RN	SN	CLK	Q	QN
gf180mcu_osu_sc_gp12t3v3__dffsrn_1	0.00393	0.00405	0.00802	0.00405	1.56095	1.55977

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_gp12t3v3__dffsrn_1	0.00000	0.00783	0.00921

Delay Information

Delay(ns) to Q rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__dffsrn_1	CLK->Q (FR)	0.50191	2.01055	18.15720
	QN->Q (FR)	0.05278	1.01838	10.25260
	RN->Q (RR)	0.30473	1.61699	16.60920
	SN->Q (FR)	0.28743	1.71665	17.46300

Delay(ns) to Q falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__dffsrn_1	CLK->Q (FF)	0.55184	2.02045	17.84760
	QN->Q (RF)	0.04413	0.81822	8.73830
	RN->Q (FF)	0.26973	1.72516	17.54040

Delay(ns) to QN rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__dffsrn_1	CLK->QN (FR)	0.50788	1.29563	8.54577
	RN->QN (FR)	0.22701	1.00161	8.24096

Delay(ns) to QN falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__dffsrn_1	CLK->QN (FF)	0.45045	1.20869	7.83513
	RN->QN (RF)	0.25394	0.81659	6.29255
	SN->QN (FF)	0.23675	0.91582	7.13979

Constraint Information

Constraints(ns) for D rising :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffsrn_1	hold	CLK (F)	-0.06577	0.08002	1.88970
	setup	CLK (F)	0.06962	-0.08650	-1.90644

Constraints(ns) for D falling :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffsrn_1	hold	CLK (F)	-0.16339	-0.19031	-0.87284
	setup	CLK (F)	0.17183	0.20545	0.90400

Constraints(ns) for D rising (conditional):

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffsrn_1	hold	CLK (F)	-0.06577	0.08002	1.88970
	setup	CLK (F)	0.06962	-0.08650	-1.90644

Constraints(ns) for D falling (conditional):

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffsrn_1	hold	CLK (F)	-0.16339	-0.19031	-0.87284
	setup	CLK (F)	0.17183	0.20545	0.90400

Constraints(ns) for RN rising :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffsrn_1	recovery	CLK (F)	-0.05679	-0.18599	-1.42187
	removal	CLK (F)	0.07025	0.19031	1.42770
	hold	SN (R)	-0.21673	-0.41955	-0.82893
	setup	SN (R)	0.24788	0.43901	3.39821

Constraints(ns) for RN rising (conditional):

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffsrn_1	recovery	CLK (F)	-0.05679	-0.18599	-1.42187
	removal	CLK (F)	0.07025	0.19031	1.42770
	hold	SN (R)	-0.21710	-0.42171	-0.83292
	hold	SN (R)	-0.21673	-0.41955	-0.82893
	setup	SN (R)	0.24788	0.43901	3.39821
	setup	SN (R)	0.24317	0.43252	3.28611

Constraints(ns) for RN falling (conditional):

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffsrn_1	min_pulse_width	RN ()	0.16564	1.45508	16.50020
	min_pulse_width	RN ()	0.16564	1.45508	16.50020

Constraints(ns) for SN rising :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffsrn_1	recovery	CLK (F)	-0.04644	-0.13192	-0.91057
	removal	CLK (F)	0.05346	0.13408	0.91619

Constraints(ns) for SN rising (conditional):

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffsrn_1	recovery	CLK (F)	-0.04644	-0.13192	-0.91057
	removal	CLK (F)	0.05346	0.13408	0.91619

Constraints(ns) for SN falling (conditional):

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffsrn_1	min_pulse_width	SN ()	0.23037	1.45508	16.50020
	min_pulse_width	SN ()	0.22778	1.45508	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_gp12t3v3__dffsrn_1	min_pulse_width	CLK ()	0.20707	1.45508	16.50020
	min_pulse_width	CLK ()	0.20707	1.45508	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_gp12t3v3__dffsrn_1	min_pulse_width	CLK ()	0.22261	1.45508	16.50020
	min_pulse_width	CLK ()	0.23555	1.45508	16.50020

Power Information

Internal switching power(pJ) to Q rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffsrn_1	CLK	0.10374	0.15864	0.56953
	CLK	0.08967	0.14467	0.55681
	RN	0.11137	0.16352	0.56679
	RN	0.12176	0.17423	0.57932
	SN	0.09520	0.15724	0.62243
	SN	0.07359	0.13581	0.60173

Internal switching power(pJ) to Q falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffsrn_1	CLK	0.09991	0.15271	0.55445
	CLK	0.09201	0.14482	0.54578
	RN	0.10985	0.16739	0.58760
	RN	0.10515	0.16102	0.57749

Internal switching power(pJ) to QN rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffsrn_1	CLK	0.09987	0.15265	0.55086
	CLK	0.09197	0.14467	0.54263
	RN	0.10983	0.16727	0.58386
	RN	0.10512	0.16098	0.57396

Internal switching power(pJ) to QN falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffsrn_1	CLK	0.10364	0.15855	0.56403
	CLK	0.08958	0.14454	0.55123
	RN	0.11128	0.16355	0.56277
	RN	0.12168	0.17417	0.57349
	SN	0.09515	0.15721	0.61962
	SN	0.07354	0.13566	0.59837

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffsrn_1	(CLK * RN * SN * Q * !QN) + (CLK * RN * SN * !Q * QN)	0.08460	0.15235	0.71646
	(CLK * RN * SN * Q * !QN) + (CLK * RN * SN * !Q * QN)	0.10003	0.16769	0.73189
	(CLK * RN * !SN * Q * !QN)	0.03741	0.10130	0.62205
	(CLK * RN * !SN * Q * !QN)	0.05888	0.12283	0.64346
	(CLK * !RN * SN * !Q * QN)	0.03715	0.10108	0.62216
	(CLK * !RN * SN * !Q * QN)	0.05875	0.12269	0.64362
	(CLK * !RN * !SN * !Q * QN)	0.03740	0.10129	0.62205
	(CLK * !RN * !SN * !Q * QN)	0.05887	0.12283	0.64346
	!CLK	-0.01340	-0.01346	-0.01345
	!CLK	0.00655	0.00649	0.00649

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffsrn_1	(CLK * RN * SN * Q * !QN) + (CLK * RN * SN * !Q * QN)	0.10619	0.17627	0.74246
	(CLK * RN * SN * Q * !QN) + (CLK * RN * SN * !Q * QN)	0.09069	0.16079	0.72711
	(CLK * RN * !SN * Q * !QN)	0.04834	0.11339	0.63649
	(CLK * RN * !SN * Q * !QN)	0.02693	0.09191	0.61503
	(CLK * !RN * SN * !Q * QN)	0.04846	0.11337	0.63638
	(CLK * !RN * SN * !Q * QN)	0.02699	0.09185	0.61491
	(CLK * !RN * !SN * !Q * QN)	0.04834	0.11351	0.63649
	(CLK * !RN * !SN * !Q * QN)	0.02693	0.09195	0.61503
	!CLK	0.01361	0.01361	0.01345
	!CLK	-0.00644	-0.00649	-0.00648

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffsrn_1	(CLK * D * SN * !Q * QN)	0.05546	0.14337	0.75219
	(CLK * D * SN * !Q * QN)	0.07238	0.16042	0.76919
	(CLK * !D * SN * !Q * QN) + (!CLK * SN * !Q * QN)	0.00945	0.09333	0.67565
	(CLK * !D * SN * !Q * QN) + (!CLK * SN * !Q * QN)	0.03159	0.11543	0.69779

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffsrn_1	(CLK * D * SN * !Q * QN)	0.07901	0.17030	0.78404
	(CLK * D * SN * !Q * QN)	0.06205	0.15324	0.76711
	(CLK * !D * SN * !Q * QN) + (!CLK * SN * !Q * QN)	0.03774	0.12500	0.70816
	(CLK * !D * SN * !Q * QN) + (!CLK * SN * !Q * QN)	0.01556	0.10275	0.68608

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffsrn_1	(CLK * D * RN * Q * !QN) + (!CLK * RN * Q * !QN)	-0.02792	-0.02816	-0.02827
	(CLK * D * RN * Q * !QN) + (!CLK * RN * Q * !QN)	0.00386	0.00388	0.00366
	(CLK * !D * RN * Q * !QN)	0.02956	0.08794	0.55614
	(CLK * !D * RN * Q * !QN)	0.06703	0.12566	0.59358
	(!RN * !Q * QN)	-0.02693	-0.02704	-0.02701
	(!RN * !Q * QN)	0.01299	0.01299	0.01299

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffsrn_1	(CLK * D * RN * Q * !QN) + (!CLK * RN * Q * !QN)	0.02846	0.02860	0.02836
	(CLK * D * RN * Q * !QN) + (!CLK * RN * Q * !QN)	-0.00361	-0.00364	-0.00359
	(CLK * !D * RN * Q * !QN)	0.06258	0.11829	0.58926
	(CLK * !D * RN * Q * !QN)	0.02499	0.08077	0.55167
	(!RN * !Q * QN)	0.02726	0.02721	0.02704
	(!RN * !Q * QN)	-0.01294	-0.01299	-0.01297

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffsrn_1	(D * RN * SN * !Q * QN)	0.14780	0.24057	0.86146
	(D * RN * SN * !Q * QN)	0.16464	0.25736	0.87816
	(D * RN * Q * !QN)	0.04584	0.13703	0.76361
	(D * RN * Q * !QN)	0.06787	0.15917	0.78562
	(D * !RN * SN * !Q * QN)	0.09274	0.18820	0.81563
	(D * !RN * SN * !Q * QN)	0.11491	0.21047	0.83772
	(D * !RN * !SN * !Q * QN)	0.09296	0.18857	0.81542
	(D * !RN * !SN * !Q * QN)	0.11507	0.21068	0.83747
	(!D * RN * SN * Q * !QN)	0.13403	0.23210	0.89346
	(!D * RN * SN * Q * !QN)	0.16148	0.25946	0.92147
	(!D * RN * SN * !Q * QN) + (!D * !RN * !Q * QN)	0.05253	0.14486	0.77128
	(!D * RN * SN * !Q * QN) + (!D * !RN * !Q * QN)	0.07438	0.16683	0.79319
	(!D * RN * !SN * Q * !QN)	0.06774	0.16589	0.82688
	(!D * RN * !SN * Q * !QN)	0.08957	0.18783	0.84866

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffsrn_1	(D * RN * Q * !QN)	0.06828	0.16263	0.78852
	(D * RN * Q * !QN)	0.04615	0.14045	0.76655
	(D * !RN * SN * !Q * QN)	0.10221	0.19628	0.81903
	(D * !RN * SN * !Q * QN)	0.08001	0.17399	0.79693
	(D * !RN * !SN * !Q * QN)	0.10208	0.19615	0.81899
	(D * !RN * !SN * !Q * QN)	0.07994	0.17402	0.79684
	(!D * RN * SN * !Q * QN) + (!D * !RN * !Q * QN)	0.07492	0.16769	0.79395
	(!D * RN * SN * !Q * QN) + (!D * !RN * !Q * QN)	0.05294	0.14580	0.77210
	(!D * RN * !SN * Q * !QN)	0.10334	0.20389	0.86527
	(!D * RN * !SN * Q * !QN)	0.08141	0.18206	0.84339

GF180MCU_OSU_SC_GP12T3V3__DFFSR_1

gf180mcu_osu_sc_gp12t3v3_TT_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_gp12t3v3__dffsr_1	151.47000

Pin Capacitance Information

Cell Name	Pin Cap(pf)				Max Cap(pf)	
	D	RN	SN	CLK	Q	QN
gf180mcu_osu_sc_gp12t3v3__dffsr_1	0.00393	0.00405	0.00802	0.01039	1.54794	1.55977

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_gp12t3v3__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_gp12t3v3__dffsr_1	CLK->Q (RR)	0.40944	1.71760	16.45910
	QN->Q (FR)	0.05278	1.01557	10.19690
	RN->Q (RR)	0.30471	1.61198	16.47060
	SN->Q (FR)	0.28742	1.71011	17.32570

Delay(ns) to Q falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__dffsr_1	CLK->Q (RF)	0.46557	1.72502	16.25880
	QN->Q (RF)	0.04413	0.81543	8.68858
	RN->Q (FF)	0.27053	1.71904	17.40650

Delay(ns) to QN rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__dffsr_1	CLK->QN (RR)	0.42148	1.00709	7.09321
	RN->QN (FR)	0.22701	1.00164	8.24101

Delay(ns) to QN falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__dffsr_1	CLK->QN (RF)	0.35799	0.92274	6.28325
	RN->QN (RF)	0.25392	0.81659	6.29256
	SN->QN (FF)	0.23675	0.91570	7.14017

Constraint Information

Constraints(ns) for D rising :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffsr_1	hold	CLK (R)	-0.15551	-0.13408	0.53522
	setup	CLK (R)	0.17341	0.14706	0.13842

Constraints(ns) for D falling :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffsr_1	hold	CLK (R)	-0.24645	-0.61851	-5.11929
	setup	CLK (R)	0.25038	0.62284	5.14539

Constraints(ns) for D rising (conditional):

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffsr_1	hold	CLK (R)	-0.15551	-0.13408	0.53522
	setup	CLK (R)	0.17341	0.14706	0.13842

Constraints(ns) for D falling (conditional):

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffsr_1	hold	CLK (R)	-0.24645	-0.61851	-5.11929
	setup	CLK (R)	0.25038	0.62284	5.14539

Constraints(ns) for RN rising :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffsr_1	recovery	CLK (R)	0.04602	0.04621	1.03167
	removal	CLK (R)	-0.01564	-0.01946	-0.04919
	hold	SN (R)	-0.21673	-0.41955	-0.82893
	setup	SN (R)	0.24788	0.43901	3.39820

Constraints(ns) for RN rising (conditional):

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffsr_1	recovery	CLK (R)	0.04602	0.04621	1.03167
	removal	CLK (R)	-0.01564	-0.01946	-0.04919
	hold	SN (R)	-0.21673	-0.41955	-0.82893
	hold	SN (R)	-0.21710	-0.42171	-0.83292
	setup	SN (R)	0.24463	0.43252	3.28789
	setup	SN (R)	0.24788	0.43901	3.39820

Constraints(ns) for RN falling (conditional):

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffsr_1	min_pulse_width	RN ()	0.16564	1.45508	16.50020
	min_pulse_width	RN ()	0.16564	1.45508	16.50020

Constraints(ns) for SN rising :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffsr_1	recovery	CLK (R)	0.04146	0.09299	2.58037
	removal	CLK (R)	-0.03674	-0.08867	-0.61887

Constraints(ns) for SN rising (conditional):

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffsr_1	recovery	CLK (R)	0.04146	0.09299	2.58037
	removal	CLK (R)	-0.03674	-0.08867	-0.61887

Constraints(ns) for SN falling (conditional):

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffsr_1	min_pulse_width	SN ()	0.22778	1.45508	16.50020
	min_pulse_width	SN ()	0.23037	1.45508	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_gp12t3v3__dffsr_1	min_pulse_width	CLK ()	0.19671	1.45508	16.50020
	min_pulse_width	CLK ()	0.22002	1.45508	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_gp12t3v3__dffsr_1	min_pulse_width	CLK ()	0.23814	1.45508	16.50020
	min_pulse_width	CLK ()	0.21225	1.45508	16.50020

Power Information

Internal switching power(pJ) to Q rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffsr_1	CLK	0.06457	0.14104	0.65038
	CLK	0.08962	0.16623	0.67768
	RN	0.10500	0.15733	0.55926
	RN	0.12178	0.17412	0.57788
	SN	0.09518	0.15717	0.62174
	SN	0.07889	0.14108	0.60644

Internal switching power(pJ) to Q falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffsr_1	CLK	0.06764	0.11634	0.50899
	CLK	0.09216	0.14062	0.53172
	RN	0.11644	0.17397	0.59300
	RN	0.09964	0.15682	0.57629

Internal switching power(pJ) to QN rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffsr_1	CLK	0.06756	0.11631	0.50805
	CLK	0.09208	0.14063	0.53208
	RN	0.11642	0.17384	0.59143
	RN	0.09962	0.15682	0.57434

Internal switching power(pJ) to QN falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffsr_1	CLK	0.06448	0.14098	0.64790
	CLK	0.08953	0.16622	0.67511
	RN	0.10490	0.15717	0.55607
	RN	0.12169	0.17420	0.57349
	SN	0.09513	0.15718	0.61976
	SN	0.07883	0.14094	0.60374

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffsr_1	CLK	-0.01322	-0.01337	-0.01335
	CLK	0.00655	0.00647	0.00649
	(!CLK * RN * SN * Q * !QN) + (!CLK * RN * SN * !Q * QN)	0.08460	0.15222	0.71637
	(!CLK * RN * SN * Q * !QN) + (!CLK * RN * SN * !Q * QN)	0.11017	0.17781	0.74184
	(!CLK * RN * !SN * Q * !QN)	0.03740	0.10121	0.62199
	(!CLK * RN * !SN * Q * !QN)	0.06908	0.13300	0.65351
	(!CLK * !RN * SN * !Q * QN)	0.03715	0.10053	0.62211
	(!CLK * !RN * SN * !Q * QN)	0.06896	0.13229	0.65366
	(!CLK * !RN * !SN * !Q * QN)	0.03740	0.10121	0.62199
	(!CLK * !RN * !SN * !Q * QN)	0.06908	0.13300	0.65351

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffsr_1	CLK	0.01350	0.01350	0.01335
	CLK	-0.00643	-0.00647	-0.00648
	(!CLK * RN * SN * Q * !QN) + (!CLK * RN * SN * !Q * QN)	0.10616	0.17643	0.74263
	(!CLK * RN * SN * Q * !QN) + (!CLK * RN * SN * !Q * QN)	0.08054	0.15080	0.71713
	(!CLK * RN * !SN * Q * !QN)	0.04832	0.11356	0.63649
	(!CLK * RN * !SN * Q * !QN)	0.01674	0.08182	0.60486
	(!CLK * !RN * SN * !Q * QN)	0.04844	0.11341	0.63632
	(!CLK * !RN * SN * !Q * QN)	0.01680	0.08172	0.60475
	(!CLK * !RN * !SN * !Q * QN)	0.04832	0.11355	0.63650
	(!CLK * !RN * !SN * !Q * QN)	0.01674	0.08179	0.60486

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffsr_1	(CLK * SN * !Q * QN) + (!CLK * !D * SN * !Q * QN)	0.00945	0.09333	0.67565
	(CLK * SN * !Q * QN) + (!CLK * !D * SN * !Q * QN)	0.03159	0.11543	0.69779
	(!CLK * D * SN * !Q * QN)	0.05545	0.14337	0.75218
	(!CLK * D * SN * !Q * QN)	0.07229	0.16034	0.76910

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffsr_1	(CLK * SN * !Q * QN) + (!CLK * !D * SN * !Q * QN)	0.03774	0.12500	0.70816
	(CLK * SN * !Q * QN) + (!CLK * !D * SN * !Q * QN)	0.01556	0.10275	0.68608
	(!CLK * D * SN * !Q * QN)	0.07901	0.17030	0.78403
	(!CLK * D * SN * !Q * QN)	0.06214	0.15332	0.76718

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__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)	-0.02694	-0.02701	-0.02698
	(!RN * !Q * QN)	0.01311	0.01316	0.01302
	(!CLK * !D * RN * Q * !QN)	0.02956	0.08795	0.55614
	(!CLK * !D * RN * Q * !QN)	0.06710	0.12571	0.59362

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__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	0.02701	0.02698
	(!RN * !Q * QN)	-0.01298	-0.01298	-0.01298
	(!CLK * !D * RN * Q * !QN)	0.06258	0.11842	0.58926
	(!CLK * !D * RN * Q * !QN)	0.02492	0.08065	0.55161

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffsr_1	(D * RN * Q * !QN)	-0.00023	0.08415	0.66646
	(D * RN * Q * !QN)	0.04664	0.13095	0.71314
	(D * !RN * SN * !Q * QN)	0.03592	0.12442	0.73405
	(D * !RN * SN * !Q * QN)	0.08031	0.16858	0.77671
	(D * !RN * !SN * !Q * QN)	0.03580	0.12429	0.73378
	(D * !RN * !SN * !Q * QN)	0.08024	0.16853	0.77637
	(!D * RN * SN * !Q * QN) + (!D * !RN * !Q * QN)	-0.00083	0.08447	0.66610
	(!D * RN * SN * !Q * QN) + (!D * !RN * !Q * QN)	0.05312	0.13827	0.71997
	(!D * RN * !SN * Q * !QN)	0.02509	0.16607	1.15806
	(!D * RN * !SN * Q * !QN)	0.08158	0.22267	1.21437

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffsr_1	(D * RN * SN * !Q * QN)	0.14915	0.23719	1.00237
	(D * RN * SN * !Q * QN)	0.10132	0.18949	0.95592
	(D * RN * Q * !QN)	0.04728	0.13505	0.71738
	(D * RN * Q * !QN)	0.00047	0.08845	0.67051
	(D * !RN * SN * !Q * QN)	0.09406	0.18872	0.79676
	(D * !RN * SN * !Q * QN)	0.04959	0.14462	0.75327
	(D * !RN * !SN * !Q * QN)	0.09423	0.18902	0.79678
	(D * !RN * !SN * !Q * QN)	0.04976	0.14483	0.75318
	(!D * RN * SN * Q * !QN)	0.13535	0.28439	1.17447
	(!D * RN * SN * Q * !QN)	0.08471	0.23371	1.12334
	(!D * RN * SN * !Q * QN) + (!D * !RN * !Q * QN)	0.05373	0.13915	0.72024
	(!D * RN * SN * !Q * QN) + (!D * !RN * !Q * QN)	-0.00033	0.08491	0.66631
	(!D * RN * !SN * Q * !QN)	0.06923	0.21466	1.20685
	(!D * RN * !SN * Q * !QN)	0.01268	0.15824	1.15038

GF180MCU_OSU_SC_GP12T3V3__DFFS_1

gf180mcu_osu_sc_gp12t3v3_TT_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_gp12t3v3__dffs_1	125.14500

Pin Capacitance Information

Cell Name	Pin Cap(pf)			Max Cap(pf)	
	D	SN	CLK	Q	QN
gf180mcu_osu_sc_gp12t3v3__dffs_1	0.00393	2.10339	0.01211	1.75019	1.75019

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_gp12t3v3__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_gp12t3v3__dffs_1	QN->Q (FR)	0.05280	1.05640	11.06570

Delay(ns) to Q falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__dffs_1	QN->Q (RF)	0.04413	0.85706	9.46589

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_gp12t3v3__dffs_1	**min_pulse_width**	**SN ()**	2.59789	2.55248	16.50020

Passive Power Information

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffs_1	CLK	-0.01316	-0.01344	-0.01337
	CLK	0.00662	0.00651	0.00649
	(!CLK * SN)	0.03107	0.09509	0.61568
	(!CLK * SN)	0.15387	0.70827	4.08711
	(!CLK * !SN)	22.50580	21.78670	17.63940
	(!CLK * !SN)	0.06696	0.13118	0.65183

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffs_1	CLK	0.01333	0.01344	0.01337
	CLK	-0.00643	-0.00651	-0.00647
	(!CLK * SN)	0.05444	0.11965	0.64280
	(!CLK * SN)	7.61653	7.08218	3.99006
	(!CLK * !SN)	11.47980	12.33170	17.61980
	(!CLK * !SN)	0.01672	0.08216	0.60560

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffs_1	(CLK * Q * !QN)	0.09784	0.99234	7.45039
	(CLK * Q * !QN)	0.23291	0.41376	1.73505
	(CLK * !Q * QN)	0.04425	0.91375	7.28579
	(CLK * !Q * QN)	0.18097	0.33268	1.57256
	(!CLK * Q * !QN)	0.02459	1.55997	11.28670
	(!CLK * Q * !QN)	0.02493	0.02472	0.02445
	(!CLK * !Q * QN)	0.02426	1.55931	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_gp12t3v3__dffs_1	(CLK * Q * !QN)	11.50570	11.22360	8.38726
	(CLK * Q * !QN)	0.04574	0.35252	1.46732
	(CLK * !Q * QN)	11.50830	11.05360	8.30701
	(CLK * !Q * QN)	0.04357	0.17887	1.38140
	(!CLK * Q * !QN)	22.60840	21.21160	12.37990
	(!CLK * Q * !QN)	-0.02423	-0.02457	-0.02436
	(!CLK * !Q * QN)	22.61000	21.21150	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_gp12t3v3__dffs_1	(D * SN * Q * !QN)	-0.00043	0.08394	0.66628
	(D * SN * Q * !QN)	0.04670	0.13101	0.71320
	(D * SN * !Q * QN)	0.02530	0.16601	1.15810
	(D * SN * !Q * QN)	0.08215	0.22254	1.21449
	(D * !SN * Q * !QN)	11.51270	12.38190	17.43570
	(D * !SN * Q * !QN)	0.10774	0.20034	0.83672
	(D * !SN * !Q * QN)	11.47370	12.33660	17.35950
	(D * !SN * !Q * QN)	0.08027	0.16856	0.77670
	(!D * SN * Q * !QN)	0.01855	0.15979	1.15153
	(!D * SN * Q * !QN)	0.15112	0.78865	4.62583
	(!D * SN * !Q * QN)	0.04431	0.24239	1.64331
	(!D * SN * !Q * QN)	0.18616	0.88025	5.12727
	(!D * !SN * Q * !QN)	11.34770	11.43610	12.04540
	(!D * !SN * Q * !QN)	0.08024	0.16857	0.77707
	(!D * !SN * !Q * QN)	11.31110	11.39650	11.97810
	(!D * !SN * !Q * QN)	0.05302	0.13819	0.71994

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dffs_1	(D * SN * Q * !QN)	0.04740	0.13523	0.71752
	(D * SN * Q * !QN)	0.00040	0.08832	0.67044
	(D * SN * !Q * QN)	0.06894	0.21452	1.20750
	(D * SN * !Q * QN)	0.01214	0.15778	1.15074
	(D * !SN * Q * !QN)	22.57490	21.76850	17.18890
	(D * !SN * Q * !QN)	0.09856	0.20508	0.84217
	(D * !SN * !Q * QN)	22.53650	21.72250	17.13160
	(D * !SN * !Q * QN)	0.04769	0.14286	0.75161
	(!D * SN * Q * !QN)	0.07548	0.22102	1.21321
	(!D * SN * Q * !QN)	7.63684	7.15977	4.49557
	(!D * SN * !Q * QN)	0.09679	0.30052	1.70345
	(!D * SN * !Q * QN)	7.64910	7.23114	4.97836
	(!D * !SN * Q * !QN)	11.40620	11.50090	12.10870
	(!D * !SN * Q * !QN)	0.04971	0.14483	0.75358
	(!D * !SN * !Q * QN)	11.36560	11.45240	12.03210
	(!D * !SN * !Q * QN)	-0.00028	0.08632	0.66636

GF180MCU_OSU_SC_GP12T3V3__DFF_1

gf180mcu_osu_sc_gp12t3v3_TT_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_gp12t3v3__dff_1	105.30000

Pin Capacitance Information

Cell Name	Pin Cap(pf)		Max Cap(pf)	
	D	CLK	Q	QN
gf180mcu_osu_sc_gp12t3v3__dff_1	0.00393	0.01039	1.56141	1.56075

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_gp12t3v3__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_gp12t3v3__dff_1	CLK->Q (RR)	0.28527	1.60560	16.48390
	QN->Q (FR)	0.05278	1.01828	10.25460

Delay(ns) to Q falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__dff_1	CLK->Q (RF)	0.37277	1.62742	16.29670
	QN->Q (RF)	0.04413	0.81784	8.74007

Delay(ns) to QN rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__dff_1	CLK->QN (RR)	0.32941	0.90411	6.99720

Delay(ns) to QN falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__dff_1	CLK->QN (RF)	0.23795	0.80410	6.16788

Constraint Information

Constraints(ns) for D rising :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_gp12t3v3__dff_1	hold	CLK (R)	-0.10830	-0.09948	0.55577
	setup	CLK (R)	0.11670	0.10813	0.29109

Constraints(ns) for D falling :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_gp12t3v3__dff_1	hold	CLK (R)	-0.21623	-0.60986	-5.10389
	setup	CLK (R)	0.21883	0.61202	5.16021

Constraints(ns) for CLK rising (conditional):

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_gp12t3v3__dff_1	min_pulse_width	CLK ()	0.14752	1.45508	16.50020
	min_pulse_width	CLK ()	0.18118	1.45508	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_gp12t3v3__dff_1	min_pulse_width	CLK ()	0.18377	1.45508	16.50020
	min_pulse_width	CLK ()	0.17600	1.45508	16.50020

Power Information

Internal switching power(pJ) to Q rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dff_1	CLK	0.04954	0.13162	0.64377
	CLK	0.07761	0.15977	0.67514

Internal switching power(pJ) to Q falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dff_1	CLK	0.05850	0.10906	0.50368
	CLK	0.07998	0.13015	0.52377

Internal switching power(pJ) to QN rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dff_1	CLK	0.05849	0.10908	0.50270
	CLK	0.07997	0.13031	0.52401

Internal switching power(pJ) to QN falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dff_1	CLK	0.04946	0.13132	0.64122
	CLK	0.07753	0.15972	0.67139

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dff_1	CLK	-0.01322	-0.01337	-0.01335
	CLK	0.00655	0.00647	0.00649
	(!CLK * Q * !QN) + (!CLK * !Q * QN)	0.05982	0.13517	0.71342
	(!CLK * Q * !QN) + (!CLK * !Q * QN)	0.09137	0.16683	0.74479

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dff_1	CLK	0.01350	0.01350	0.01335
	CLK	-0.00644	-0.00647	-0.00648
	(!CLK * Q * !QN) + (!CLK * !Q * QN)	0.09185	0.16878	0.74724
	(!CLK * Q * !QN) + (!CLK * !Q * QN)	0.06027	0.13720	0.71567

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dff_1	(D * Q * !QN)	-0.00023	0.08414	0.66646
	(D * Q * !QN)	0.04664	0.13095	0.71314
	(!D * !Q * QN)	-0.00084	0.08445	0.66610
	(!D * !Q * QN)	0.05311	0.13828	0.71997

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dff_1	(D * Q * !QN)	0.04729	0.13532	0.71738
	(D * Q * !QN)	0.00047	0.08834	0.67051
	(D * !Q * QN)	0.12426	0.21421	0.99209
	(D * !Q * QN)	0.08251	0.17225	0.94983
	(!D * Q * !QN)	0.12088	0.27475	1.16805
	(!D * Q * !QN)	0.06420	0.21773	1.11108
	(!D * !Q * QN)	0.05374	0.13915	0.72024
	(!D * !Q * QN)	-0.00033	0.08491	0.66630

GF180MCU_OSU_SC_GP12T3V3__DLATN_1

gf180mcu_osu_sc_gp12t3v3_TT_25C.ccs
Cell Library: Process , Voltage 3.30,
Temp 25.00

Truth Table

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

Footprint

Cell Name	Area
gf180mcu_osu_sc_gp12t3v3__dlatn_1	86.67000

Pin Capacitance Information

Cell Name	Pin Cap(pf)		Max Cap(pf)
	D	CLK	Q
gf180mcu_osu_sc_gp12t3v3__dlatn_1	0.00395	0.00404	1.56469

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_gp12t3v3__dlatn_1	0.00000	0.00487	0.00534

Delay Information

Delay(ns) to Q rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__dlatn_1	CLK->Q (FR)	0.35047	1.12519	8.41150
	D->Q (RR)	0.30377	0.87689	6.97299

Delay(ns) to Q falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__dlatn_1	CLK->Q (FF)	0.40764	1.10767	7.65747
	D->Q (FF)	0.33528	1.02771	7.71021

Constraint Information

Constraints(ns) for D rising :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_gp12t3v3__dlatn_1	hold	CLK (R)	-0.11448	-0.17733	-0.64085
	setup	CLK (R)	0.11893	0.17950	0.96456

Constraints(ns) for D falling :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_gp12t3v3__dlatn_1	hold	CLK (R)	-0.10249	-0.17301	-1.25026
	setup	CLK (R)	0.10649	0.17517	1.26226

Constraints(ns) for CLK falling (conditional):

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_gp12t3v3__dlatn_1	min_pulse_width	CLK ()	0.17341	1.45508	16.50020
	min_pulse_width	CLK ()	0.18636	1.45508	16.50020

Power Information

Internal switching power(pJ) to Q rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dlatn_1	CLK	0.15805	0.26354	0.93251
	CLK	0.13694	0.24233	0.91127
	D	0.09620	0.17458	0.76381
	D	0.11762	0.19597	0.78519

Internal switching power(pJ) to Q falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dlatn_1	CLK	0.16059	0.25888	0.88284
	CLK	0.13828	0.23651	0.86077
	D	0.12195	0.20022	0.78765
	D	0.10041	0.17878	0.76662

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dlatn_1	CLK	-0.01334	-0.01350	-0.01346
	CLK	0.00662	0.00651	0.00649

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dlatn_1	CLK	0.01341	0.01361	0.01346
	CLK	-0.00641	-0.00651	-0.00647

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dlatn_1	(D * Q)	0.03320	0.12700	0.75302
	(D * Q)	0.05503	0.14887	0.77483
	(!D * !Q)	0.03636	0.13053	0.75694
	(!D * !Q)	0.05835	0.15272	0.77887

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dlatn_1	(D * Q)	0.05517	0.15137	0.77647
	(D * Q)	0.03328	0.12949	0.75466
	(!D * !Q)	0.05863	0.15400	0.77925
	(!D * !Q)	0.03657	0.13184	0.75729

GF180MCU_OSU_SC_GP12T3V3__DLAT_1

gf180mcu_osu_sc_gp12t3v3_TT_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_gp12t3v3__dlat_1	72.90000

Pin Capacitance Information

Cell Name	Pin Cap(pf)		Max Cap(pf)
	D	CLK	Q
gf180mcu_osu_sc_gp12t3v3__dlat_1	0.00395	0.00812	1.56358

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_gp12t3v3__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_gp12t3v3__dlat_1	CLK->Q (RR)	0.27030	0.89011	6.94335
	D->Q (RR)	0.30246	0.87667	6.96558

Delay(ns) to Q falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__dlat_1	CLK->Q (RF)	0.33975	0.83187	6.22097
	D->Q (FF)	0.33547	1.02747	7.70570

Constraint Information

Constraints(ns) for D rising :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_gp12t3v3__dlat_1	hold	CLK (F)	-0.17419	-0.36548	-2.23167
	setup	CLK (F)	0.17840	0.39354	5.26637

Constraints(ns) for D falling :

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_gp12t3v3__dlat_1	hold	CLK (F)	-0.15694	-0.19031	0.13079
	setup	CLK (F)	0.16288	0.19247	-0.12766

Constraints(ns) for CLK rising (conditional):

Cell Name	Timing Check	Ref Pin(trans)	Reference Slew Rate(ns)		
			first	mid	last
gf180mcu_osu_sc_gp12t3v3__dlat_1	min_pulse_width	CLK ()	0.14752	1.45508	16.50020
	min_pulse_width	CLK ()	0.17341	1.45508	16.50020

Power Information

Internal switching power(pJ) to Q rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dlat_1	CLK	0.09258	0.24893	1.13079
	CLK	0.13711	0.29345	1.17570
	D	0.09000	0.16831	0.75443
	D	0.11771	0.19599	0.78214

Internal switching power(pJ) to Q falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dlat_1	CLK	0.11211	0.20102	0.81578
	CLK	0.13881	0.22766	0.84295
	D	0.12870	0.20690	0.79445
	D	0.10041	0.17871	0.76670

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__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_gp12t3v3__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_gp12t3v3__dlat_1	(D * Q)	-0.00054	0.08669	0.67099
	(D * Q)	0.03387	0.12141	0.70541
	(!D * !Q)	-0.00069	0.08694	0.67094
	(!D * !Q)	0.03723	0.12486	0.70871

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__dlat_1	(D * Q)	0.03504	0.12492	0.70878
	(D * Q)	0.00046	0.09037	0.67426
	(!D * !Q)	0.03796	0.12633	0.70996
	(!D * !Q)	-0.00002	0.08831	0.67209

GF180MCU_OSU_SC_GP12T3V3__INV_16

gf180mcu_osu_sc_gp12t3v3_TT_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_gp12t3v3__inv_16	121.50000

Pin Capacitance Information

Cell Name	Pin Cap(pf)	Max Cap(pf)
	A	Y
gf180mcu_osu_sc_gp12t3v3__inv_16	0.06465	23.88324

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_gp12t3v3__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_gp12t3v3__inv_16	A->Y (FR)	0.03922	0.57400	9.96324

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__inv_16	A->Y (RF)	0.03059	0.37311	8.47819

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__inv_16	A	0.35769	1.40350	4.08756
	A	0.00870	1.05220	3.73664

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__inv_16	A	-0.00747	0.97966	3.38277
	A	0.34143	1.33111	3.73611

GF180MCU_OSU_SC_GP12T3V3__INV_1

gf180mcu_osu_sc_gp12t3v3_TT_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_gp12t3v3__inv_1	17.82000

Pin Capacitance Information

Cell Name	Pin Cap(pf)	Max Cap(pf)
	A	Y
gf180mcu_osu_sc_gp12t3v3__inv_1	0.00404	1.50748

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_gp12t3v3__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_gp12t3v3__inv_1	A->Y (FR)	0.05278	1.00655	10.02570

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__inv_1	A->Y (RF)	0.04413	0.80780	8.53517

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__inv_1	A	0.02207	0.06789	0.25366
	A	0.00025	0.04563	0.23179

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__inv_1	A	-0.00064	0.04125	0.21052
	A	0.02128	0.06324	0.23249

GF180MCU_OSU_SC_GP12T3V3__INV_2

gf180mcu_osu_sc_gp12t3v3_TT_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_gp12t3v3__inv_2	25.92000

Pin Capacitance Information

Cell Name	Pin Cap(pf)	Max Cap(pf)
	A	Y
gf180mcu_osu_sc_gp12t3v3__inv_2	0.00808	2.98498

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_gp12t3v3__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_gp12t3v3__inv_2	A->Y (FR)	0.04592	0.86420	9.96233

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__inv_2	A->Y (RF)	0.03734	0.66519	8.47737

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__inv_2	A	0.04439	0.14625	0.51097
	A	0.00076	0.10216	0.46711

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__inv_2	A	-0.00107	0.09315	0.42288
	A	0.04270	0.13730	0.46704

GF180MCU_OSU_SC_GP12T3V3__INV_4

gf180mcu_osu_sc_gp12t3v3_TT_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_gp12t3v3__inv_4	38.88000

Pin Capacitance Information

Cell Name	Pin Cap(pf)	Max Cap(pf)
	A	Y
gf180mcu_osu_sc_gp12t3v3__inv_4	0.01616	5.97048

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_gp12t3v3__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_gp12t3v3__inv_4	A->Y (FR)	0.04217	0.74896	9.96289

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__inv_4	A->Y (RF)	0.03360	0.54998	8.47788

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__inv_4	A	0.08935	0.31261	1.02191
	A	0.00171	0.22514	0.93418

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__inv_4	A	-0.00217	0.20800	0.84572
	A	0.08540	0.29585	0.93405

GF180MCU_OSU_SC_GP12T3V3__INV_8

gf180mcu_osu_sc_gp12t3v3_TT_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_gp12t3v3__inv_8	66.01500

Pin Capacitance Information

Cell Name	Pin Cap(pf)	Max Cap(pf)
	A	Y
gf180mcu_osu_sc_gp12t3v3__inv_8	0.03231	11.94140

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_gp12t3v3__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_gp12t3v3__inv_8	A->Y (FR)	0.04022	0.65280	9.96313

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__inv_8	A->Y (RF)	0.03163	0.45306	8.47809

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__inv_8	A	0.17917	0.66335	2.04380
	A	0.00392	0.48727	1.86833

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__inv_8	A	-0.00411	0.45227	1.69140
	A	0.17098	0.62755	1.86807

GF180MCU_OSU_SC_GP12T3V3__LSHIFDOWN

gf180mcu_osu_sc_gp12t3v3_TT_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_gp12t3v3__lshifdown	42.12000

Pin Capacitance Information

Cell Name	Pin Cap(pf)	Max Cap(pf)
	A	Y
gf180mcu_osu_sc_gp12t3v3__lshifdown	0.00417	1.54316

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_gp12t3v3__lshifdown	0.00000	0.02964	0.03235

Delay Information

Delay(ns) to Y rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__lshifdown	A->Y (RR)	0.08889	0.72689	7.63192

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__lshifdown	A->Y (FF)	0.06841	0.52302	4.85906

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__lshifdown	A	0.02635	0.02885	0.03320
	A	0.00793	0.48808	3.62597
	A	0.06563	0.38511	2.45924

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__lshifdown	A	-0.00726	-0.00490	-0.00245
	A	0.11010	0.59216	3.72804
	A	0.03128	0.35176	2.42425

GF180MCU_OSU_SC_GP12T3V3__LSHIFUP

gf180mcu_osu_sc_gp12t3v3_TT_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_gp12t3v3__lshifup	63.18000

Pin Capacitance Information

Cell Name	Pin Cap(pf)	Max Cap(pf)
	A	Y
gf180mcu_osu_sc_gp12t3v3__lshifup	0.00541	2.02733

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_gp12t3v3__lshifup	0.00000	0.06049	0.07218

Delay Information

Delay(ns) to Y rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__lshifup	A->Y (RR)	0.42783	1.70523	12.20900

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__lshifup	A->Y (FF)	0.53047	1.30698	10.41150

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__lshifup	A	-0.00066	0.08919	0.67803
	A	0.52096	1.15155	4.46166
	A	0.37266	0.87852	3.65173

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__lshifup	A	0.02977	0.12071	0.70972
	A	0.61562	0.72883	2.77048
	A	0.39658	-0.00768	-3.65173

GF180MCU_OSU_SC_GP12T3V3__MUX2_1

gf180mcu_osu_sc_gp12t3v3_TT_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_gp12t3v3__mux2_1	38.88000

Pin Capacitance Information

Cell Name	Pin Cap(pf)			Max Cap(pf)
	A	B	Sel	Y
gf180mcu_osu_sc_gp12t3v3__mux2_1	0.24485	0.24485	0.00808	0.24039

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_gp12t3v3__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_gp12t3v3__mux2_1	A->Y (RR)	-	0.02766	0.14484	0.80157
	B->Y (RR)	-	0.02992	0.14589	0.80245
	Sel->Y (RR)	(!A * B)	0.07774	0.27374	0.84092
	Sel->Y (FR)	(A * !B)	0.06200	0.45824	2.58659

Delay(ns) to Y falling (conditional):

Cell Name	Timing Arc(Dir)	When	Delay(ns)		
			First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__mux2_1	A->Y (FF)	-	0.03288	0.15476	0.84003
	B->Y (FF)	-	0.03027	0.15376	0.83896
	Sel->Y (FF)	(!A * B)	0.08938	0.45216	2.08689
	Sel->Y (RF)	(A * !B)	0.05326	0.29637	1.46441

Power Information

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

Cell Name	Input	When	Power(pJ)		
			first	mid	last
gf180mcu_osu_sc_gp12t3v3__mux2_1	A	-	-0.03041	-0.03052	-0.03049
	A	-	0.01299	0.01301	0.01300
	B	-	-0.02391	-0.02389	-0.02388
	B	-	0.02378	0.02381	0.02378
	Sel	(A * !B)	0.01188	0.10163	0.68712
	Sel	(A * !B)	0.00922	0.09900	0.68458
	Sel	(!A * B)	-0.01754	0.06842	0.65235
	Sel	(!A * B)	0.05195	0.13847	0.72483

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

Cell Name	Input	When	Power(pJ)		
			first	mid	last
gf180mcu_osu_sc_gp12t3v3__mux2_1	A	-	0.03041	0.03052	0.03054
	A	-	-0.01297	-0.01301	-0.01300
	B	-	0.02391	0.02389	0.02390
	B	-	-0.02378	-0.02380	-0.02378
	Sel	(A * !B)	0.01614	0.10403	0.68925
	Sel	(A * !B)	0.01877	0.10713	0.69450
	Sel	(!A * B)	0.06031	0.14739	0.73129
	Sel	(!A * B)	-0.00919	0.07792	0.66226

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__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_gp12t3v3__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_gp12t3v3__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_gp12t3v3__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_gp12t3v3__mux2_1	(A * B * Y)	-0.00072	0.08689	0.67095
	(A * B * Y)	0.03710	0.12482	0.70871
	(!A * !B * !Y)	-0.00068	0.08650	0.67087
	(!A * !B * !Y)	0.03358	0.12104	0.70522

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__mux2_1	(A * B * Y)	0.03786	0.12598	0.70976
	(A * B * Y)	-0.00008	0.08807	0.67191
	(!A * !B * !Y)	0.03458	0.12418	0.70857
	(!A * !B * !Y)	0.00021	0.08978	0.67424

GF180MCU_OSU_SC_GP12T3V3__NAND2_1

gf180mcu_osu_sc_gp12t3v3_TT_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_gp12t3v3__nand2_1	25.11000

Pin Capacitance Information

Cell Name	Pin Cap(pf)		Max Cap(pf)
	A	B	Y
gf180mcu_osu_sc_gp12t3v3__nand2_1	0.00404	0.00402	1.04725

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_gp12t3v3__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_gp12t3v3__nand2_1	A->Y (FR)	0.06105	0.88117	7.95705
	B->Y (FR)	0.07172	0.90265	7.99777

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__nand2_1	A->Y (RF)	0.07018	0.96098	9.03370
	B->Y (RF)	0.07524	0.80559	7.88183

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__nand2_1	A	0.02378	0.06266	0.23835
	A	0.00060	0.03913	0.21361
	B	0.03509	0.07676	0.26647
	B	0.00696	0.04841	0.23683

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__nand2_1	A	0.00590	0.04328	0.21421
	A	0.02905	0.06665	0.23791
	B	0.00477	0.04328	0.23854
	B	0.03293	0.07178	0.26777

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__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_gp12t3v3__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_gp12t3v3__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_gp12t3v3__nand2_1	(!A * Y)	0.01367	0.01367	0.01355
	(!A * Y)	-0.00639	-0.00652	-0.00647

GF180MCU_OSU_SC_GP12T3V3__NOR2_1

gf180mcu_osu_sc_gp12t3v3_TT_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_gp12t3v3__nor2_1	22.68000

Pin Capacitance Information

Cell Name	Pin Cap(pf)		Max Cap(pf)
	A	B	Y
gf180mcu_osu_sc_gp12t3v3__nor2_1	0.00398	0.00404	0.78121

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_gp12t3v3__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_gp12t3v3__nor2_1	A->Y (FR)	0.10395	1.01854	8.71519
	B->Y (FR)	0.08103	1.16328	9.85004

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__nor2_1	A->Y (RF)	0.06547	0.63253	5.37174
	B->Y (RF)	0.05042	0.59510	5.29400

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__nor2_1	A	0.03465	0.07568	0.32284
	A	0.00264	0.04365	0.29057
	B	0.02602	0.06583	0.26848
	B	0.00349	0.04323	0.24589

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__nor2_1	A	0.01130	0.05116	0.25578
	A	0.04298	0.08289	0.29150
	B	0.00068	0.03710	0.21929
	B	0.02316	0.05974	0.24590

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__nor2_1	(B * !Y)	-0.01310	-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_gp12t3v3__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_gp12t3v3__nor2_1	(A * !Y)	-0.00461	-0.00456	-0.00451
	(A * !Y)	0.00792	0.00785	0.00780

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__nor2_1	(A * !Y)	0.00488	0.00484	0.00460
	(A * !Y)	-0.00756	-0.00760	-0.00780

GF180MCU_OSU_SC_GP12T3V3__OAI21_1

gf180mcu_osu_sc_gp12t3v3_TT_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_gp12t3v3__oai21_1	31.59000

Pin Capacitance Information

Cell Name	Pin Cap(pf)			Max Cap(pf)
	A0	A1	B	Y
gf180mcu_osu_sc_gp12t3v3__oai21_1	0.00395	0.00402	0.00404	0.77902

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_gp12t3v3__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_gp12t3v3__oai21_1	A0->Y (FR)	0.14046	1.03505	8.59380
	A1->Y (FR)	0.11528	1.18071	9.74633
	B->Y (FR)	0.06065	0.80828	6.75524

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__oai21_1	A0->Y (RF)	0.10983	0.72945	6.13624
	A1->Y (RF)	0.08267	0.68876	6.04630
	B->Y (RF)	0.09971	0.89545	7.41956

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__oai21_1	A0	0.04766	0.08271	0.28834
	A0	0.00953	0.04325	0.25008
	A1	0.03839	0.07176	0.23966
	A1	0.00977	0.04306	0.21166
	B	0.02359	0.06989	0.30431
	B	0.00041	0.04625	0.28053

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__oai21_1	A0	0.01756	0.04935	0.23887
	A0	0.05546	0.08749	0.27682
	A1	0.00599	0.03650	0.20627
	A1	0.03468	0.06550	0.23499
	B	0.00610	0.04983	0.27437
	B	0.02932	0.07347	0.29751

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__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_gp12t3v3__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_gp12t3v3__oai21_1	(A0 * B * !Y)	-0.00461	-0.00456	-0.00451
	(A0 * B * !Y)	0.00789	0.00785	0.00780
	(!B * Y)	-0.01311	-0.01342	-0.01331
	(!B * Y)	0.00654	0.00652	0.00651

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__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	-0.00652	-0.00649

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__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_gp12t3v3__oai21_1	(!A0 * !A1 * Y)	0.01413	0.01430	0.01418
	(!A0 * !A1 * Y)	-0.00174	-0.00177	-0.00175

GF180MCU_OSU_SC_GP12T3V3__OAI22_1

gf180mcu_osu_sc_gp12t3v3_TT_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_gp12t3v3__oai22_1	42.93000

Pin Capacitance Information

Cell Name	Pin Cap(pf)				Max Cap(pf)
	A0	A1	B0	B1	Y
gf180mcu_osu_sc_gp12t3v3__oai22_1	0.00395	0.00402	0.00404	0.00398	0.77583

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_gp12t3v3__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_gp12t3v3__oai22_1	A0->Y (FR)	0.16814	1.06813	8.65665
	A1->Y (FR)	0.14305	1.21223	9.80156
	B0->Y (FR)	0.09389	1.15989	9.72786
	B1->Y (FR)	0.11746	1.01375	8.57372

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__oai22_1	A0->Y (RF)	0.15429	0.77697	6.16286
	A1->Y (RF)	0.12446	0.73648	6.07270
	B0->Y (RF)	0.10780	0.87768	7.25722
	B1->Y (RF)	0.13644	0.92065	7.33289

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__oai22_1	A0	0.06121	0.09694	0.32270
	A0	0.01795	0.05359	0.27923
	A1	0.05635	0.08915	0.25819
	A1	0.01817	0.05335	0.23772
	B0	0.02760	0.06288	0.24016
	B0	0.00379	0.03900	0.21705
	B1	0.03628	0.07208	0.28807
	B1	0.00311	0.03887	0.25486

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__oai22_1	A0	0.01754	0.04968	0.24188
	A0	0.07892	0.10892	0.29841
	A1	0.00607	0.03662	0.20859
	A1	0.05877	0.08697	0.25642
	B0	0.00756	0.04041	0.20599
	B0	0.03135	0.06447	0.23083
	B1	0.01822	0.05363	0.23680
	B1	0.05127	0.08680	0.27068

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__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)	0.00649	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_gp12t3v3__oai22_1	(A1 * B0 * !Y)	0.01342	0.01344	0.01338
	(A1 * B0 * !Y)	-0.00648	-0.00652	-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)	-0.00649	-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_gp12t3v3__oai22_1	(A0 * B0 * !Y)	-0.00456	-0.00456	-0.00451
	(A0 * B0 * !Y)	0.00784	0.00785	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_gp12t3v3__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_gp12t3v3__oai22_1	(A1 * B1 * !Y)	-0.00449	-0.00456	-0.00451
	(A1 * B1 * !Y)	0.00776	0.00786	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_gp12t3v3__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_gp12t3v3__oai22_1	(A1 * B0 * !Y)	-0.01314	-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)	-0.01374	-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_gp12t3v3__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_GP12T3V3__OAI31_1

gf180mcu_osu_sc_gp12t3v3_TT_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_gp12t3v3__oai31_1	38.88000

Pin Capacitance Information

Cell Name	Pin Cap(pf)				Max Cap(pf)
	A0	A1	A2	B	Y
gf180mcu_osu_sc_gp12t3v3__oai31_1	0.00395	0.00395	0.00402	0.00404	0.52736

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_gp12t3v3__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_gp12t3v3__oai31_1	A0->Y (FR)	0.23938	1.15214	8.21896
	A1->Y (FR)	0.21278	1.23736	8.96826
	A2->Y (FR)	0.15542	1.31605	9.77263
	B->Y (FR)	0.06053	0.72025	5.45578

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__oai31_1	A0->Y (RF)	0.12908	0.64287	4.44466
	A1->Y (RF)	0.11788	0.60906	4.34351
	A2->Y (RF)	0.08825	0.56575	4.25359
	B->Y (RF)	0.11387	0.81855	5.76240

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__oai31_1	A0	0.06085	0.08833	0.33351
	A0	0.01286	0.04035	0.28543
	A1	0.05139	0.07836	0.27359
	A1	0.01287	0.03972	0.23485
	A2	0.04215	0.07214	0.24306
	A2	0.01296	0.04290	0.21392
	B	0.02353	0.07555	0.36876
	B	0.00034	0.05225	0.34435

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__oai31_1	A0	0.02995	0.05749	0.26133
	A0	0.07754	0.10542	0.31025
	A1	0.01907	0.04572	0.22780
	A1	0.05756	0.08428	0.26747
	A2	0.00638	0.03323	0.19824
	A2	0.03568	0.06262	0.22852
	B	0.00627	0.05555	0.33656
	B	0.02939	0.07885	0.36027

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__oai31_1	(A1 * A2 * B * !Y)	-0.01311	-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)	-0.01311	-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_gp12t3v3__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)	-0.00650	-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_gp12t3v3__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_gp12t3v3__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)	0.01324	0.01339	0.01327
	(!A2 * !B * Y)	-0.00648	-0.00655	-0.00649

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__oai31_1	(A1 * B * !Y)	-0.00457	-0.00454	-0.00451
	(A1 * B * !Y)	0.00785	0.00782	0.00780
	(A1 * !B * Y)	-0.01302	-0.01342	-0.01333
	(A1 * !B * Y)	0.00648	0.00652	0.00651
	(A0 * !A1 * B * !Y)	-0.00454	-0.00449	-0.00442
	(A0 * !A1 * B * !Y)	0.00789	0.00785	0.00780
	(!A1 * !B * Y)	-0.01207	-0.01283	-0.01279
	(!A1 * !B * Y)	0.00652	0.00651	0.00651

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__oai31_1	(A1 * B * !Y)	0.00487	0.00484	0.00460
	(A1 * B * !Y)	-0.00751	-0.00759	-0.00780
	(A1 * !B * Y)	0.01326	0.01345	0.01333
	(A1 * !B * Y)	-0.00646	-0.00652	-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	0.01283	0.01279
	(!A1 * !B * Y)	-0.00648	-0.00651	-0.00649

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__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_gp12t3v3__oai31_1	(!A0 * !A1 * !A2 * Y)	0.01413	0.01430	0.01418
	(!A0 * !A1 * !A2 * Y)	-0.00174	-0.00177	-0.00175

GF180MCU_OSU_SC_GP12T3V3__OR2_1

gf180mcu_osu_sc_gp12t3v3_TT_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_gp12t3v3__or2_1	30.78000

Pin Capacitance Information

Cell Name	Pin Cap(pf)		Max Cap(pf)
	A	B	Y
gf180mcu_osu_sc_gp12t3v3__or2_1	0.00404	0.00398	1.55634

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_gp12t3v3__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_gp12t3v3__or2_1	A->Y (RR)	0.09819	0.59253	6.27342
	B->Y (RR)	0.11669	0.69072	6.87422

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__or2_1	A->Y (FF)	0.14076	0.96598	8.44438
	B->Y (FF)	0.16433	0.89551	7.98435

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__or2_1	A	0.02166	0.08943	0.55597
	A	0.04410	0.11186	0.57669
	B	0.03256	0.10911	0.66201
	B	0.06442	0.14086	0.69352

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__or2_1	A	0.04783	0.11680	0.57924
	A	0.02522	0.09441	0.55677
	B	0.05660	0.12976	0.68093
	B	0.02459	0.09800	0.64951

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__or2_1	(B * Y)	-0.00462	-0.00456	-0.00451
	(B * Y)	0.00789	0.00785	0.00780

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__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_gp12t3v3__or2_1	(A * Y)	-0.01308	-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_gp12t3v3__or2_1	(A * Y)	0.01349	0.01345	0.01338
	(A * Y)	-0.00649	-0.00652	-0.00649

GF180MCU_OSU_SC_GP12T3V3__TBUF_1

gf180mcu_osu_sc_gp12t3v3_TT_25C.ccs
Cell Library: Process , Voltage 3.30,
Temp 25.00

Truth Table

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

Footprint

Cell Name	Area
gf180mcu_osu_sc_gp12t3v3__tbuf_1	42.12000

Pin Capacitance Information

Cell Name	Pin Cap(pf)		Max Cap(pf)
	A	EN	Y
gf180mcu_osu_sc_gp12t3v3__tbuf_1	0.00404	0.00535	0.81673

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_gp12t3v3__tbuf_1	0.00000	0.00185	0.00205

Delay Information

Delay(ns) to Y rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__tbuf_1	A->Y (RR)	0.16569	0.84311	6.72708
	EN->Y (FR)	0.07404	0.94065	6.56566
	EN->Y (RR)	0.10431	0.78267	6.81903

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__tbuf_1	A->Y (FF)	0.15128	0.85572	6.35872
	EN->Y (FF)	0.08770	0.94065	6.56566
	EN->Y (RF)	0.04307	0.74591	7.02864

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__tbuf_1	A	0.04210	0.12893	0.71860
	A	0.05894	0.14567	0.73533
	EN	0.02500	0.11289	0.70635
	EN	0.04824	0.13610	0.72340

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__tbuf_1	A	0.05407	0.14400	0.72986
	A	0.03728	0.12734	0.71421
	EN	0.02111	0.10945	0.69807
	EN	0.05013	0.13853	0.72745

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__tbuf_1	!EN	0.01265	0.09890	0.68264
	!EN	0.03470	0.12092	0.70462

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__tbuf_1	!EN	0.02855	0.11593	0.69971
	!EN	0.00649	0.09393	0.67766

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__tbuf_1	(A * Y)	0.01159	0.09949	0.68416
	(A * Y)	0.03598	0.12394	0.70862
	(!A * !Y)	0.00417	0.09321	0.67856
	(!A * !Y)	0.03264	0.12155	0.70702

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__tbuf_1	(A * Y)	0.02323	0.11182	0.69563
	(A * Y)	-0.00123	0.08732	0.67122
	(!A * !Y)	0.02349	0.11455	0.69963
	(!A * !Y)	-0.00495	0.08608	0.67118

GF180MCU_OSU_SC_GP12T3V3__TIEH

gf180mcu_osu_sc_gp12t3v3_TT_25C.ccs
Cell Library: Process , Voltage 3.30,
Temp 25.00

Footprint

Cell Name	Area
gf180mcu_osu_sc_gp12t3v3__tieh	17.82000

Pin Capacitance Information

Cell Name	Max Cap(pf)
	Y
gf180mcu_osu_sc_gp12t3v3__tieh	3.44214

Leakage Information

Cell Name	Leakage(nW)		
	Min.	**Avg**	**Max.**
gf180mcu_osu_sc_gp12t3v3__tieh	0.00000	0.00000	0.00000

GF180MCU_OSU_SC_GP12T3V3__TIEL

gf180mcu_osu_sc_gp12t3v3_TT_25C.ccs
Cell Library: Process , Voltage 3.30,
Temp 25.00

Footprint

Cell Name	Area
gf180mcu_osu_sc_gp12t3v3__tiel	17.82000

Pin Capacitance Information

Cell Name	Max Cap(pf)
	Y
gf180mcu_osu_sc_gp12t3v3__tiel	5.16285

Leakage Information

Cell Name	Leakage(nW)		
	Min.	**Avg**	**Max.**
gf180mcu_osu_sc_gp12t3v3__tiel	0.00000	0.00000	0.00000

GF180MCU_OSU_SC_GP12T3V3__TINV_1

gf180mcu_osu_sc_gp12t3v3_TT_25C.ccs
Cell Library: Process , Voltage 3.30,
Temp 25.00

Truth Table

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

Footprint

Cell Name	Area
gf180mcu_osu_sc_gp12t3v3__tinv_1	29.56500

Pin Capacitance Information

Cell Name	Pin Cap(pf)		Max Cap(pf)
	A	EN	Y
gf180mcu_osu_sc_gp12t3v3__tinv_1	0.00395	0.00535	0.79686

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_gp12t3v3__tinv_1	0.00000	0.00111	0.00146

Delay Information

Delay(ns) to Y rising :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__tinv_1	A->Y (FR)	0.12259	1.02640	8.71812
	EN->Y (FR)	0.07406	0.94065	6.56566
	EN->Y (RR)	0.10441	0.77290	6.65556

Delay(ns) to Y falling :

Cell Name	Timing Arc(Dir)	Delay(ns)		
		First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__tinv_1	A->Y (RF)	0.09323	0.72227	6.23215
	EN->Y (FF)	0.08771	0.94065	6.56566
	EN->Y (RF)	0.04309	0.73625	6.88897

Power Information

Internal switching power(pJ) to Y rising :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__tinv_1	A	0.04243	0.07667	0.28122
	A	0.01589	0.05005	0.25433
	EN	0.02500	0.11288	0.70237
	EN	0.04774	0.13558	0.72488

Internal switching power(pJ) to Y falling :

Cell Name	Input	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__tinv_1	A	0.01043	0.04345	0.22932
	A	0.03703	0.07023	0.25664
	EN	0.02020	0.10859	0.69692
	EN	0.05013	0.13847	0.72779

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__tinv_1	!EN	-0.01340	-0.01350	-0.01345
	!EN	0.00653	0.00649	0.00646

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__tinv_1	!EN	0.01361	0.01360	0.01345
	!EN	-0.00639	-0.00649	-0.00646

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__tinv_1	(A * !Y)	0.00403	0.09307	0.67840
	(A * !Y)	0.03263	0.12155	0.70695
	(!A * Y)	0.01159	0.09949	0.68416
	(!A * Y)	0.03593	0.12390	0.70857

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

Cell Name	When	Power(pJ)		
		first	mid	last
gf180mcu_osu_sc_gp12t3v3__tinv_1	(A * !Y)	0.02360	0.11465	0.69974
	(A * !Y)	-0.00495	0.08608	0.67118
	(!A * Y)	0.02322	0.11183	0.69563
	(!A * Y)	-0.00118	0.08726	0.67127

GF180MCU_OSU_SC_GP12T3V3__XNOR2_1

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_gp12t3v3__xnor2_1	50.22000

Pin Capacitance Information

Cell Name	Pin Cap(pf)		Max Cap(pf)
	A	B	Y
gf180mcu_osu_sc_gp12t3v3__xnor2_1	0.00806	0.00799	0.78925

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_gp12t3v3__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_gp12t3v3__xnor2_1	A->Y (RR)	B	0.16260	0.82548	6.49144
	A->Y (FR)	!B	0.12367	1.19369	9.84618
	B->Y (RR)	A	0.13329	0.81210	6.65943
	B->Y (FR)	!A	0.14464	1.04598	8.68525

Delay(ns) to Y falling (conditional):

Cell Name	Timing Arc(Dir)	When	Delay(ns)		
			First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__xnor2_1	A->Y (FF)	B	0.17311	0.89158	6.42840
	A->Y (RF)	!B	0.08351	0.69194	6.11426
	B->Y (FF)	A	0.13302	0.84261	6.37809
	B->Y (RF)	!A	0.11518	0.74678	6.21650

Power Information

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

Cell Name	Input	When	Power(pJ)		
			first	mid	last
gf180mcu_osu_sc_gp12t3v3__xnor2_1	A	B	0.03166	0.11814	0.70846
	A	B	0.06463	0.15103	0.74078
	A	!B	0.06254	0.18570	0.94275
	A	!B	0.01844	0.14127	0.89852
	B	A	0.01374	0.10127	0.69052
	B	A	0.05414	0.14176	0.73084
	B	!A	0.07202	0.19433	0.99091
	B	!A	0.01828	0.14079	0.93700

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

Cell Name	Input	When	Power(pJ)		
			first	mid	last
gf180mcu_osu_sc_gp12t3v3__xnor2_1	A	B	0.07855	0.16767	0.75300
	A	B	0.04716	0.13640	0.72262
	A	!B	0.02561	0.14281	0.89953
	A	!B	0.06929	0.18669	0.94320
	B	A	0.06465	0.15453	0.74101
	B	A	0.02390	0.11398	0.70118
	B	!A	0.03662	0.15726	0.93352
	B	!A	0.08972	0.21018	0.98716

GF180MCU_OSU_SC_GP12T3V3__XOR2_1

gf180mcu_osu_sc_gp12t3v3_TT_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_gp12t3v3__xor2_1	50.22000

Pin Capacitance Information

Cell Name	Pin Cap(pf)		Max Cap(pf)
	A	B	Y
gf180mcu_osu_sc_gp12t3v3__xor2_1	0.00799	0.00801	0.79014

Leakage Information

Cell Name	Leakage(nW)		
	Min.	Avg	Max.
gf180mcu_osu_sc_gp12t3v3__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_gp12t3v3__xor2_1	A->Y (RR)	!B	0.13340	0.81244	6.66700
	A->Y (FR)	B	0.14668	1.04713	8.69415
	B->Y (RR)	!A	0.17151	0.85023	6.70185
	B->Y (FR)	A	0.11654	1.00507	8.60272

Delay(ns) to Y falling (conditional):

Cell Name	Timing Arc(Dir)	When	Delay(ns)		
			First	Mid	Last
gf180mcu_osu_sc_gp12t3v3__xor2_1	A->Y (FF)	!B	0.13297	0.84298	6.38493
	A->Y (RF)	B	0.11363	0.74663	6.22156
	B->Y (FF)	!A	0.14175	0.83173	6.17699
	B->Y (RF)	A	0.10838	0.90071	7.40536

Power Information

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

Cell Name	Input	When	Power(pJ)		
			first	mid	last
gf180mcu_osu_sc_gp12t3v3__xor2_1	A	B	0.07725	0.19953	0.99711
	A	B	0.02854	0.15101	0.94818
	A	!B	0.01229	0.09980	0.68920
	A	!B	0.05352	0.14099	0.73024
	B	A	0.06414	0.18411	0.96462
	B	A	0.02059	0.14039	0.92084
	B	!A	0.02794	0.11362	0.70278
	B	!A	0.06390	0.14981	0.73883

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

Cell Name	Input	When	Power(pJ)		
			first	mid	last
gf180mcu_osu_sc_gp12t3v3__xor2_1	A	B	0.03058	0.15121	0.92722
	A	B	0.08000	0.20052	0.97732
	A	!B	0.06593	0.15581	0.74265
	A	!B	0.02457	0.11462	0.70283
	B	A	0.03113	0.14974	0.90318
	B	A	0.07543	0.19406	0.94742
	B	!A	0.07061	0.16064	0.74752
	B	!A	0.03334	0.12352	0.71044