

sg13g2_io_typ_1p5V_3p3V_25C Library

Cell Groups
INOUTx
INPUT
SG13G2_IOPADIOVDD
SG13G2_IOPADIOVSS
SG13G2_IOPADVDD
SG13G2_IOPADVSS
TRI_OUTx

INOUTx



*sg13g2_io_typ_1p5V_3p3V_25C Cell Library: Process
sg13g2_io_typ_1p5V_3p3V_25C, Voltage 1.50, Temp 25.00*

Truth Table

INPUT			OUTPUT	
c2p	c2p_en	pad	pad	p2c
-	0	0	-	0
-	0	1	-	1
0	1	-	0	0
1	1	-	1	1

Footprint

Cell Name	Area
sg13g2_IOPadInOut16mA	14400.00000
sg13g2_IOPadInOut30mA	14400.00000
sg13g2_IOPadInOut4mA	14400.00000
sg13g2_IOPadOut16mA	14400.00000
sg13g2_IOPadOut30mA	14400.00000
sg13g2_IOPadOut4mA	14400.00000

Pin Capacitance Information

Cell Name	Pin Cap(pf)			Max Cap(pf)	
	c2p	c2p_en	pad	p2c	pad
sg13g2_IOPadInOut16mA	0.02931	0.02647	0.26522	1.12021	4.20260
sg13g2_IOPadInOut30mA	0.02931	0.02647	0.35428	1.12098	4.70188
sg13g2_IOPadInOut4mA	0.02931	0.02646	0.18869	1.12076	1.07635
sg13g2_IOPadOut16mA	0.04116	0.00000	0.00000	0.00000	4.21526
sg13g2_IOPadOut30mA	0.04115	0.00000	0.00000	0.00000	4.43775
sg13g2_IOPadOut4mA	0.04116	0.00000	0.00000	0.00000	1.11160

Leakage Information

Cell Name	Leakage(pW)		
	Min.	Avg	Max.
sg13g2_IOPadInOut16mA	4.74047	5864.34000	6204.40000
sg13g2_IOPadInOut30mA	0.00000	6009.33000	6203.70000
sg13g2_IOPadInOut4mA	0.00000	5693.01000	6204.94000
sg13g2_IOPadOut16mA	201.68200	1722.72000	1934.07000
sg13g2_IOPadOut30mA	406.78200	2031.12000	2031.12000
sg13g2_IOPadOut4mA	118.79500	1547.73000	1934.09000

Delay Information

Delay(ns) to p2c rising :

Cell Name	Timing Arc(Dir)	Delay(ns)								
		Slew(ns)	Load(pf)	First	Slew(ns)	Load(pf)	Mid	Slew(ns)	Load(pf)	Last
sg13g2_IOPadInOut16mA	pad->p2c (RR)	0.12000	0.02400	0.07450	0.60000	0.14400	0.13724	3.50000	0.24000	0.18441
sg13g2_IOPadInOut30mA	pad->p2c (RR)	0.12000	0.02400	0.07456	0.60000	0.14400	0.13741	3.50000	0.24000	0.18464
sg13g2_IOPadInOut4mA	pad->p2c (RR)	0.12000	0.02400	0.07451	0.60000	0.14400	0.13719	3.50000	0.24000	0.18440

Delay(ns) to p2c falling :

Cell Name	Timing Arc(Dir)	Delay(ns)								
		Slew(ns)	Load(pf)	First	Slew(ns)	Load(pf)	Mid	Slew(ns)	Load(pf)	Last
sg13g2_IOPadInOut16mA	pad->p2c (FF)	0.12000	0.02400	0.27805	0.60000	0.14400	0.57456	3.50000	0.24000	2.00009
sg13g2_IOPadInOut30mA	pad->p2c (FF)	0.12000	0.02400	0.27768	0.60000	0.14400	0.57496	3.50000	0.24000	2.00076
sg13g2_IOPadInOut4mA	pad->p2c (FF)	0.12000	0.02400	0.27804	0.60000	0.14400	0.57488	3.50000	0.24000	2.00114

Delay(ns) to pad rising :

Cell Name	Timing Arc(Dir)	Delay(ns)								
		Slew(ns)	Load(pf)	First	Slew(ns)	Load(pf)	Mid	Slew(ns)	Load(pf)	Last
sg13g2_IOPadInOut16mA	c2p->pad (RR)	0.02000	1.00000	1.42673	0.33000	4.00000	1.86820	2.50000	10.00000	2.55885
	c2p_en->pad (FR)	0.02000	1.00000	1.00927	0.33000	4.00000	1.06724	2.50000	10.00000	1.22255
	c2p_en->pad (RR)	0.02000	1.00000	1.42241	0.33000	4.00000	1.88879	2.50000	10.00000	2.63066
sg13g2_IOPadInOut30mA	c2p->pad (RR)	0.02000	1.00000	1.63474	0.33000	4.00000	2.01808	2.50000	10.00000	2.49833
	c2p_en->pad (FR)	0.02000	1.00000	1.20519	0.33000	4.00000	1.25783	2.50000	10.00000	1.42213
	c2p_en->pad (RR)	0.02000	1.00000	1.61077	0.33000	4.00000	2.02816	2.50000	10.00000	2.55087
sg13g2_IOPadInOut4mA	c2p->pad (RR)	0.02000	1.00000	1.43970	0.33000	4.00000	2.76834	2.50000	10.00000	5.37736
	c2p_en->pad (FR)	0.02000	1.00000	0.81998	0.33000	4.00000	0.87380	2.50000	10.00000	1.03075
	c2p_en->pad (RR)	0.02000	1.00000	1.44790	0.33000	4.00000	2.83119	2.50000	10.00000	5.55877
sg13g2_IOPadOut16mA	c2p->pad (RR)	0.02000	1.00000	1.39325	0.33000	9.00000	2.48275	2.50000	15.00000	3.75372
sg13g2_IOPadOut30mA	c2p->pad (RR)	0.02000	2.00000	1.74656	0.33000	18.00000	3.05503	2.50000	30.00000	4.38980
sg13g2_IOPadOut4mA	c2p->pad (RR)	0.02000	1.00000	1.39454	0.33000	4.00000	2.80381	2.50000	10.00000	6.01662

Delay(ns) to pad falling :

Cell Name	Timing Arc(Dir)	Delay(ns)								
		Slew(ns)	Load(pf)	First	Slew(ns)	Load(pf)	Mid	Slew(ns)	Load(pf)	Last
sg13g2_IOPadInOut16mA	c2p->pad (FF)	0.02000	1.00000	1.01423	0.33000	4.00000	1.41553	2.50000	10.00000	2.29042
	c2p_en->pad (FF)	0.02000	1.00000	1.00731	0.33000	4.00000	1.06609	2.50000	10.00000	1.28822
	c2p_en->pad (RF)	0.02000	1.00000	0.84616	0.33000	4.00000	1.27336	2.50000	10.00000	1.98270
sg13g2_IOPadInOut30mA	c2p->pad (FF)	0.02000	1.00000	1.29360	0.33000	4.00000	1.58772	2.50000	10.00000	2.22706
	c2p_en->pad (FF)	0.02000	1.00000	1.59956	0.33000	4.00000	1.65708	2.50000	10.00000	1.85614
	c2p_en->pad (RF)	0.02000	1.00000	0.90404	0.33000	4.00000	1.23447	2.50000	10.00000	1.67906
sg13g2_IOPadInOut4mA	c2p->pad (FF)	0.02000	1.00000	1.06863	0.33000	4.00000	2.40850	2.50000	10.00000	5.24545
	c2p_en->pad (FF)	0.02000	1.00000	0.51171	0.33000	4.00000	0.57809	2.50000	10.00000	0.80349
	c2p_en->pad (RF)	0.02000	1.00000	1.08935	0.33000	4.00000	2.52139	2.50000	10.00000	5.33553
sg13g2_IOPadOut16mA	c2p->pad (FF)	0.02000	1.00000	0.96351	0.33000	9.00000	1.84949	2.50000	15.00000	2.59009
sg13g2_IOPadOut30mA	c2p->pad (FF)	0.02000	2.00000	1.33307	0.33000	18.00000	2.33801	2.50000	30.00000	3.09804
sg13g2_IOPadOut4mA	c2p->pad (FF)	0.02000	1.00000	0.99634	0.33000	4.00000	2.31380	2.50000	10.00000	4.99779

Power Information

Internal switching power(pJ) to p2c rising :

Cell Name	Input	Power(pJ)								
		Slew(ns)	Load(pf)	First	Slew(ns)	Load(pf)	Mid	Slew(ns)	Load(pf)	Last
sg13g2_IOPadInOut16mA	pad	0.12000	0.02400	-0.62189	0.60000	0.14400	-0.62527	3.50000	0.24000	-0.62270
	pad	0.12000	0.02400	0.00873	0.60000	0.14400	0.00703	3.50000	0.24000	0.01087
sg13g2_IOPadInOut30mA	pad	0.12000	0.02400	-1.18392	0.60000	0.14400	-1.18851	3.50000	0.24000	-1.17794
	pad	0.12000	0.02400	0.00851	0.60000	0.14400	0.00699	3.50000	0.24000	0.01041
sg13g2_IOPadInOut4mA	pad	0.12000	0.02400	-0.15595	0.60000	0.14400	-0.15625	3.50000	0.24000	-0.15563
	pad	0.12000	0.02400	0.00877	0.60000	0.14400	0.00700	3.50000	0.24000	0.01035

Internal switching power(pJ) to p2c falling :

Cell Name	Input	Power(pJ)								
		Slew(ns)	Load(pf)	First	Slew(ns)	Load(pf)	Mid	Slew(ns)	Load(pf)	Last
sg13g2_IOPadInOut16mA	pad	0.12000	0.02400	0.62507	0.60000	0.14400	0.62527	3.50000	0.24000	0.62270
	pad	0.12000	0.02400	0.08247	0.60000	0.14400	0.07639	3.50000	0.24000	0.08296
sg13g2_IOPadInOut30mA	pad	0.12000	0.02400	1.18806	0.60000	0.14400	1.18851	3.50000	0.24000	1.18330
	pad	0.12000	0.02400	0.07919	0.60000	0.14400	0.07290	3.50000	0.24000	0.07975
sg13g2_IOPadInOut4mA	pad	0.12000	0.02400	0.15619	0.60000	0.14400	0.15625	3.50000	0.24000	0.15563
	pad	0.12000	0.02400	0.07909	0.60000	0.14400	0.07291	3.50000	0.24000	0.07925

Internal switching power(pJ) to pad rising :

Cell Name	Input	Power(pJ)								
		Slew(ns)	Load(pf)	First	Slew(ns)	Load(pf)	Mid	Slew(ns)	Load(pf)	Last
sg13g2_IOPadInOut16mA	c2p	0.02000	1.00000	6.38991	0.33000	4.00000	6.27386	2.50000	10.00000	5.99419
	c2p	0.02000	1.00000	2.30044	0.33000	4.00000	8.96233	2.50000	10.00000	21.18570
	c2p_en	0.02000	1.00000	6.15738	0.33000	4.00000	6.98168	2.50000	10.00000	8.57746
	c2p_en	0.02000	1.00000	2.25851	0.33000	4.00000	8.92114	2.50000	10.00000	21.18680
sg13g2_IOPadInOut30mA	c2p	0.02000	1.00000	10.28550	0.33000	4.00000	9.88307	2.50000	10.00000	9.49106
	c2p	0.02000	1.00000	2.29806	0.33000	4.00000	8.99923	2.50000	10.00000	16.01350
	c2p_en	0.02000	1.00000	9.33515	0.33000	4.00000	10.23990	2.50000	10.00000	12.04990
	c2p_en	0.02000	1.00000	2.25597	0.33000	4.00000	8.96481	2.50000	10.00000	15.52500
sg13g2_IOPadInOut4mA	c2p	0.02000	1.00000	3.49929	0.33000	4.00000	3.41771	2.50000	10.00000	3.07484
	c2p	0.02000	1.00000	2.30563	0.33000	4.00000	9.03058	2.50000	10.00000	22.73880
	c2p_en	0.02000	1.00000	3.38301	0.33000	4.00000	3.95423	2.50000	10.00000	5.09573
	c2p_en	0.02000	1.00000	2.26139	0.33000	4.00000	8.99394	2.50000	10.00000	22.76350
sg13g2_IOPadOut16mA	c2p	0.02000	1.00000	6.16610	0.33000	9.00000	6.01663	2.50000	15.00000	5.97432
	c2p	0.02000	1.00000	-0.01693	0.33000	9.00000	0.01525	2.50000	15.00000	0.33372
sg13g2_IOPadOut30mA	c2p	0.02000	2.00000	9.96652	0.33000	18.00000	9.41906	2.50000	30.00000	9.32712
	c2p	0.02000	2.00000	-0.01693	0.33000	18.00000	0.01521	2.50000	30.00000	0.33867
sg13g2_IOPadOut4mA	c2p	0.02000	1.00000	3.14078	0.33000	4.00000	3.07134	2.50000	10.00000	3.05986
	c2p	0.02000	1.00000	-0.01694	0.33000	4.00000	0.01521	2.50000	10.00000	0.33884

Internal switching power(pJ) to pad falling :

Cell Name	Input	Power(pJ)								
		Slew(ns)	Load(pf)	First	Slew(ns)	Load(pf)	Mid	Slew(ns)	Load(pf)	Last
sg13g2_IOPadInOut16mA	c2p	0.02000	1.00000	13.90640	0.33000	4.00000	10.75130	2.50000	10.00000	7.96851
	c2p	0.02000	1.00000	0.26218	0.33000	4.00000	0.28577	2.50000	10.00000	0.61317
	c2p_en	0.02000	1.00000	2.42454	0.33000	4.00000	2.41779	2.50000	10.00000	2.41841
	c2p_en	0.02000	1.00000	0.13253	0.33000	4.00000	0.14785	2.50000	10.00000	0.33053
sg13g2_IOPadInOut30mA	c2p	0.02000	1.00000	55.22100	0.33000	4.00000	47.51160	2.50000	10.00000	36.55050
	c2p	0.02000	1.00000	0.26241	0.33000	4.00000	0.28581	2.50000	10.00000	0.61115
	c2p_en	0.02000	1.00000	4.08812	0.33000	4.00000	4.09329	2.50000	10.00000	4.09288
	c2p_en	0.02000	1.00000	0.13253	0.33000	4.00000	0.14795	2.50000	10.00000	0.32555
sg13g2_IOPadInOut4mA	c2p	0.02000	1.00000	1.74488	0.33000	4.00000	1.73141	2.50000	10.00000	1.72804
	c2p	0.02000	1.00000	0.26196	0.33000	4.00000	0.28746	2.50000	10.00000	0.61826
	c2p_en	0.02000	1.00000	1.00758	0.33000	4.00000	1.00591	2.50000	10.00000	1.00627
	c2p_en	0.02000	1.00000	0.13279	0.33000	4.00000	0.15065	2.50000	10.00000	0.34171
sg13g2_IOPadOut16mA	c2p	0.02000	1.00000	15.10200	0.33000	9.00000	9.01564	2.50000	15.00000	7.74988
	c2p	0.02000	1.00000	0.08761	0.33000	9.00000	0.12545	2.50000	15.00000	0.44270
sg13g2_IOPadOut30mA	c2p	0.02000	2.00000	54.31710	0.33000	18.00000	32.13680	2.50000	30.00000	26.46280
	c2p	0.02000	2.00000	0.08762	0.33000	18.00000	0.12543	2.50000	30.00000	0.44558
sg13g2_IOPadOut4mA	c2p	0.02000	1.00000	1.88419	0.33000	4.00000	1.80866	2.50000	10.00000	1.78886
	c2p	0.02000	1.00000	0.08764	0.33000	4.00000	0.12535	2.50000	10.00000	0.44825

Passive power(pJ) for c2p rising :

Cell Name	Power(pJ)					
	Slew(ns)	First	Slew(ns)	Mid	Slew(ns)	Last
sg13g2_IOPadInOut16mA	0.02000	-0.00001	0.33000	0.00000	2.50000	0.00000
	0.02000	-0.02676	0.33000	-0.02828	2.50000	-0.02865
sg13g2_IOPadInOut30mA	0.02000	-0.00001	0.33000	0.00000	2.50000	0.00000
	0.02000	-0.02676	0.33000	-0.02828	2.50000	-0.02865
sg13g2_IOPadInOut4mA	0.02000	-0.00001	0.33000	0.00000	2.50000	0.00000
	0.02000	-0.02676	0.33000	-0.02828	2.50000	-0.02865

Passive power(pJ) for c2p falling :

Cell Name	Power(pJ)					
	Slew(ns)	First	Slew(ns)	Mid	Slew(ns)	Last
sg13g2_IOPadInOut16mA	0.02000	0.00001	0.33000	0.00000	2.50000	0.00000
	0.02000	0.03561	0.33000	0.03504	2.50000	0.03496
sg13g2_IOPadInOut30mA	0.02000	0.00001	0.33000	0.00000	2.50000	0.00000
	0.02000	0.03561	0.33000	0.03504	2.50000	0.03496
sg13g2_IOPadInOut4mA	0.02000	0.00001	0.33000	0.00000	2.50000	0.00000
	0.02000	0.03561	0.33000	0.03504	2.50000	0.03496

Passive power(pJ) for c2p rising (conditional):

Cell Name	When	Power(pJ)					
		Slew(ns)	First	Slew(ns)	Mid	Slew(ns)	Last
sg13g2_IOPadInOut16mA	(!c2p_en * pad * p2c)	0.02000	-0.00001	0.33000	0.00000	2.50000	0.00000
	(!c2p_en * pad * p2c)	0.02000	-0.02676	0.33000	-0.02828	2.50000	-0.02865
	(!c2p_en * !pad * !p2c)	0.02000	-0.00001	0.33000	0.00000	2.50000	0.00000
	(!c2p_en * !pad * !p2c)	0.02000	-0.02676	0.33000	-0.02828	2.50000	-0.02865
sg13g2_IOPadInOut30mA	(!c2p_en * pad * p2c)	0.02000	-0.00001	0.33000	0.00000	2.50000	0.00000
	(!c2p_en * pad * p2c)	0.02000	-0.02676	0.33000	-0.02828	2.50000	-0.02865
	(!c2p_en * !pad * !p2c)	0.02000	-0.00001	0.33000	0.00000	2.50000	0.00000
	(!c2p_en * !pad * !p2c)	0.02000	-0.02676	0.33000	-0.02828	2.50000	-0.02865
sg13g2_IOPadInOut4mA	(!c2p_en * pad * p2c)	0.02000	-0.00001	0.33000	0.00000	2.50000	0.00000
	(!c2p_en * pad * p2c)	0.02000	-0.02676	0.33000	-0.02828	2.50000	-0.02865
	(!c2p_en * !pad * !p2c)	0.02000	-0.00001	0.33000	0.00000	2.50000	0.00000
	(!c2p_en * !pad * !p2c)	0.02000	-0.02676	0.33000	-0.02828	2.50000	-0.02865

Passive power(pJ) for c2p falling (conditional):

Cell Name	When	Power(pJ)					
		Slew(ns)	First	Slew(ns)	Mid	Slew(ns)	Last
sg13g2_IOPadInOut16mA	(!c2p_en * pad * p2c)	0.02000	0.00001	0.33000	0.00000	2.50000	0.00000
	(!c2p_en * pad * p2c)	0.02000	0.03561	0.33000	0.03504	2.50000	0.03496
	(!c2p_en * !pad * !p2c)	0.02000	0.00001	0.33000	0.00000	2.50000	0.00000
	(!c2p_en * !pad * !p2c)	0.02000	0.03561	0.33000	0.03504	2.50000	0.03496
sg13g2_IOPadInOut30mA	(!c2p_en * pad * p2c)	0.02000	0.00001	0.33000	0.00000	2.50000	0.00000
	(!c2p_en * pad * p2c)	0.02000	0.03561	0.33000	0.03504	2.50000	0.03496
	(!c2p_en * !pad * !p2c)	0.02000	0.00001	0.33000	0.00000	2.50000	0.00000
	(!c2p_en * !pad * !p2c)	0.02000	0.03561	0.33000	0.03504	2.50000	0.03496
sg13g2_IOPadInOut4mA	(!c2p_en * pad * p2c)	0.02000	0.00001	0.33000	0.00000	2.50000	0.00000
	(!c2p_en * pad * p2c)	0.02000	0.03561	0.33000	0.03504	2.50000	0.03496
	(!c2p_en * !pad * !p2c)	0.02000	0.00001	0.33000	0.00000	2.50000	0.00000
	(!c2p_en * !pad * !p2c)	0.02000	0.03561	0.33000	0.03504	2.50000	0.03496

Passive power(pJ) for c2p_en rising :

Cell Name	Power(pJ)					
	Slew(ns)	First	Slew(ns)	Mid	Slew(ns)	Last
sg13g2_IOPadInOut16mA	0.02000	1.62267	0.33000	1.62340	2.50000	1.62467
	0.02000	0.05273	0.33000	0.06893	2.50000	0.25642
sg13g2_IOPadInOut30mA	0.02000	2.58273	0.33000	2.58307	2.50000	2.60303
	0.02000	0.05272	0.33000	0.06887	2.50000	0.25614
sg13g2_IOPadInOut4mA	0.02000	0.80604	0.33000	0.80663	2.50000	0.80655
	0.02000	0.05273	0.33000	0.06893	2.50000	0.25600

Passive power(pJ) for c2p_en falling :

Cell Name	Power(pJ)					
	Slew(ns)	First	Slew(ns)	Mid	Slew(ns)	Last
sg13g2_IOPadInOut16mA	0.02000	0.26943	0.33000	0.26737	2.50000	0.26517
	0.02000	0.12756	0.33000	0.14620	2.50000	0.33598
sg13g2_IOPadInOut30mA	0.02000	0.25895	0.33000	0.25679	2.50000	0.25429
	0.02000	0.12756	0.33000	0.14620	2.50000	0.33612
sg13g2_IOPadInOut4mA	0.02000	0.29353	0.33000	0.29220	2.50000	0.28966
	0.02000	0.12756	0.33000	0.14620	2.50000	0.33600

Passive power(pJ) for pad rising :

Cell Name	Power(pJ)					
	Slew(ns)	First	Slew(ns)	Mid	Slew(ns)	Last
sg13g2_IOPadInOut16mA	0.02000	6.38991	0.33000	6.27386	2.50000	5.99419
	0.02000	2.30044	0.33000	8.96233	2.50000	21.18570
	0.02000	6.15738	0.33000	6.98168	2.50000	8.57746
	0.02000	2.25851	0.33000	8.92114	2.50000	21.18680
sg13g2_IOPadInOut30mA	0.02000	10.28550	0.33000	9.88307	2.50000	9.49106
	0.02000	2.29806	0.33000	8.99923	2.50000	16.01350
	0.02000	9.33515	0.33000	10.23990	2.50000	12.04990
	0.02000	2.25597	0.33000	8.96481	2.50000	15.52500
sg13g2_IOPadInOut4mA	0.02000	3.49929	0.33000	3.41771	2.50000	3.07484
	0.02000	2.30563	0.33000	9.03058	2.50000	22.73880
	0.02000	3.38301	0.33000	3.95423	2.50000	5.09573
	0.02000	2.26139	0.33000	8.99394	2.50000	22.76350
sg13g2_IOPadOut16mA	0.02000	6.16610	0.33000	6.01663	2.50000	5.97432
	0.02000	-0.01693	0.33000	0.01525	2.50000	0.33372
sg13g2_IOPadOut30mA	0.02000	9.96652	0.33000	9.41906	2.50000	9.32712
	0.02000	-0.01693	0.33000	0.01521	2.50000	0.33867
sg13g2_IOPadOut4mA	0.02000	3.14078	0.33000	3.07134	2.50000	3.05986
	0.02000	-0.01694	0.33000	0.01521	2.50000	0.33884

Passive power(pJ) for pad falling :

Cell Name	Power(pJ)					
	Slew(ns)	First	Slew(ns)	Mid	Slew(ns)	Last
sg13g2_IOPadInOut16mA	0.02000	13.90640	0.33000	10.75130	2.50000	7.96851
	0.02000	0.26218	0.33000	0.28577	2.50000	0.61317
	0.02000	2.42454	0.33000	2.41779	2.50000	2.41841
	0.02000	0.13253	0.33000	0.14785	2.50000	0.33053
sg13g2_IOPadInOut30mA	0.02000	55.22100	0.33000	47.51160	2.50000	36.55050
	0.02000	0.26241	0.33000	0.28581	2.50000	0.61115
	0.02000	4.08812	0.33000	4.09329	2.50000	4.09288
	0.02000	0.13253	0.33000	0.14795	2.50000	0.32555
sg13g2_IOPadInOut4mA	0.02000	1.74488	0.33000	1.73141	2.50000	1.72804
	0.02000	0.26196	0.33000	0.28746	2.50000	0.61826
	0.02000	1.00758	0.33000	1.00591	2.50000	1.00627
	0.02000	0.13279	0.33000	0.15065	2.50000	0.34171
sg13g2_IOPadOut16mA	0.02000	15.10200	0.33000	9.01564	2.50000	7.74988
	0.02000	0.08761	0.33000	0.12545	2.50000	0.44270
sg13g2_IOPadOut30mA	0.02000	54.31710	0.33000	32.13680	2.50000	26.46280
	0.02000	0.08762	0.33000	0.12543	2.50000	0.44558
sg13g2_IOPadOut4mA	0.02000	1.88419	0.33000	1.80866	2.50000	1.78886
	0.02000	0.08764	0.33000	0.12535	2.50000	0.44825

INPUT



*sg13g2_io_typ_1p5V_3p3V_25C Cell Library: Process
sg13g2_io_typ_1p5V_3p3V_25C, Voltage 1.50, Temp 25.00*

Truth Table

INPUT	OUTPUT
pad	p2c
0	0
1	1

Footprint

Cell Name	Area
sg13g2_IOPadIn	14400.00000

Pin Capacitance Information

Cell Name	Pin Cap(pf)	Max Cap(pf)
	pad	p2c
sg13g2_IOPadIn	0.22075	1.12616

Leakage Information

Cell Name	Leakage(pW)		
	Min.	Avg	Max.
sg13g2_IOPadIn	0.00000	704.85200	970.85300

Delay Information

Delay(ns) to p2c rising :

Cell Name	Timing Arc(Dir)	Delay(ns)								
		Slew(ns)	Load(pf)	First	Slew(ns)	Load(pf)	Mid	Slew(ns)	Load(pf)	Last
sg13g2_IOPadIn	pad->p2c (RR)	0.12000	0.02400	0.07430	0.60000	0.14400	0.13711	3.50000	0.24000	0.18432

Delay(ns) to p2c falling :

Cell Name	Timing Arc(Dir)	Delay(ns)								
		Slew(ns)	Load(pf)	First	Slew(ns)	Load(pf)	Mid	Slew(ns)	Load(pf)	Last
sg13g2_IOPadIn	pad->p2c (FF)	0.12000	0.02400	0.27784	0.60000	0.14400	0.57437	3.50000	0.24000	2.00204

Power Information

Internal switching power(pJ) to p2c rising :

Cell Name	Input	Power(pJ)								
		Slew(ns)	Load(pf)	First	Slew(ns)	Load(pf)	Mid	Slew(ns)	Load(pf)	Last
sg13g2_IOPadIn	pad	0.12000	0.02400	0.00000	0.60000	0.14400	0.00000	3.50000	0.24000	0.00000
	pad	0.12000	0.02400	0.00854	0.60000	0.14400	0.00699	3.50000	0.24000	0.01199

Internal switching power(pJ) to p2c falling :

Cell Name	Input	Power(pJ)								
		Slew(ns)	Load(pf)	First	Slew(ns)	Load(pf)	Mid	Slew(ns)	Load(pf)	Last
sg13g2_IOPadIn	pad	0.12000	0.02400	-0.00000	0.60000	0.14400	-0.00000	3.50000	0.24000	-0.00000
	pad	0.12000	0.02400	0.07909	0.60000	0.14400	0.07305	3.50000	0.24000	0.08021

SG13G2_IOPADIOVDD



sg13g2_io_typ_1p5V_3p3V_25C

Cell Library: Process

sg13g2_io_typ_1p5V_3p3V_25C,

Voltage 1.50, Temp 25.00

Footprint

Cell Name	Area
sg13g2_IOPadIOVdd	14400.00000

Pin Capacitance Information

Leakage Information

Cell Name	Leakage(pW)		
	Min.	Avg	Max.
sg13g2_IOPadIOVdd	0.00000	4853.24000	4853.24000

SG13G2_IOPADIOVSS



sg13g2_io_typ_1p5V_3p3V_25C
Cell Library: Process
sg13g2_io_typ_1p5V_3p3V_25C,
Voltage 1.50, Temp 25.00

Footprint

Cell Name	Area
sg13g2_IOPadIOVss	14400.00000

Pin Capacitance Information

Leakage Information

Cell Name	Leakage(pW)		
	Min.	Avg	Max.
sg13g2_IOPadIOVss	0.00000	2.36698	2.36698

SG13G2_IOPADVDD



sg13g2_io_typ_1p5V_3p3V_25C
Cell Library: Process
sg13g2_io_typ_1p5V_3p3V_25C,
Voltage 1.50, Temp 25.00

Footprint

Cell Name	Area
sg13g2_IOPadVdd	14400.00000

Pin Capacitance Information

Leakage Information

Cell Name	Leakage(pW)		
	Min.	Avg	Max.
sg13g2_IOPadVdd	0.00000	0.00000	0.00000

SG13G2_IOPADVSS



sg13g2_io_typ_1p5V_3p3V_25C
Cell Library: Process
sg13g2_io_typ_1p5V_3p3V_25C,
Voltage 1.50, Temp 25.00

Footprint

Cell Name	Area
sg13g2_IOPadVss	14400.00000

Pin Capacitance Information

Leakage Information

Cell Name	Leakage(pW)		
	Min.	Avg	Max.
sg13g2_IOPadVss	0.00000	1.48806	1.48806

TRI_OUTx



*sg13g2_io_typ_1p5V_3p3V_25C Cell Library: Process
sg13g2_io_typ_1p5V_3p3V_25C, Voltage 1.50, Temp
25.00*

Truth Table

INPUT		OUTPUT
c2p	c2p_en	pad
-	0	HiZ
0	1	0
1	1	1

Footprint

Cell Name	Area
sg13g2_IOPadTriOut16mA	14400.00000
sg13g2_IOPadTriOut30mA	14400.00000
sg13g2_IOPadTriOut4mA	14400.00000

Pin Capacitance Information

Cell Name	Pin Cap(pf)		Max Cap(pf)
	c2p	c2p_en	pad
sg13g2_IOPadTriOut16mA	0.02901	0.02723	4.21412
sg13g2_IOPadTriOut30mA	0.02901	0.02722	4.71391
sg13g2_IOPadTriOut4mA	0.02901	0.02722	1.11192

Leakage Information

Cell Name	Leakage(pW)		
	Min.	Avg	Max.
sg13g2_IOPadTriOut16mA	173.44600	5162.71000	5696.72000
sg13g2_IOPadTriOut30mA	281.63900	5353.24000	5697.24000
sg13g2_IOPadTriOut4mA	13.83420	4942.98000	5697.08000

Delay Information

Delay(ns) to pad rising :

Cell Name	Timing Arc(Dir)	Delay(ns)								
		Slew(ns)	Load(pf)	First	Slew(ns)	Load(pf)	Mid	Slew(ns)	Load(pf)	Last
sg13g2_IOPadTriOut16mA	c2p->pad (RR)	0.02000	1.00000	1.44030	0.33000	4.00000	1.88770	2.50000	10.00000	2.57755
	c2p_en->pad (FR)	0.02000	1.00000	1.03068	0.33000	4.00000	1.08696	2.50000	10.00000	1.24181
	c2p_en->pad (RR)	0.02000	1.00000	1.43559	0.33000	4.00000	1.90854	2.50000	10.00000	2.65336
sg13g2_IOPadTriOut30mA	c2p->pad (RR)	0.02000	1.00000	1.65136	0.33000	4.00000	2.03887	2.50000	10.00000	2.52218
	c2p_en->pad (FR)	0.02000	1.00000	1.22587	0.33000	4.00000	1.27852	2.50000	10.00000	1.44349
	c2p_en->pad (RR)	0.02000	1.00000	1.62274	0.33000	4.00000	2.04660	2.50000	10.00000	2.57383
sg13g2_IOPadTriOut4mA	c2p->pad (RR)	0.02000	1.00000	1.44340	0.33000	4.00000	2.77263	2.50000	10.00000	5.38500
	c2p_en->pad (FR)	0.02000	1.00000	0.84152	0.33000	4.00000	0.89230	2.50000	10.00000	1.04993
	c2p_en->pad (RR)	0.02000	1.00000	1.45139	0.33000	4.00000	2.84105	2.50000	10.00000	5.57985

Delay(ns) to pad falling :

Cell Name	Timing Arc(Dir)	Delay(ns)								
		Slew(ns)	Load(pf)	First	Slew(ns)	Load(pf)	Mid	Slew(ns)	Load(pf)	Last
sg13g2_IOPadTriOut16mA	c2p->pad (FF)	0.02000	1.00000	1.02748	0.33000	4.00000	1.43002	2.50000	10.00000	2.30511
	c2p_en->pad (FF)	0.02000	1.00000	1.01482	0.33000	4.00000	1.09131	2.50000	10.00000	1.30372
	c2p_en->pad (RF)	0.02000	1.00000	0.85592	0.33000	4.00000	1.28647	2.50000	10.00000	2.00107
sg13g2_IOPadTriOut30mA	c2p->pad (FF)	0.02000	1.00000	1.30984	0.33000	4.00000	1.60637	2.50000	10.00000	2.24274
	c2p_en->pad (FF)	0.02000	1.00000	1.61610	0.33000	4.00000	1.67892	2.50000	10.00000	1.87234
	c2p_en->pad (RF)	0.02000	1.00000	0.91348	0.33000	4.00000	1.24759	2.50000	10.00000	1.69839
sg13g2_IOPadTriOut4mA	c2p->pad (FF)	0.02000	1.00000	1.07065	0.33000	4.00000	2.40932	2.50000	10.00000	5.24335
	c2p_en->pad (FF)	0.02000	1.00000	0.52451	0.33000	4.00000	0.59042	2.50000	10.00000	0.81693
	c2p_en->pad (RF)	0.02000	1.00000	1.08992	0.33000	4.00000	2.52207	2.50000	10.00000	5.33656

Power Information

Internal switching power(pJ) to pad rising :

Cell Name	Input	Power(pJ)								
		Slew(ns)	Load(pf)	First	Slew(ns)	Load(pf)	Mid	Slew(ns)	Load(pf)	Last
sg13g2_IOPadTriOut16mA	c2p	0.02000	1.00000	6.12555	0.33000	4.00000	6.11615	2.50000	10.00000	5.92588
	c2p	0.02000	1.00000	0.07605	0.33000	4.00000	0.09700	2.50000	10.00000	0.42646
	c2p_en	0.02000	1.00000	5.88109	0.33000	4.00000	6.86912	2.50000	10.00000	8.65488
	c2p_en	0.02000	1.00000	0.03270	0.33000	4.00000	0.06388	2.50000	10.00000	0.41106
sg13g2_IOPadTriOut30mA	c2p	0.02000	1.00000	10.12470	0.33000	4.00000	9.75932	2.50000	10.00000	9.61175
	c2p	0.02000	1.00000	0.07620	0.33000	4.00000	0.09697	2.50000	10.00000	0.42661
	c2p_en	0.02000	1.00000	9.04711	0.33000	4.00000	10.12140	2.50000	10.00000	12.04290
	c2p_en	0.02000	1.00000	0.03269	0.33000	4.00000	0.06386	2.50000	10.00000	0.40765
sg13g2_IOPadTriOut4mA	c2p	0.02000	1.00000	3.14242	0.33000	4.00000	3.04927	2.50000	10.00000	2.87258
	c2p	0.02000	1.00000	0.07629	0.33000	4.00000	0.09706	2.50000	10.00000	0.42615
	c2p_en	0.02000	1.00000	3.03314	0.33000	4.00000	3.65742	2.50000	10.00000	4.92393
	c2p_en	0.02000	1.00000	0.03277	0.33000	4.00000	0.06393	2.50000	10.00000	0.42079

Internal switching power(pJ) to pad falling :

Cell Name	Input	Power(pJ)								
		Slew(ns)	Load(pf)	First	Slew(ns)	Load(pf)	Mid	Slew(ns)	Load(pf)	Last
sg13g2_IOPadTriOut16mA	c2p	0.02000	1.00000	14.04510	0.33000	4.00000	10.87860	2.50000	10.00000	8.06673
	c2p	0.02000	1.00000	0.18942	0.33000	4.00000	0.21394	2.50000	10.00000	0.54082
	c2p_en	0.02000	1.00000	2.46806	0.33000	4.00000	2.46980	2.50000	10.00000	2.46821
	c2p_en	0.02000	1.00000	0.05744	0.33000	4.00000	0.07374	2.50000	10.00000	0.25672
sg13g2_IOPadTriOut30mA	c2p	0.02000	1.00000	55.35390	0.33000	4.00000	47.65600	2.50000	10.00000	36.76400
	c2p	0.02000	1.00000	0.18937	0.33000	4.00000	0.21388	2.50000	10.00000	0.54107
	c2p_en	0.02000	1.00000	4.13727	0.33000	4.00000	4.14320	2.50000	10.00000	4.14509
	c2p_en	0.02000	1.00000	0.05736	0.33000	4.00000	0.07364	2.50000	10.00000	0.25723
sg13g2_IOPadTriOut4mA	c2p	0.02000	1.00000	1.83117	0.33000	4.00000	1.81656	2.50000	10.00000	1.81290
	c2p	0.02000	1.00000	0.18968	0.33000	4.00000	0.21422	2.50000	10.00000	0.54150
	c2p_en	0.02000	1.00000	1.05078	0.33000	4.00000	1.04773	2.50000	10.00000	1.04775
	c2p_en	0.02000	1.00000	0.05770	0.33000	4.00000	0.07410	2.50000	10.00000	0.26248

Passive power(pJ) for c2p rising :

Cell Name	Power(pJ)					
	Slew(ns)	First	Slew(ns)	Mid	Slew(ns)	Last
sg13g2_IOPadTriOut16mA	0.02000	0.00000	0.33000	0.00000	2.50000	0.00000
	0.02000	-0.02676	0.33000	-0.02830	2.50000	-0.02871
sg13g2_IOPadTriOut30mA	0.02000	0.00000	0.33000	0.00000	2.50000	0.00000
	0.02000	-0.02676	0.33000	-0.02830	2.50000	-0.02871
sg13g2_IOPadTriOut4mA	0.02000	0.00000	0.33000	0.00000	2.50000	0.00000
	0.02000	-0.02676	0.33000	-0.02830	2.50000	-0.02871

Passive power(pJ) for c2p falling :

Cell Name	Power(pJ)					
	Slew(ns)	First	Slew(ns)	Mid	Slew(ns)	Last
sg13g2_IOPadTriOut16mA	0.02000	0.00000	0.33000	0.00000	2.50000	-0.00000
	0.02000	0.03381	0.33000	0.03346	2.50000	0.03322
sg13g2_IOPadTriOut30mA	0.02000	0.00000	0.33000	0.00000	2.50000	0.00000
	0.02000	0.03381	0.33000	0.03346	2.50000	0.03322
sg13g2_IOPadTriOut4mA	0.02000	0.00000	0.33000	0.00000	2.50000	0.00000
	0.02000	0.03369	0.33000	0.03346	2.50000	0.03322

Passive power(pJ) for c2p rising (conditional):

Cell Name	When	Power(pJ)					
		Slew(ns)	First	Slew(ns)	Mid	Slew(ns)	Last
sg13g2_IOPadTriOut16mA	!c2p_en	0.02000	0.00000	0.33000	0.00000	2.50000	0.00000
	!c2p_en	0.02000	-0.02676	0.33000	-0.02830	2.50000	-0.02871
sg13g2_IOPadTriOut30mA	!c2p_en	0.02000	0.00000	0.33000	0.00000	2.50000	0.00000
	!c2p_en	0.02000	-0.02676	0.33000	-0.02830	2.50000	-0.02871
sg13g2_IOPadTriOut4mA	!c2p_en	0.02000	0.00000	0.33000	0.00000	2.50000	0.00000
	!c2p_en	0.02000	-0.02676	0.33000	-0.02830	2.50000	-0.02871

Passive power(pJ) for c2p falling (conditional):

Cell Name	When	Power(pJ)					
		Slew(ns)	First	Slew(ns)	Mid	Slew(ns)	Last
sg13g2_IOPadTriOut16mA	!c2p_en	0.02000	0.00000	0.33000	0.00000	2.50000	-0.00000
	!c2p_en	0.02000	0.03381	0.33000	0.03346	2.50000	0.03322
sg13g2_IOPadTriOut30mA	!c2p_en	0.02000	0.00000	0.33000	0.00000	2.50000	0.00000
	!c2p_en	0.02000	0.03381	0.33000	0.03346	2.50000	0.03322
sg13g2_IOPadTriOut4mA	!c2p_en	0.02000	0.00000	0.33000	0.00000	2.50000	0.00000
	!c2p_en	0.02000	0.03369	0.33000	0.03346	2.50000	0.03322