# sg13g2_stdcell_typ_1p20V_25C Library

| Cell Groups |
| --- |
| A21OIx |
| A221OI |
| A22OI |
| AND2x |
| AND3x |
| AND4x |
| AO21x |
| BTLx |
| BUx |
| DECAPx |
| DFFRRx |
| DLHQ |
| DLHRQ |
| DLHR |
| DLLRQ |
| DLLR |
| DLY1 |
| DLY2 |
| DLY4 |
| EINVINx |
| GCLK |
| INx |
| ITL |

| |
|---|
| **KEEPSTATE** |
| **MUX2x** |
| **MUX4** |
| **NAND2B1** |
| **NAND2B2** |
| **NAND2x** |
| **NAND3B1** |
| **NAND3** |
| **NAND4** |
| **NOR2Bx** |
| **NOR2x** |
| **NOR3x** |
| **NOR4x** |
| **NP_ANT** |
| **O21AI** |
| **OR2x** |
| **OR3x** |
| **OR4x** |
| **SDFRRS** |
| **SGCLK** |
| **TIE0** |
| **TIE1** |
| **XNOR2_1** |
| **XOR2_1** |

# A21OIx

*sg13g2_stdcell_typ_1p20V_25C Cell Library: Process*
*sg13g2_stdcell_typ_1p20V_25C, Voltage 1.20, Temp 25.00*

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## Truth Table

| INPUT | | | OUTPUT |
|---|---|---|---|
| A1 | A2 | B1 | Y |
| 0 | x | 0 | 1 |
| x | x | 1 | 0 |
| 1 | 0 | 0 | 1 |
| 1 | 1 | x | 0 |

## Footprint

| Cell Name | Area |
|---|---|
| sg13g2_a21oi_2 | 14.51520 |
| sg13g2_a21oi_1 | 9.07200 |

## Pin Capacitance Information

| Cell Name | Pin Cap(pf) | | | Max Cap(pf) |
|---|---|---|---|---|
| | A1 | A2 | B1 | Y |
| sg13g2_a21oi_2 | 0.00551 | 0.00599 | 0.00539 | 0.60000 |
| sg13g2_a21oi_1 | 0.00287 | 0.00298 | 0.00275 | 0.30000 |

# Leakage Information

| Cell Name | Leakage(pW) | | |
|---|---|---|---|
| | Min. | Avg | Max. |
| **sg13g2_a21oi_2** | 173.82400 | 228.95100 | 292.06000 |
| **sg13g2_a21oi_1** | 86.91100 | 114.47500 | 146.03000 |

# Delay Information

**Delay(ns) to Y rising :**

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_a21oi_2 | A1->Y (FR) | 0.01860 | 0.00100 | **0.04243** | 0.32940 | 0.12960 | **0.53016** | 2.50740 | 0.60000 | **2.65942** |
| | A2->Y (FR) | 0.01860 | 0.00100 | **0.05075** | 0.32940 | 0.12960 | **0.53800** | 2.50740 | 0.60000 | **2.66548** |
| | B1->Y (FR) | 0.01860 | 0.00100 | **0.03994** | 0.32940 | 0.12960 | **0.54399** | 2.50740 | 0.60000 | **2.82131** |
| sg13g2_a21oi_1 | A1->Y (FR) | 0.01860 | 0.00100 | **0.04668** | 0.32940 | 0.06480 | **0.52944** | 2.50740 | 0.30000 | **2.65456** |
| | A2->Y (FR) | 0.01860 | 0.00100 | **0.05469** | 0.32940 | 0.06480 | **0.53885** | 2.50740 | 0.30000 | **2.66708** |
| | B1->Y (FR) | 0.01860 | 0.00100 | **0.04399** | 0.32940 | 0.06480 | **0.54353** | 2.50740 | 0.30000 | **2.82314** |

**Delay(ns) to Y falling :**

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_a21oi_2 | A1->Y (RF) | 0.01860 | 0.00100 | **0.03454** | 0.32940 | 0.12960 | **0.44197** | 2.50740 | 0.60000 | **2.40028** |
| | A2->Y (RF) | 0.01860 | 0.00100 | **0.03956** | 0.32940 | 0.12960 | **0.43566** | 2.50740 | 0.60000 | **2.29103** |
| | B1->Y (RF) | 0.01860 | 0.00100 | **0.01956** | 0.32940 | 0.12960 | **0.32348** | 2.50740 | 0.60000 | **1.90582** |
| sg13g2_a21oi_1 | A1->Y (RF) | 0.01860 | 0.00100 | **0.03795** | 0.32940 | 0.06480 | **0.44235** | 2.50740 | 0.30000 | **2.39935** |
| | A2->Y (RF) | 0.01860 | 0.00100 | **0.04258** | 0.32940 | 0.06480 | **0.43491** | 2.50740 | 0.30000 | **2.28967** |
| | B1->Y (RF) | 0.01860 | 0.00100 | **0.02127** | 0.32940 | 0.06480 | **0.32452** | 2.50740 | 0.30000 | **1.90877** |

**Delay(ns) to Y rising (conditional):**

| Cell Name | Timing Arc(Dir) | When | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_a21oi_2 | B1->Y (FR) | (A1 * !A2) | 0.01860 | 0.00100 | **0.03994** | 0.32940 | 0.12960 | **0.54399** | 2.50740 | 0.60000 | **2.82131** |
| | B1->Y (FR) | (!A1 * A2) | 0.01860 | 0.00100 | **0.03050** | 0.32940 | 0.12960 | **0.53426** | 2.50740 | 0.60000 | **2.81592** |
| | B1->Y (FR) | (!A1 * !A2) | 0.01860 | 0.00100 | **0.02550** | 0.32940 | 0.12960 | **0.44041** | 2.50740 | 0.60000 | **2.43552** |
| sg13g2_a21oi_1 | B1->Y (FR) | (A1 * !A2) | 0.01860 | 0.00100 | **0.04399** | 0.32940 | 0.06480 | **0.54353** | 2.50740 | 0.30000 | **2.82314** |
| | B1->Y (FR) | (!A1 * A2) | 0.01860 | 0.00100 | **0.03465** | 0.32940 | 0.06480 | **0.53307** | 2.50740 | 0.30000 | **2.80733** |
| | B1->Y (FR) | (!A1 * !A2) | 0.01860 | 0.00100 | **0.02856** | 0.32940 | 0.06480 | **0.44040** | 2.50740 | 0.30000 | **2.43316** |

## Delay(ns) to Y falling (conditional):

| Cell Name | Timing Arc(Dir) | When | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_a21oi_2 | B1->Y (RF) | (A1 * !A2) | 0.01860 | 0.00100 | **0.01956** | 0.32940 | 0.12960 | **0.32348** | 2.50740 | 0.60000 | **1.90582** |
| | B1->Y (RF) | (!A1 * A2) | 0.01860 | 0.00100 | **0.01936** | 0.32940 | 0.12960 | **0.32282** | 2.50740 | 0.60000 | **1.90370** |
| | B1->Y (RF) | (!A1 * !A2) | 0.01860 | 0.00100 | **0.01921** | 0.32940 | 0.12960 | **0.32248** | 2.50740 | 0.60000 | **1.90445** |
| sg13g2_a21oi_1 | B1->Y (RF) | (A1 * !A2) | 0.01860 | 0.00100 | **0.02127** | 0.32940 | 0.06480 | **0.32452** | 2.50740 | 0.30000 | **1.90877** |
| | B1->Y (RF) | (!A1 * A2) | 0.01860 | 0.00100 | **0.02109** | 0.32940 | 0.06480 | **0.32385** | 2.50740 | 0.30000 | **1.90668** |
| | B1->Y (RF) | (!A1 * !A2) | 0.01860 | 0.00100 | **0.02091** | 0.32940 | 0.06480 | **0.32317** | 2.50740 | 0.30000 | **1.90589** |

# Power Information

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

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_a21oi_2 | A1 | 0.01860 | 0.00100 | **0.00687** | 0.32940 | 0.12960 | **0.00663** | 2.50740 | 0.60000 | **0.00660** |
| | A2 | 0.01860 | 0.00100 | **0.00866** | 0.32940 | 0.12960 | **0.00837** | 2.50740 | 0.60000 | **0.00855** |
| | B1 | 0.01860 | 0.00100 | **0.00568** | 0.32940 | 0.12960 | **0.00569** | 2.50740 | 0.60000 | **0.00783** |
| sg13g2_a21oi_1 | A1 | 0.01860 | 0.00100 | **0.00352** | 0.32940 | 0.06480 | **0.00334** | 2.50740 | 0.30000 | **0.00332** |
| | A2 | 0.01860 | 0.00100 | **0.00431** | 0.32940 | 0.06480 | **0.00415** | 2.50740 | 0.30000 | **0.00440** |
| | B1 | 0.01860 | 0.00100 | **0.00293** | 0.32940 | 0.06480 | **0.00288** | 2.50740 | 0.30000 | **0.00392** |

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

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_a21oi_2 | A1 | 0.01860 | 0.00100 | **0.00649** | 0.32940 | 0.12960 | **0.00606** | 2.50740 | 0.60000 | **0.00658** |
| | A2 | 0.01860 | 0.00100 | **0.00934** | 0.32940 | 0.12960 | **0.00888** | 2.50740 | 0.60000 | **0.00898** |
| | B1 | 0.01860 | 0.00100 | **0.00147** | 0.32940 | 0.12960 | **0.00128** | 2.50740 | 0.60000 | **0.00200** |
| sg13g2_a21oi_1 | A1 | 0.01860 | 0.00100 | **0.00358** | 0.32940 | 0.06480 | **0.00335** | 2.50740 | 0.30000 | **0.00365** |
| | A2 | 0.01860 | 0.00100 | **0.00491** | 0.32940 | 0.06480 | **0.00461** | 2.50740 | 0.30000 | **0.00470** |
| | B1 | 0.01860 | 0.00100 | **0.00106** | 0.32940 | 0.06480 | **0.00095** | 2.50740 | 0.30000 | **0.00133** |

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

| Cell Name | Input | When | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_a21oi_2 | B1 | (A1 * !A2) | 0.01860 | 0.00100 | **0.00649** | 0.32940 | 0.12960 | **0.00639** | 2.50740 | 0.60000 | **0.00713** |
| | B1 | (!A1 * A2) | 0.01860 | 0.00100 | **0.00566** | 0.32940 | 0.12960 | **0.00577** | 2.50740 | 0.60000 | **0.00669** |
| | B1 | (!A1 * !A2) | 0.01860 | 0.00100 | **0.00568** | 0.32940 | 0.12960 | **0.00569** | 2.50740 | 0.60000 | **0.00783** |
| sg13g2_a21oi_1 | B1 | (A1 * !A2) | 0.01860 | 0.00100 | **0.00324** | 0.32940 | 0.06480 | **0.00307** | 2.50740 | 0.30000 | **0.00384** |
| | B1 | (!A1 * A2) | 0.01860 | 0.00100 | **0.00292** | 0.32940 | 0.06480 | **0.00291** | 2.50740 | 0.30000 | **0.00329** |
| | B1 | (!A1 * !A2) | 0.01860 | 0.00100 | **0.00293** | 0.32940 | 0.06480 | **0.00288** | 2.50740 | 0.30000 | **0.00392** |

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

| Cell Name | Input | When | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_a21oi_2 | B1 | (A1 * !A2) | 0.01860 | 0.00100 | **0.00471** | 0.32940 | 0.12960 | **0.00456** | 2.50740 | 0.60000 | **0.00538** |
| | B1 | (!A1 * A2) | 0.01860 | 0.00100 | **0.00147** | 0.32940 | 0.12960 | **0.00128** | 2.50740 | 0.60000 | **0.00200** |
| | B1 | (!A1 * !A2) | 0.01860 | 0.00100 | **0.00136** | 0.32940 | 0.12960 | **0.00108** | 2.50740 | 0.60000 | **0.00218** |
| sg13g2_a21oi_1 | B1 | (A1 * !A2) | 0.01860 | 0.00100 | **0.00267** | 0.32940 | 0.06480 | **0.00257** | 2.50740 | 0.30000 | **0.00302** |
| | B1 | (!A1 * A2) | 0.01860 | 0.00100 | **0.00106** | 0.32940 | 0.06480 | **0.00095** | 2.50740 | 0.30000 | **0.00133** |
| | B1 | (!A1 * !A2) | 0.01860 | 0.00100 | **0.00099** | 0.32940 | 0.06480 | **0.00078** | 2.50740 | 0.30000 | **0.00119** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_a21oi_2 | 0.01860 | **-0.00098** | 0.32940 | **-0.00102** | 2.50740 | **-0.00101** |
| sg13g2_a21oi_1 | 0.01860 | **-0.00048** | 0.32940 | **-0.00051** | 2.50740 | **-0.00050** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_a21oi_2 | 0.01860 | **0.00198** | 0.32940 | **0.00204** | 2.50740 | **0.00205** |
| sg13g2_a21oi_1 | 0.01860 | **0.00091** | 0.32940 | **0.00094** | 2.50740 | **0.00095** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_a21oi_2 | B1 | 0.01860 | **0.00026** | 0.32940 | **-0.00009** | 2.50740 | **-0.00015** |
| | (!A2 * !B1) | 0.01860 | **-0.00098** | 0.32940 | **-0.00102** | 2.50740 | **-0.00101** |
| sg13g2_a21oi_1 | B1 | 0.01860 | **0.00022** | 0.32940 | **0.00004** | 2.50740 | **0.00000** |
| | (!A2 * !B1) | 0.01860 | **-0.00048** | 0.32940 | **-0.00051** | 2.50740 | **-0.00050** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_a21oi_2 | B1 | 0.01860 | **0.00016** | 0.32940 | **0.00014** | 2.50740 | **0.00015** |
| | (!A2 * !B1) | 0.01860 | **0.00198** | 0.32940 | **0.00204** | 2.50740 | **0.00205** |
| sg13g2_a21oi_1 | B1 | 0.01860 | **-0.00001** | 0.32940 | **-0.00002** | 2.50740 | **0.00000** |
| | (!A2 * !B1) | 0.01860 | **0.00091** | 0.32940 | **0.00094** | 2.50740 | **0.00095** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_a21oi_2 | 0.01860 | **-0.00044** | 0.32940 | **-0.00048** | 2.50740 | **-0.00047** |
| sg13g2_a21oi_1 | 0.01860 | **-0.00023** | 0.32940 | **-0.00024** | 2.50740 | **-0.00024** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_a21oi_2 | 0.01860 | **0.00075** | 0.32940 | **0.00055** | 2.50740 | **0.00047** |
| sg13g2_a21oi_1 | 0.01860 | **0.00037** | 0.32940 | **0.00028** | 2.50740 | **0.00024** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_a21oi_2 | B1 | 0.01860 | **0.00036** | 0.32940 | **-0.00001** | 2.50740 | **-0.00006** |
| | (!A1 * !B1) | 0.01860 | **-0.00044** | 0.32940 | **-0.00048** | 2.50740 | **-0.00047** |
| sg13g2_a21oi_1 | B1 | 0.01860 | **0.00017** | 0.32940 | **-0.00001** | 2.50740 | **-0.00004** |
| | (!A1 * !B1) | 0.01860 | **-0.00023** | 0.32940 | **-0.00024** | 2.50740 | **-0.00024** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_a21oi_2 | B1 | 0.01860 | **0.00007** | 0.32940 | **0.00006** | 2.50740 | **0.00006** |
| | (!A1 * !B1) | 0.01860 | **0.00075** | 0.32940 | **0.00055** | 2.50740 | **0.00047** |
| sg13g2_a21oi_1 | B1 | 0.01860 | **0.00004** | 0.32940 | **0.00004** | 2.50740 | **0.00004** |
| | (!A1 * !B1) | 0.01860 | **0.00037** | 0.32940 | **0.00028** | 2.50740 | **0.00024** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_a21oi_2 | 0.01860 | **0.00135** | 0.32940 | **0.00139** | 2.50740 | **0.00139** |
| sg13g2_a21oi_1 | 0.01860 | **0.00072** | 0.32940 | **0.00074** | 2.50740 | **0.00074** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_a21oi_2 | 0.01860 | **-0.00135** | 0.32940 | **-0.00139** | 2.50740 | **-0.00139** |
| sg13g2_a21oi_1 | 0.01860 | **-0.00072** | 0.32940 | **-0.00074** | 2.50740 | **-0.00074** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_a21oi_2 | (A1 * A2) | 0.01860 | **0.00135** | 0.32940 | **0.00139** | 2.50740 | **0.00139** |
| sg13g2_a21oi_1 | (A1 * A2) | 0.01860 | **0.00072** | 0.32940 | **0.00074** | 2.50740 | **0.00074** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_a21oi_2 | (A1 * A2) | 0.01860 | **-0.00135** | 0.32940 | **-0.00139** | 2.50740 | **-0.00139** |
| sg13g2_a21oi_1 | (A1 * A2) | 0.01860 | **-0.00072** | 0.32940 | **-0.00074** | 2.50740 | **-0.00074** |

# A221OI

*sg13g2_stdcell_typ_1p20V_25C Cell Library: Process*
*sg13g2_stdcell_typ_1p20V_25C, Voltage 1.20, Temp 25.00*

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## Truth Table

| INPUT | | | | | OUTPUT |
|---|---|---|---|---|---|
| A1 | A2 | B1 | B2 | C1 | Y |
| 0 | x | 0 | x | 0 | 1 |
| 0 | x | x | x | 1 | 0 |
| 0 | x | 1 | 0 | 0 | 1 |
| x | x | 1 | 1 | x | 0 |
| 1 | 0 | 0 | x | 0 | 1 |
| 1 | 0 | x | x | 1 | 0 |
| 1 | 0 | 1 | 0 | 0 | 1 |
| 1 | 1 | x | x | x | 0 |

## Footprint

| Cell Name | Area |
|---|---|
| sg13g2_a221oi_1 | 14.51520 |

## Pin Capacitance Information

| Cell Name | Pin Cap(pf) | | | | | Max Cap(pf) |
|---|---|---|---|---|---|---|
| | A1 | A2 | B1 | B2 | C1 | Y |
| sg13g2_a221oi_1 | 0.00296 | 0.00298 | 0.00276 | 0.00283 | 0.00255 | 0.60000 |

# Leakage Information

| Cell Name | Leakage(pW) | | |
|---|---|---|---|
| | Min. | Avg | Max. |
| **sg13g2_a221oi_1** | 112.17700 | 157.32300 | 191.48900 |

# Delay Information

**Delay(ns) to Y rising :**

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_a221oi_1 | A1->Y (FR) | 0.01860 | 0.00100 | **0.10634** | 0.32940 | 0.12960 | **1.33759** | 2.50740 | 0.60000 | **6.03308** |
| | A2->Y (FR) | 0.01860 | 0.00100 | **0.10422** | 0.32940 | 0.12960 | **1.33633** | 2.50740 | 0.60000 | **6.03858** |
| | B1->Y (FR) | 0.01860 | 0.00100 | **0.09496** | 0.32940 | 0.12960 | **1.33601** | 2.50740 | 0.60000 | **6.19792** |
| | B2->Y (FR) | 0.01860 | 0.00100 | **0.10695** | 0.32940 | 0.12960 | **1.34536** | 2.50740 | 0.60000 | **6.19902** |
| | C1->Y (FR) | 0.01860 | 0.00100 | **0.06937** | 0.32940 | 0.12960 | **1.31755** | 2.50740 | 0.60000 | **6.26800** |

**Delay(ns) to Y falling :**

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_a221oi_1 | A1->Y (RF) | 0.01860 | 0.00100 | **0.04963** | 0.32940 | 0.12960 | **0.72818** | 2.50740 | 0.60000 | **3.64017** |
| | A2->Y (RF) | 0.01860 | 0.00100 | **0.05262** | 0.32940 | 0.12960 | **0.72000** | 2.50740 | 0.60000 | **3.54560** |
| | B1->Y (RF) | 0.01860 | 0.00100 | **0.04407** | 0.32940 | 0.12960 | **0.71552** | 2.50740 | 0.60000 | **3.63098** |
| | B2->Y (RF) | 0.01860 | 0.00100 | **0.04871** | 0.32940 | 0.12960 | **0.70829** | 2.50740 | 0.60000 | **3.52745** |
| | C1->Y (RF) | 0.01860 | 0.00100 | **0.02389** | 0.32940 | 0.12960 | **0.47014** | 2.50740 | 0.60000 | **2.64582** |

**Delay(ns) to Y rising (conditional):**

| Cell Name | Timing Arc(Dir) | When | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_a221oi_1 | A1->Y (FR) | (B1 * !B2) | 0.01860 | 0.00100 | **0.10634** | 0.32940 | 0.12960 | **1.33759** | 2.50740 | 0.60000 | **6.03308** |
| | A1->Y (FR) | (!B1 * B2) | 0.01860 | 0.00100 | **0.09198** | 0.32940 | 0.12960 | **1.32551** | 2.50740 | 0.60000 | **6.03154** |
| | A1->Y (FR) | (!B1 * !B2) | 0.01860 | 0.00100 | **0.08246** | 0.32940 | 0.12960 | **1.12798** | 2.50740 | 0.60000 | **5.20108** |
| | A2->Y (FR) | (B1 * !B2) | 0.01860 | 0.00100 | **0.11828** | 0.32940 | 0.12960 | **1.34840** | 2.50740 | 0.60000 | **6.03822** |
| | A2->Y (FR) | (!B1 * B2) | 0.01860 | 0.00100 | **0.10422** | 0.32940 | 0.12960 | **1.33633** | 2.50740 | 0.60000 | **6.03858** |
| | A2->Y (FR) | (!B1 * !B2) | 0.01860 | 0.00100 | **0.09238** | 0.32940 | 0.12960 | **1.13620** | 2.50740 | 0.60000 | **5.20451** |
| | B1->Y (FR) | (A1 * !A2) | 0.01860 | 0.00100 | **0.09496** | 0.32940 | 0.12960 | **1.33601** | 2.50740 | 0.60000 | **6.19792** |
| | B1->Y (FR) | (!A1 * A2) | 0.01860 | 0.00100 | **0.08057** | 0.32940 | 0.12960 | **1.32270** | 2.50740 | 0.60000 | **6.19207** |
| | B1->Y (FR) | (!A1 * !A2) | 0.01860 | 0.00100 | **0.06729** | 0.32940 | 0.12960 | **1.11663** | 2.50740 | 0.60000 | **5.29470** |
| | B2->Y (FR) | (A1 * !A2) | 0.01860 | 0.00100 | **0.10695** | 0.32940 | 0.12960 | **1.34536** | 2.50740 | 0.60000 | **6.19902** |
| | B2->Y (FR) | (!A1 * A2) | 0.01860 | 0.00100 | **0.09281** | 0.32940 | 0.12960 | **1.33193** | 2.50740 | 0.60000 | **6.19278** |
| | B2->Y (FR) | (!A1 * !A2) | 0.01860 | 0.00100 | **0.07715** | 0.32940 | 0.12960 | **1.12390** | 2.50740 | 0.60000 | **5.29400** |
| | C1->Y (FR) | (!A1 * A2) | 0.01860 | 0.00100 | **0.06937** | 0.32940 | 0.12960 | **1.31755** | 2.50740 | 0.60000 | **6.26800** |

## Delay(ns) to Y falling (conditional):

| Cell Name | Timing Arc(Dir) | When | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_a221oi_1 | A1->Y (RF) | (B1 * !B2) | 0.01860 | 0.00100 | **0.04818** | 0.32940 | 0.12960 | **0.72713** | 2.50740 | 0.60000 | **3.63977** |
| | A1->Y (RF) | (!B1 * B2) | 0.01860 | 0.00100 | **0.04752** | 0.32940 | 0.12960 | **0.72517** | 2.50740 | 0.60000 | **3.63605** |
| | A1->Y (RF) | (!B1 * !B2) | 0.01860 | 0.00100 | **0.04963** | 0.32940 | 0.12960 | **0.72818** | 2.50740 | 0.60000 | **3.64017** |
| | A2->Y (RF) | (B1 * !B2) | 0.01860 | 0.00100 | **0.05262** | 0.32940 | 0.12960 | **0.72000** | 2.50740 | 0.60000 | **3.54560** |
| | A2->Y (RF) | (!B1 * B2) | 0.01860 | 0.00100 | **0.05194** | 0.32940 | 0.12960 | **0.71803** | 2.50740 | 0.60000 | **3.54186** |
| | A2->Y (RF) | (!B1 * !B2) | 0.01860 | 0.00100 | **0.05398** | 0.32940 | 0.12960 | **0.72141** | 2.50740 | 0.60000 | **3.54541** |
| | B1->Y (RF) | (A1 * !A2) | 0.01860 | 0.00100 | **0.04407** | 0.32940 | 0.12960 | **0.71552** | 2.50740 | 0.60000 | **3.63098** |
| | B1->Y (RF) | (!A1 * A2) | 0.01860 | 0.00100 | **0.04356** | 0.32940 | 0.12960 | **0.71363** | 2.50740 | 0.60000 | **3.62723** |
| | B1->Y (RF) | (!A1 * !A2) | 0.01860 | 0.00100 | **0.04322** | 0.32940 | 0.12960 | **0.71353** | 2.50740 | 0.60000 | **3.62333** |
| | B2->Y (RF) | (A1 * !A2) | 0.01860 | 0.00100 | **0.04871** | 0.32940 | 0.12960 | **0.70829** | 2.50740 | 0.60000 | **3.52745** |
| | B2->Y (RF) | (!A1 * A2) | 0.01860 | 0.00100 | **0.04820** | 0.32940 | 0.12960 | **0.70670** | 2.50740 | 0.60000 | **3.52391** |
| | B2->Y (RF) | (!A1 * !A2) | 0.01860 | 0.00100 | **0.04787** | 0.32940 | 0.12960 | **0.70619** | 2.50740 | 0.60000 | **3.52345** |
| | C1->Y (RF) | (!A1 * A2) | 0.01860 | 0.00100 | **0.02389** | 0.32940 | 0.12960 | **0.47014** | 2.50740 | 0.60000 | **2.64582** |

# Power Information

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

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_a221oi_1 | A1 | 0.01860 | 0.00100 | **0.00811** | 0.32940 | 0.12960 | **0.00784** | 2.50740 | 0.60000 | **0.00712** |
| | A2 | 0.01860 | 0.00100 | **0.00823** | 0.32940 | 0.12960 | **0.00785** | 2.50740 | 0.60000 | **0.00717** |
| | B1 | 0.01860 | 0.00100 | **0.00735** | 0.32940 | 0.12960 | **0.00708** | 2.50740 | 0.60000 | **0.00682** |
| | B2 | 0.01860 | 0.00100 | **0.00750** | 0.32940 | 0.12960 | **0.00711** | 2.50740 | 0.60000 | **0.00651** |
| | C1 | 0.01860 | 0.00100 | **0.00350** | 0.32940 | 0.12960 | **0.00327** | 2.50740 | 0.60000 | **0.00284** |

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

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_a221oi_1 | A1 | 0.01860 | 0.00100 | **0.00490** | 0.32940 | 0.12960 | **0.00443** | 2.50740 | 0.60000 | **0.00309** |
| | A2 | 0.01860 | 0.00100 | **0.00612** | 0.32940 | 0.12960 | **0.00580** | 2.50740 | 0.60000 | **0.00476** |
| | B1 | 0.01860 | 0.00100 | **0.00181** | 0.32940 | 0.12960 | **0.00142** | 2.50740 | 0.60000 | **0.00049** |
| | B2 | 0.01860 | 0.00100 | **0.00341** | 0.32940 | 0.12960 | **0.00297** | 2.50740 | 0.60000 | **0.00133** |
| | C1 | 0.01860 | 0.00100 | **0.00284** | 0.32940 | 0.12960 | **0.00248** | 2.50740 | 0.60000 | **0.00099** |

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

| Cell Name | Input | When | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_a221oi_1 | A1 | (B1 * !B2) | 0.01860 | 0.00100 | **0.00811** | 0.32940 | 0.12960 | **0.00784** | 2.50740 | 0.60000 | **0.00712** |
| | A1 | (!B1 * B2) | 0.01860 | 0.00100 | **0.00784** | 0.32940 | 0.12960 | **0.00761** | 2.50740 | 0.60000 | **0.00731** |
| | A1 | (!B1 * !B2) | 0.01860 | 0.00100 | **0.00968** | 0.32940 | 0.12960 | **0.00945** | 2.50740 | 0.60000 | **0.00893** |
| | A2 | (B1 * !B2) | 0.01860 | 0.00100 | **0.00823** | 0.32940 | 0.12960 | **0.00785** | 2.50740 | 0.60000 | **0.00717** |
| | A2 | (!B1 * B2) | 0.01860 | 0.00100 | **0.00799** | 0.32940 | 0.12960 | **0.00764** | 2.50740 | 0.60000 | **0.00755** |
| | A2 | (!B1 * !B2) | 0.01860 | 0.00100 | **0.00983** | 0.32940 | 0.12960 | **0.00947** | 2.50740 | 0.60000 | **0.00899** |
| | B1 | (A1 * !A2) | 0.01860 | 0.00100 | **0.00763** | 0.32940 | 0.12960 | **0.00732** | 2.50740 | 0.60000 | **0.00684** |
| | B1 | (!A1 * A2) | 0.01860 | 0.00100 | **0.00736** | 0.32940 | 0.12960 | **0.00711** | 2.50740 | 0.60000 | **0.00673** |
| | B1 | (!A1 * !A2) | 0.01860 | 0.00100 | **0.00735** | 0.32940 | 0.12960 | **0.00708** | 2.50740 | 0.60000 | **0.00682** |
| | B2 | (A1 * !A2) | 0.01860 | 0.00100 | **0.00775** | 0.32940 | 0.12960 | **0.00734** | 2.50740 | 0.60000 | **0.00654** |
| | B2 | (!A1 * A2) | 0.01860 | 0.00100 | **0.00751** | 0.32940 | 0.12960 | **0.00712** | 2.50740 | 0.60000 | **0.00641** |
| | B2 | (!A1 * !A2) | 0.01860 | 0.00100 | **0.00750** | 0.32940 | 0.12960 | **0.00711** | 2.50740 | 0.60000 | **0.00651** |
| | C1 | (!A1 * A2) | 0.01860 | 0.00100 | **0.00350** | 0.32940 | 0.12960 | **0.00327** | 2.50740 | 0.60000 | **0.00284** |

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

| Cell Name | Input | When | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_a221oi_1 | A1 | (B1 * !B2) | 0.01860 | 0.00100 | **0.00651** | 0.32940 | 0.12960 | **0.00602** | 2.50740 | 0.60000 | **0.00477** |
| | A1 | (!B1 * B2) | 0.01860 | 0.00100 | **0.00490** | 0.32940 | 0.12960 | **0.00443** | 2.50740 | 0.60000 | **0.00309** |
| | A1 | (!B1 * !B2) | 0.01860 | 0.00100 | **0.00402** | 0.32940 | 0.12960 | **0.00354** | 2.50740 | 0.60000 | **0.00243** |
| | A2 | (B1 * !B2) | 0.01860 | 0.00100 | **0.00774** | 0.32940 | 0.12960 | **0.00741** | 2.50740 | 0.60000 | **0.00627** |
| | A2 | (!B1 * B2) | 0.01860 | 0.00100 | **0.00612** | 0.32940 | 0.12960 | **0.00580** | 2.50740 | 0.60000 | **0.00476** |
| | A2 | (!B1 * !B2) | 0.01860 | 0.00100 | **0.00526** | 0.32940 | 0.12960 | **0.00491** | 2.50740 | 0.60000 | **0.00392** |
| | B1 | (A1 * !A2) | 0.01860 | 0.00100 | **0.00342** | 0.32940 | 0.12960 | **0.00302** | 2.50740 | 0.60000 | **0.00203** |
| | B1 | (!A1 * A2) | 0.01860 | 0.00100 | **0.00181** | 0.32940 | 0.12960 | **0.00142** | 2.50740 | 0.60000 | **0.00049** |
| | B1 | (!A1 * !A2) | 0.01860 | 0.00100 | **0.00174** | 0.32940 | 0.12960 | **0.00136** | 2.50740 | 0.60000 | **-0.00000** |
| | B2 | (A1 * !A2) | 0.01860 | 0.00100 | **0.00503** | 0.32940 | 0.12960 | **0.00455** | 2.50740 | 0.60000 | **0.00295** |
| | B2 | (!A1 * A2) | 0.01860 | 0.00100 | **0.00341** | 0.32940 | 0.12960 | **0.00297** | 2.50740 | 0.60000 | **0.00133** |
| | B2 | (!A1 * !A2) | 0.01860 | 0.00100 | **0.00336** | 0.32940 | 0.12960 | **0.00289** | 2.50740 | 0.60000 | **0.00129** |
| | C1 | (!A1 * A2) | 0.01860 | 0.00100 | **0.00284** | 0.32940 | 0.12960 | **0.00248** | 2.50740 | 0.60000 | **0.00099** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_a221oi_1** | 0.01860 | **0.00002** | 0.32940 | **-0.00003** | 2.50740 | **-0.00004** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_a221oi_1** | 0.01860 | **0.00004** | 0.32940 | **0.00003** | 2.50740 | **0.00004** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_a221oi_1** | 0.01860 | **0.00037** | 0.32940 | **0.00012** | 2.50740 | **0.00005** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_a221oi_1** | 0.01860 | **0.00006** | 0.32940 | **0.00006** | 2.50740 | **0.00006** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_a221oi_1** | **(B1 * B2 * !C1)** | 0.01860 | **0.00037** | 0.32940 | **0.00012** | 2.50740 | **0.00005** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_a221oi_1** | **(B1 * B2 * !C1)** | 0.01860 | **0.00006** | 0.32940 | **0.00006** | 2.50740 | **0.00006** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_a221oi_1** | 0.01860 | **0.00146** | 0.32940 | **0.00149** | 2.50740 | **0.00149** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_a221oi_1** | 0.01860 | **-0.00131** | 0.32940 | **-0.00132** | 2.50740 | **-0.00132** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_a221oi_1 | C1 | 0.01860 | **0.00106** | 0.32940 | **0.00109** | 2.50740 | **0.00109** |
| | (A1 * A2 * !C1) | 0.01860 | **0.00146** | 0.32940 | **0.00149** | 2.50740 | **0.00149** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_a221oi_1 | C1 | 0.01860 | **0.00003** | 0.32940 | **0.00003** | 2.50740 | **0.00004** |
| | (A1 * A2 * !C1) | 0.01860 | **-0.00131** | 0.32940 | **-0.00132** | 2.50740 | **-0.00132** |

**Passive power(pJ) for B2 rising :**

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_a221oi_1 | 0.01860 | **0.00151** | 0.32940 | **0.00151** | 2.50740 | **0.00151** |

**Passive power(pJ) for B2 falling :**

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_a221oi_1 | 0.01860 | **-0.00132** | 0.32940 | **-0.00134** | 2.50740 | **-0.00134** |

**Passive power(pJ) for B2 rising (conditional):**

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_a221oi_1 | C1 | 0.01860 | **0.00110** | 0.32940 | **0.00111** | 2.50740 | **0.00111** |
| | (A1 * A2 * !C1) | 0.01860 | **0.00151** | 0.32940 | **0.00151** | 2.50740 | **0.00151** |

**Passive power(pJ) for B2 falling (conditional):**

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_a221oi_1 | C1 | 0.01860 | **0.00001** | 0.32940 | **0.00002** | 2.50740 | **0.00002** |
| | (A1 * A2 * !C1) | 0.01860 | **-0.00132** | 0.32940 | **-0.00134** | 2.50740 | **-0.00134** |

**Passive power(pJ) for C1 rising :**

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_a221oi_1 | 0.01860 | **0.00070** | 0.32940 | **0.00072** | 2.50740 | **0.00073** |

**Passive power(pJ) for C1 falling :**

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_a221oi_1 | 0.01860 | **0.00059** | 0.32940 | **0.00060** | 2.50740 | **0.00061** |

**Passive power(pJ) for C1 rising (conditional):**

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_a221oi_1 | (B1 * B2) | 0.01860 | **0.00070** | 0.32940 | **0.00072** | 2.50740 | **0.00073** |

**Passive power(pJ) for C1 falling (conditional):**

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_a221oi_1 | (B1 * B2) | 0.01860 | **0.00059** | 0.32940 | **0.00060** | 2.50740 | **0.00061** |

# A22OI

*sg13g2_stdcell_typ_1p20V_25C Cell Library: Process*
*sg13g2_stdcell_typ_1p20V_25C, Voltage 1.20, Temp 25.00*

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## Truth Table

| INPUT | | | | OUTPUT |
|---|---|---|---|---|
| A1 | A2 | B1 | B2 | Y |
| 0 | x | 0 | 0 | 1 |
| 0 | x | x | 1 | 0 |
| x | x | 1 | x | 0 |
| 1 | 0 | 0 | 0 | 1 |
| 1 | 0 | x | 1 | 0 |
| 1 | 1 | x | x | 0 |

## Footprint

| Cell Name | Area |
|---|---|
| sg13g2_a22oi_1 | 10.84860 |

## Pin Capacitance Information

| Cell Name | Pin Cap(pf) | | | | Max Cap(pf) |
|---|---|---|---|---|---|
| | A1 | A2 | B1 | B2 | Y |
| sg13g2_a22oi_1 | 0.00314 | 0.00308 | 0.00356 | 0.00362 | 0.30000 |

## Leakage Information

| Cell Name | Leakage(pW) | | |
|---|---|---|---|
| | Min. | Avg | Max. |
| **sg13g2_a22oi_1** | 86.75930 | 138.87200 | 210.34700 |

# Delay Information

**Delay(ns) to Y rising :**

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_a22oi_1 | A1->Y (FR) | 0.01860 | 0.00100 | **0.04763** | 0.32940 | 0.06480 | **0.46227** | 2.50740 | 0.30000 | **2.40405** |
| | A2->Y (FR) | 0.01860 | 0.00100 | **0.05323** | 0.32940 | 0.06480 | **0.46866** | 2.50740 | 0.30000 | **2.41118** |
| | B1->Y (FR) | 0.01860 | 0.00100 | **0.03801** | 0.32940 | 0.06480 | **0.44871** | 2.50740 | 0.30000 | **2.43106** |
| | B2->Y (FR) | 0.01860 | 0.00100 | **0.03223** | 0.32940 | 0.06480 | **0.44278** | 2.50740 | 0.30000 | **2.43069** |

**Delay(ns) to Y falling :**

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_a22oi_1 | A1->Y (RF) | 0.01860 | 0.00100 | **0.04778** | 0.32940 | 0.06480 | **0.45126** | 2.50740 | 0.30000 | **2.41222** |
| | A2->Y (RF) | 0.01860 | 0.00100 | **0.05219** | 0.32940 | 0.06480 | **0.44449** | 2.50740 | 0.30000 | **2.29845** |
| | B1->Y (RF) | 0.01860 | 0.00100 | **0.03745** | 0.32940 | 0.06480 | **0.42756** | 2.50740 | 0.30000 | **2.28058** |
| | B2->Y (RF) | 0.01860 | 0.00100 | **0.03240** | 0.32940 | 0.06480 | **0.43437** | 2.50740 | 0.30000 | **2.38915** |

# Power Information

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

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_a22oi_1 | A1 | 0.01860 | 0.00100 | **0.00426** | 0.32940 | 0.06480 | **0.00000** | 2.50740 | 0.30000 | **0.00000** |
| | A2 | 0.01860 | 0.00100 | **0.00425** | 0.32940 | 0.06480 | **0.00000** | 2.50740 | 0.30000 | **0.00000** |
| | B1 | 0.01860 | 0.00100 | **0.00003** | 0.32940 | 0.06480 | **0.00000** | 2.50740 | 0.30000 | **0.00000** |
| | B2 | 0.01860 | 0.00100 | **0.00018** | 0.32940 | 0.06480 | **0.00000** | 2.50740 | 0.30000 | **0.00000** |

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

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_a22oi_1 | A1 | 0.01860 | 0.00100 | **-0.00128** | 0.32940 | 0.06480 | **0.00000** | 2.50740 | 0.30000 | **0.00000** |
| | A2 | 0.01860 | 0.00100 | **-0.00046** | 0.32940 | 0.06480 | **0.00000** | 2.50740 | 0.30000 | **0.00000** |
| | B1 | 0.01860 | 0.00100 | **-0.00003** | 0.32940 | 0.06480 | **0.00000** | 2.50740 | 0.30000 | **0.00000** |
| | B2 | 0.01860 | 0.00100 | **-0.00018** | 0.32940 | 0.06480 | **0.00000** | 2.50740 | 0.30000 | **0.00000** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_a22oi_1 | 0.01860 | **0.00487** | 0.32940 | **0.00490** | 2.50740 | **0.01201** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_a22oi_1 | 0.01860 | **0.00248** | 0.32940 | **0.00888** | 2.50740 | **0.01571** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_a22oi_1 | 0.01860 | **0.00563** | 0.32940 | **0.00634** | 2.50740 | **0.01251** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_a22oi_1** | 0.01860 | **0.00261** | 0.32940 | **0.00838** | 2.50740 | **0.01462** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_a22oi_1** | 0.01860 | **0.00553** | 0.32940 | **0.00600** | 2.50740 | **0.01275** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_a22oi_1** | 0.01860 | **0.00281** | 0.32940 | **0.00314** | 2.50740 | **0.01066** |

**Passive power(pJ) for B2 rising :**

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_a22oi_1** | 0.01860 | **0.00389** | 0.32940 | **0.00476** | 2.50740 | **0.01256** |

**Passive power(pJ) for B2 falling :**

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_a22oi_1** | 0.01860 | **0.00240** | 0.32940 | **0.00287** | 2.50740 | **0.01105** |

# AND2x

*sg13g2_stdcell_typ_1p20V_25C Cell Library: Process*
*sg13g2_stdcell_typ_1p20V_25C, Voltage 1.20, Temp 25.00*

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## Truth Table

| INPUT | | OUTPUT |
|---|---|---|
| A | B | X |
| 0 | x | 0 |
| 1 | 0 | 0 |
| 1 | 1 | 1 |

## Footprint

| Cell Name | Area |
|---|---|
| sg13g2_and2_2 | 10.88640 |
| sg13g2_and2_1 | 9.07200 |

## Pin Capacitance Information

| Cell Name | Pin Cap(pf) | | Max Cap(pf) |
|---|---|---|---|
| | A | B | X |
| sg13g2_and2_2 | 0.00255 | 0.00256 | 0.60000 |
| sg13g2_and2_1 | 0.00256 | 0.00257 | 0.30000 |

## Leakage Information

| Cell Name | Leakage(pW) | | |
|---|---|---|---|
| | Min. | Avg | Max. |
| **sg13g2_and2_2** | 199.49400 | 210.30300 | 220.76100 |
| **sg13g2_and2_1** | 117.08500 | 137.61100 | 177.22000 |

# Delay Information

**Delay(ns) to X rising :**

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_and2_2 | A->X (RR) | 0.01860 | 0.00100 | **0.08042** | 0.32940 | 0.12960 | **0.38550** | 2.50740 | 0.60000 | **1.31999** |
| | B->X (RR) | 0.01860 | 0.00100 | **0.08523** | 0.32940 | 0.12960 | **0.38392** | 2.50740 | 0.60000 | **1.32324** |
| sg13g2_and2_1 | A->X (RR) | 0.01860 | 0.00100 | **0.06480** | 0.32940 | 0.06480 | **0.34225** | 2.50740 | 0.30000 | **1.22026** |
| | B->X (RR) | 0.01860 | 0.00100 | **0.06982** | 0.32940 | 0.06480 | **0.34565** | 2.50740 | 0.30000 | **1.22831** |

**Delay(ns) to X falling :**

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_and2_2 | A->X (FF) | 0.01860 | 0.00100 | **0.06897** | 0.32940 | 0.12960 | **0.34208** | 2.50740 | 0.60000 | **1.12302** |
| | B->X (FF) | 0.01860 | 0.00100 | **0.07386** | 0.32940 | 0.12960 | **0.35360** | 2.50740 | 0.60000 | **1.16054** |
| sg13g2_and2_1 | A->X (FF) | 0.01860 | 0.00100 | **0.05586** | 0.32940 | 0.06480 | **0.30022** | 2.50740 | 0.30000 | **1.02274** |
| | B->X (FF) | 0.01860 | 0.00100 | **0.06087** | 0.32940 | 0.06480 | **0.31378** | 2.50740 | 0.30000 | **1.05448** |

# Power Information

**Internal switching power(pJ) to X rising :**

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_and2_2 | A | 0.01860 | 0.00100 | **0.01032** | 0.32940 | 0.12960 | **0.01065** | 2.50740 | 0.60000 | **0.01696** |
| | B | 0.01860 | 0.00100 | **0.01172** | 0.32940 | 0.12960 | **0.01193** | 2.50740 | 0.60000 | **0.01752** |
| sg13g2_and2_1 | A | 0.01860 | 0.00100 | **0.00648** | 0.32940 | 0.06480 | **0.00663** | 2.50740 | 0.30000 | **0.01234** |
| | B | 0.01860 | 0.00100 | **0.00791** | 0.32940 | 0.06480 | **0.00786** | 2.50740 | 0.30000 | **0.01252** |

**Internal switching power(pJ) to X falling :**

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_and2_2 | A | 0.01860 | 0.00100 | **0.00921** | 0.32940 | 0.12960 | **0.00965** | 2.50740 | 0.60000 | **0.01452** |
| | B | 0.01860 | 0.00100 | **0.00929** | 0.32940 | 0.12960 | **0.00996** | 2.50740 | 0.60000 | **0.01573** |
| sg13g2_and2_1 | A | 0.01860 | 0.00100 | **0.00566** | 0.32940 | 0.06480 | **0.00596** | 2.50740 | 0.30000 | **0.01322** |
| | B | 0.01860 | 0.00100 | **0.00577** | 0.32940 | 0.06480 | **0.00604** | 2.50740 | 0.30000 | **0.01241** |

# AND3x

*sg13g2_stdcell_typ_1p20V_25C Cell Library: Process*
*sg13g2_stdcell_typ_1p20V_25C, Voltage 1.20, Temp 25.00*

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## Truth Table

| INPUT | | | OUTPUT |
|---|---|---|---|
| A | B | C | X |
| 0 | x | x | 0 |
| 1 | 0 | x | 0 |
| 1 | 1 | 0 | 0 |
| 1 | 1 | 1 | 1 |

## Footprint

| Cell Name | Area |
|---|---|
| sg13g2_and3_2 | 12.70080 |
| sg13g2_and3_1 | 12.70080 |

## Pin Capacitance Information

| Cell Name | Pin Cap(pf) | | | Max Cap(pf) |
|---|---|---|---|---|
| | A | B | C | X |
| sg13g2_and3_2 | 0.00239 | 0.00251 | 0.00254 | 0.60000 |
| sg13g2_and3_1 | 0.00239 | 0.00252 | 0.00253 | 0.30000 |

# Leakage Information

| Cell Name | Leakage(pW) | | |
|---|---|---|---|
| | Min. | Avg | Max. |
| **sg13g2_and3_2** | 201.53000 | 224.22200 | 287.63300 |
| **sg13g2_and3_1** | 119.12400 | 146.67500 | 244.09700 |

# Delay Information

**Delay(ns) to X rising :**

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_and3_2 | A->X (RR) | 0.01860 | 0.00100 | **0.11054** | 0.32940 | 0.12960 | **0.42890** | 2.50740 | 0.60000 | **1.40944** |
| | B->X (RR) | 0.01860 | 0.00100 | **0.11966** | 0.32940 | 0.12960 | **0.43300** | 2.50740 | 0.60000 | **1.41926** |
| | C->X (RR) | 0.01860 | 0.00100 | **0.12381** | 0.32940 | 0.12960 | **0.42714** | 2.50740 | 0.60000 | **1.38388** |
| sg13g2_and3_1 | A->X (RR) | 0.01860 | 0.00100 | **0.08840** | 0.32940 | 0.06480 | **0.37867** | 2.50740 | 0.30000 | **1.29429** |
| | B->X (RR) | 0.01860 | 0.00100 | **0.09779** | 0.32940 | 0.06480 | **0.38725** | 2.50740 | 0.30000 | **1.31132** |
| | C->X (RR) | 0.01860 | 0.00100 | **0.10187** | 0.32940 | 0.06480 | **0.38379** | 2.50740 | 0.30000 | **1.28782** |

**Delay(ns) to X falling :**

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_and3_2 | A->X (FF) | 0.01860 | 0.00100 | **0.07254** | 0.32940 | 0.12960 | **0.34961** | 2.50740 | 0.60000 | **1.13651** |
| | B->X (FF) | 0.01860 | 0.00100 | **0.07771** | 0.32940 | 0.12960 | **0.36128** | 2.50740 | 0.60000 | **1.17314** |
| | C->X (FF) | 0.01860 | 0.00100 | **0.08127** | 0.32940 | 0.12960 | **0.36982** | 2.50740 | 0.60000 | **1.19884** |
| sg13g2_and3_1 | A->X (FF) | 0.01860 | 0.00100 | **0.05973** | 0.32940 | 0.06480 | **0.30925** | 2.50740 | 0.30000 | **1.03887** |
| | B->X (FF) | 0.01860 | 0.00100 | **0.06503** | 0.32940 | 0.06480 | **0.32283** | 2.50740 | 0.30000 | **1.06917** |
| | C->X (FF) | 0.01860 | 0.00100 | **0.06844** | 0.32940 | 0.06480 | **0.33347** | 2.50740 | 0.30000 | **1.10507** |

# Power Information

**Internal switching power(pJ) to X rising :**

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_and3_2 | A | 0.01860 | 0.00100 | **0.01195** | 0.32940 | 0.12960 | **0.01187** | 2.50740 | 0.60000 | **0.01757** |
| | B | 0.01860 | 0.00100 | **0.01273** | 0.32940 | 0.12960 | **0.01253** | 2.50740 | 0.60000 | **0.01755** |
| | C | 0.01860 | 0.00100 | **0.01404** | 0.32940 | 0.12960 | **0.01376** | 2.50740 | 0.60000 | **0.01891** |
| sg13g2_and3_1 | A | 0.01860 | 0.00100 | **0.00797** | 0.32940 | 0.06480 | **0.00822** | 2.50740 | 0.30000 | **0.01384** |
| | B | 0.01860 | 0.00100 | **0.00879** | 0.32940 | 0.06480 | **0.00884** | 2.50740 | 0.30000 | **0.01370** |
| | C | 0.01860 | 0.00100 | **0.01007** | 0.32940 | 0.06480 | **0.01003** | 2.50740 | 0.30000 | **0.01425** |

**Internal switching power(pJ) to X falling :**

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_and3_2 | A | 0.01860 | 0.00100 | **0.00872** | 0.32940 | 0.12960 | **0.00879** | 2.50740 | 0.60000 | **0.01380** |
| | B | 0.01860 | 0.00100 | **0.00947** | 0.32940 | 0.12960 | **0.01002** | 2.50740 | 0.60000 | **0.01521** |
| | C | 0.01860 | 0.00100 | **0.00959** | 0.32940 | 0.12960 | **0.01011** | 2.50740 | 0.60000 | **0.01437** |
| sg13g2_and3_1 | A | 0.01860 | 0.00100 | **0.00514** | 0.32940 | 0.06480 | **0.00513** | 2.50740 | 0.30000 | **0.01129** |
| | B | 0.01860 | 0.00100 | **0.00592** | 0.32940 | 0.06480 | **0.00603** | 2.50740 | 0.30000 | **0.01234** |
| | C | 0.01860 | 0.00100 | **0.00606** | 0.32940 | 0.06480 | **0.00628** | 2.50740 | 0.30000 | **0.01218** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_and3_2 | 0.01860 | **-0.00055** | 0.32940 | **-0.00067** | 2.50740 | **-0.00074** |
| sg13g2_and3_1 | 0.01860 | **-0.00056** | 0.32940 | **-0.00067** | 2.50740 | **-0.00074** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_and3_2 | 0.01860 | **0.00055** | 0.32940 | **0.00067** | 2.50740 | **0.00074** |
| sg13g2_and3_1 | 0.01860 | **0.00056** | 0.32940 | **0.00067** | 2.50740 | **0.00074** |

# AND4x

*sg13g2_stdcell_typ_1p20V_25C Cell Library: Process*
*sg13g2_stdcell_typ_1p20V_25C, Voltage 1.20, Temp 25.00*

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## Truth Table

| INPUT | | | | OUTPUT |
|---|---|---|---|---|
| A | B | C | D | X |
| 0 | x | x | x | 0 |
| 1 | 0 | x | x | 0 |
| 1 | 1 | 0 | x | 0 |
| 1 | 1 | 1 | 0 | 0 |
| 1 | 1 | 1 | 1 | 1 |

## Footprint

| Cell Name | Area |
|---|---|
| **sg13g2_and4_2** | 16.32960 |
| **sg13g2_and4_1** | 14.51520 |

## Pin Capacitance Information

| Cell Name | Pin Cap(pf) | | | | Max Cap(pf) |
|---|---|---|---|---|---|
| | A | B | C | D | X |
| **sg13g2_and4_2** | 0.00229 | 0.00230 | 0.00261 | 0.00256 | 0.60000 |
| **sg13g2_and4_1** | 0.00230 | 0.00230 | 0.00261 | 0.00256 | 0.30000 |

# Leakage Information

| Cell Name | Leakage(pW) | | |
|---|---|---|---|
| | Min. | Avg | Max. |
| **sg13g2_and4_2** | 203.65500 | 231.88400 | 354.46500 |
| **sg13g2_and4_1** | 121.24300 | 151.90300 | 310.92400 |

# Delay Information

**Delay(ns) to X rising :**

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_and4_2 | A->X (RR) | 0.01860 | 0.00100 | **0.14180** | 0.32940 | 0.12960 | **0.47239** | 2.50740 | 0.60000 | **1.48723** |
| | B->X (RR) | 0.01860 | 0.00100 | **0.15473** | 0.32940 | 0.12960 | **0.47965** | 2.50740 | 0.60000 | **1.49667** |
| | C->X (RR) | 0.01860 | 0.00100 | **0.16240** | 0.32940 | 0.12960 | **0.47875** | 2.50740 | 0.60000 | **1.47432** |
| | D->X (RR) | 0.01860 | 0.00100 | **0.16653** | 0.32940 | 0.12960 | **0.47652** | 2.50740 | 0.60000 | **1.43532** |
| sg13g2_and4_1 | A->X (RR) | 0.01860 | 0.00100 | **0.11375** | 0.32940 | 0.06480 | **0.41583** | 2.50740 | 0.30000 | **1.36583** |
| | B->X (RR) | 0.01860 | 0.00100 | **0.12695** | 0.32940 | 0.06480 | **0.42595** | 2.50740 | 0.30000 | **1.38713** |
| | C->X (RR) | 0.01860 | 0.00100 | **0.13454** | 0.32940 | 0.06480 | **0.42685** | 2.50740 | 0.30000 | **1.36930** |
| | D->X (RR) | 0.01860 | 0.00100 | **0.13875** | 0.32940 | 0.06480 | **0.42631** | 2.50740 | 0.30000 | **1.34038** |

**Delay(ns) to X falling :**

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_and4_2 | A->X (FF) | 0.01860 | 0.00100 | **0.07539** | 0.32940 | 0.12960 | **0.35565** | 2.50740 | 0.60000 | **1.14377** |
| | B->X (FF) | 0.01860 | 0.00100 | **0.08050** | 0.32940 | 0.12960 | **0.36567** | 2.50740 | 0.60000 | **1.17142** |
| | C->X (FF) | 0.01860 | 0.00100 | **0.08439** | 0.32940 | 0.12960 | **0.37330** | 2.50740 | 0.60000 | **1.19928** |
| | D->X (FF) | 0.01860 | 0.00100 | **0.08732** | 0.32940 | 0.12960 | **0.38080** | 2.50740 | 0.60000 | **1.22615** |
| sg13g2_and4_1 | A->X (FF) | 0.01860 | 0.00100 | **0.06329** | 0.32940 | 0.06480 | **0.31634** | 2.50740 | 0.30000 | **1.04755** |
| | B->X (FF) | 0.01860 | 0.00100 | **0.06857** | 0.32940 | 0.06480 | **0.32893** | 2.50740 | 0.30000 | **1.07594** |
| | C->X (FF) | 0.01860 | 0.00100 | **0.07235** | 0.32940 | 0.06480 | **0.33914** | 2.50740 | 0.30000 | **1.10908** |
| | D->X (FF) | 0.01860 | 0.00100 | **0.07498** | 0.32940 | 0.06480 | **0.34790** | 2.50740 | 0.30000 | **1.13845** |

# Power Information

**Internal switching power(pJ) to X rising :**

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_and4_2 | A | 0.01860 | 0.00100 | **0.01241** | 0.32940 | 0.12960 | **0.01207** | 2.50740 | 0.60000 | **0.01801** |
| | B | 0.01860 | 0.00100 | **0.01403** | 0.32940 | 0.12960 | **0.01337** | 2.50740 | 0.60000 | **0.01769** |
| | C | 0.01860 | 0.00100 | **0.01480** | 0.32940 | 0.12960 | **0.01413** | 2.50740 | 0.60000 | **0.01818** |
| | D | 0.01860 | 0.00100 | **0.01462** | 0.32940 | 0.12960 | **0.01397** | 2.50740 | 0.60000 | **0.01845** |
| sg13g2_and4_1 | A | 0.01860 | 0.00100 | **0.00825** | 0.32940 | 0.06480 | **0.00833** | 2.50740 | 0.30000 | **0.01337** |
| | B | 0.01860 | 0.00100 | **0.00990** | 0.32940 | 0.06480 | **0.00973** | 2.50740 | 0.30000 | **0.01502** |
| | C | 0.01860 | 0.00100 | **0.01064** | 0.32940 | 0.06480 | **0.01039** | 2.50740 | 0.30000 | **0.01534** |
| | D | 0.01860 | 0.00100 | **0.01048** | 0.32940 | 0.06480 | **0.01023** | 2.50740 | 0.30000 | **0.01452** |

**Internal switching power(pJ) to X falling :**

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_and4_2 | A | 0.01860 | 0.00100 | **0.00889** | 0.32940 | 0.12960 | **0.00934** | 2.50740 | 0.60000 | **0.01327** |
| | B | 0.01860 | 0.00100 | **0.00913** | 0.32940 | 0.12960 | **0.00945** | 2.50740 | 0.60000 | **0.01282** |
| | C | 0.01860 | 0.00100 | **0.01010** | 0.32940 | 0.12960 | **0.01017** | 2.50740 | 0.60000 | **0.01406** |
| | D | 0.01860 | 0.00100 | **0.01017** | 0.32940 | 0.12960 | **0.01030** | 2.50740 | 0.60000 | **0.01470** |
| sg13g2_and4_1 | A | 0.01860 | 0.00100 | **0.00533** | 0.32940 | 0.06480 | **0.00538** | 2.50740 | 0.30000 | **0.01129** |
| | B | 0.01860 | 0.00100 | **0.00559** | 0.32940 | 0.06480 | **0.00565** | 2.50740 | 0.30000 | **0.01033** |
| | C | 0.01860 | 0.00100 | **0.00656** | 0.32940 | 0.06480 | **0.00668** | 2.50740 | 0.30000 | **0.01233** |
| | D | 0.01860 | 0.00100 | **0.00661** | 0.32940 | 0.06480 | **0.00678** | 2.50740 | 0.30000 | **0.01205** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_and4_2** | 0.01860 | **-0.00011** | 0.32940 | **-0.00012** | 2.50740 | **-0.00011** |
| **sg13g2_and4_1** | 0.01860 | **-0.00012** | 0.32940 | **-0.00012** | 2.50740 | **-0.00011** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_and4_2** | 0.01860 | **0.00080** | 0.32940 | **0.00083** | 2.50740 | **0.00083** |
| **sg13g2_and4_1** | 0.01860 | **0.00081** | 0.32940 | **0.00083** | 2.50740 | **0.00083** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_and4_2** | **(B * C * !D) + (B * !C)** | 0.01860 | **-0.00011** | 0.32940 | **-0.00012** | 2.50740 | **-0.00011** |
| **sg13g2_and4_1** | **(B * C * !D) + (B * !C)** | 0.01860 | **-0.00012** | 0.32940 | **-0.00012** | 2.50740 | **-0.00011** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_and4_2** | **(B * C * !D) + (B * !C)** | 0.01860 | **0.00080** | 0.32940 | **0.00083** | 2.50740 | **0.00083** |
| **sg13g2_and4_1** | **(B * C * !D) + (B * !C)** | 0.01860 | **0.00081** | 0.32940 | **0.00083** | 2.50740 | **0.00083** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_and4_2** | 0.01860 | **-0.00028** | 0.32940 | **-0.00029** | 2.50740 | **-0.00029** |
| **sg13g2_and4_1** | 0.01860 | **-0.00028** | 0.32940 | **-0.00029** | 2.50740 | **-0.00029** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_and4_2** | 0.01860 | **0.00058** | 0.32940 | **0.00061** | 2.50740 | **0.00062** |
| **sg13g2_and4_1** | 0.01860 | **0.00059** | 0.32940 | **0.00061** | 2.50740 | **0.00062** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_and4_2** | **(A * C * !D) + (A * !C)** | 0.01860 | **-0.00028** | 0.32940 | **-0.00029** | 2.50740 | **-0.00029** |
| **sg13g2_and4_1** | **(A * C * !D) + (A * !C)** | 0.01860 | **-0.00028** | 0.32940 | **-0.00029** | 2.50740 | **-0.00029** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_and4_2** | **(A * C * !D) + (A * !C)** | 0.01860 | **0.00058** | 0.32940 | **0.00061** | 2.50740 | **0.00062** |
| **sg13g2_and4_1** | **(A * C * !D) + (A * !C)** | 0.01860 | **0.00059** | 0.32940 | **0.00061** | 2.50740 | **0.00062** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_and4_2** | 0.01860 | **0.00025** | 0.32940 | **0.00026** | 2.50740 | **0.00026** |
| **sg13g2_and4_1** | 0.01860 | **0.00025** | 0.32940 | **0.00026** | 2.50740 | **0.00026** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_and4_2** | 0.01860 | **-0.00025** | 0.32940 | **-0.00025** | 2.50740 | **-0.00024** |
| **sg13g2_and4_1** | 0.01860 | **-0.00025** | 0.32940 | **-0.00025** | 2.50740 | **-0.00024** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_and4_2** | **(A * !B * D) + (!A * D)** | 0.01860 | **0.00025** | 0.32940 | **0.00026** | 2.50740 | **0.00026** |
| **sg13g2_and4_1** | **(A * !B * D) + (!A * D)** | 0.01860 | **0.00025** | 0.32940 | **0.00026** | 2.50740 | **0.00026** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_and4_2** | **(A * !B * D) + (!A * D)** | 0.01860 | **-0.00025** | 0.32940 | **-0.00025** | 2.50740 | **-0.00024** |
| **sg13g2_and4_1** | **(A * !B * D) + (!A * D)** | 0.01860 | **-0.00025** | 0.32940 | **-0.00025** | 2.50740 | **-0.00024** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_and4_2** | 0.01860 | **0.00164** | 0.32940 | **0.00166** | 2.50740 | **0.00165** |
| **sg13g2_and4_1** | 0.01860 | **0.00164** | 0.32940 | **0.00166** | 2.50740 | **0.00165** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_and4_2** | 0.01860 | **-0.00012** | 0.32940 | **-0.00011** | 2.50740 | **-0.00012** |
| **sg13g2_and4_1** | 0.01860 | **-0.00011** | 0.32940 | **-0.00011** | 2.50740 | **-0.00012** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_and4_2** | **(A * !B * C) + (!A * C)** | 0.01860 | **0.00164** | 0.32940 | **0.00166** | 2.50740 | **0.00165** |
| **sg13g2_and4_1** | **(A * !B * C) + (!A * C)** | 0.01860 | **0.00164** | 0.32940 | **0.00166** | 2.50740 | **0.00165** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_and4_2** | **(A * !B * C) + (!A * C)** | 0.01860 | **-0.00012** | 0.32940 | **-0.00011** | 2.50740 | **-0.00012** |
| **sg13g2_and4_1** | **(A * !B * C) + (!A * C)** | 0.01860 | **-0.00011** | 0.32940 | **-0.00011** | 2.50740 | **-0.00012** |

# AO21x

*sg13g2_stdcell_typ_1p20V_25C Cell Library: Process*
*sg13g2_stdcell_typ_1p20V_25C, Voltage 1.20, Temp 25.00*

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## Truth Table

| INPUT | | | OUTPUT |
|---|---|---|---|
| A1 | A2 | B1 | X |
| 0 | x | 0 | 0 |
| x | x | 1 | 1 |
| 1 | 0 | 0 | 0 |
| 1 | 1 | x | 1 |

## Footprint

| Cell Name | Area |
|---|---|
| sg13g2_a21o_2 | 14.51520 |
| sg13g2_a21o_1 | 12.70080 |

## Pin Capacitance Information

| Cell Name | Pin Cap(pf) | | | Max Cap(pf) |
|---|---|---|---|---|
| | A1 | A2 | B1 | X |
| sg13g2_a21o_2 | 0.00296 | 0.00291 | 0.00262 | 0.60000 |
| sg13g2_a21o_1 | 0.00277 | 0.00282 | 0.00248 | 0.30000 |

# Leakage Information

| Cell Name | Leakage(pW) | | |
|---|---|---|---|
| | Min. | Avg | Max. |
| **sg13g2_a21o_2** | 183.45400 | 224.26500 | 271.20200 |
| **sg13g2_a21o_1** | 127.42800 | 158.34300 | 178.04700 |

# Delay Information

**Delay(ns) to X rising :**

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_a21o_2 | A1->X (RR) | 0.01860 | 0.00100 | **0.08476** | 0.32940 | 0.12960 | **0.39239** | 2.50740 | 0.60000 | **1.33220** |
| | A2->X (RR) | 0.01860 | 0.00100 | **0.08893** | 0.32940 | 0.12960 | **0.38901** | 2.50740 | 0.60000 | **1.33199** |
| | B1->X (RR) | 0.01860 | 0.00100 | **0.05394** | 0.32940 | 0.12960 | **0.34981** | 2.50740 | 0.60000 | **1.24935** |
| sg13g2_a21o_1 | A1->X (RR) | 0.01860 | 0.00100 | **0.07913** | 0.32940 | 0.06480 | **0.37207** | 2.50740 | 0.30000 | **1.30090** |
| | A2->X (RR) | 0.01860 | 0.00100 | **0.08348** | 0.32940 | 0.06480 | **0.37113** | 2.50740 | 0.30000 | **1.30160** |
| | B1->X (RR) | 0.01860 | 0.00100 | **0.05095** | 0.32940 | 0.06480 | **0.33131** | 2.50740 | 0.30000 | **1.21297** |

**Delay(ns) to X falling :**

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_a21o_2 | A1->X (FF) | 0.01860 | 0.00100 | **0.11575** | 0.32940 | 0.12960 | **0.38723** | 2.50740 | 0.60000 | **1.17915** |
| | A2->X (FF) | 0.01860 | 0.00100 | **0.12530** | 0.32940 | 0.12960 | **0.40243** | 2.50740 | 0.60000 | **1.21572** |
| | B1->X (FF) | 0.01860 | 0.00100 | **0.11530** | 0.32940 | 0.12960 | **0.40359** | 2.50740 | 0.60000 | **1.24636** |
| sg13g2_a21o_1 | A1->X (FF) | 0.01860 | 0.00100 | **0.09169** | 0.32940 | 0.06480 | **0.33987** | 2.50740 | 0.30000 | **1.06940** |
| | A2->X (FF) | 0.01860 | 0.00100 | **0.10020** | 0.32940 | 0.06480 | **0.35449** | 2.50740 | 0.30000 | **1.10149** |
| | B1->X (FF) | 0.01860 | 0.00100 | **0.08975** | 0.32940 | 0.06480 | **0.34915** | 2.50740 | 0.30000 | **1.11415** |

**Delay(ns) to X rising (conditional):**

| Cell Name | Timing Arc(Dir) | When | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_a21o_2 | B1->X (RR) | (A1 * !A2) | 0.01860 | 0.00100 | **0.05394** | 0.32940 | 0.12960 | **0.34981** | 2.50740 | 0.60000 | **1.24935** |
| | B1->X (RR) | (!A1 * A2) | 0.01860 | 0.00100 | **0.05166** | 0.32940 | 0.12960 | **0.33889** | 2.50740 | 0.60000 | **1.21091** |
| sg13g2_a21o_1 | B1->X (RR) | (A1 * !A2) | 0.01860 | 0.00100 | **0.05095** | 0.32940 | 0.06480 | **0.33131** | 2.50740 | 0.30000 | **1.21297** |
| | B1->X (RR) | (!A1 * A2) | 0.01860 | 0.00100 | **0.04786** | 0.32940 | 0.06480 | **0.31906** | 2.50740 | 0.30000 | **1.17049** |

## Delay(ns) to X falling (conditional):

| Cell Name | Timing Arc(Dir) | When | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_a21o_2 | B1->X (FF) | (A1 * !A2) | 0.01860 | 0.00100 | **0.11530** | 0.32940 | 0.12960 | **0.40359** | 2.50740 | 0.60000 | **1.24636** |
| | B1->X (FF) | (!A1 * A2) | 0.01860 | 0.00100 | **0.10369** | 0.32940 | 0.12960 | **0.38621** | 2.50740 | 0.60000 | **1.20622** |
| sg13g2_a21o_1 | B1->X (FF) | (A1 * !A2) | 0.01860 | 0.00100 | **0.08975** | 0.32940 | 0.06480 | **0.34915** | 2.50740 | 0.30000 | **1.11415** |
| | B1->X (FF) | (!A1 * A2) | 0.01860 | 0.00100 | **0.07970** | 0.32940 | 0.06480 | **0.33067** | 2.50740 | 0.30000 | **1.07312** |

# Power Information

**Internal switching power(pJ) to X rising :**

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_a21o_2 | A1 | 0.01860 | 0.00100 | **0.01098** | 0.32940 | 0.12960 | **0.01118** | 2.50740 | 0.60000 | **0.01746** |
| | A2 | 0.01860 | 0.00100 | **0.01251** | 0.32940 | 0.12960 | **0.01269** | 2.50740 | 0.60000 | **0.01780** |
| | B1 | 0.01860 | 0.00100 | **0.00935** | 0.32940 | 0.12960 | **0.00947** | 2.50740 | 0.60000 | **0.01688** |
| sg13g2_a21o_1 | A1 | 0.01860 | 0.00100 | **0.00715** | 0.32940 | 0.06480 | **0.00719** | 2.50740 | 0.30000 | **0.01340** |
| | A2 | 0.01860 | 0.00100 | **0.00851** | 0.32940 | 0.06480 | **0.00846** | 2.50740 | 0.30000 | **0.01362** |
| | B1 | 0.01860 | 0.00100 | **0.00553** | 0.32940 | 0.06480 | **0.00561** | 2.50740 | 0.30000 | **0.01373** |

**Internal switching power(pJ) to X falling :**

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_a21o_2 | A1 | 0.01860 | 0.00100 | **0.01216** | 0.32940 | 0.12960 | **0.01202** | 2.50740 | 0.60000 | **0.01653** |
| | A2 | 0.01860 | 0.00100 | **0.01219** | 0.32940 | 0.12960 | **0.01241** | 2.50740 | 0.60000 | **0.01672** |
| | B1 | 0.01860 | 0.00100 | **0.00962** | 0.32940 | 0.12960 | **0.00975** | 2.50740 | 0.60000 | **0.01507** |
| sg13g2_a21o_1 | A1 | 0.01860 | 0.00100 | **0.00824** | 0.32940 | 0.06480 | **0.00827** | 2.50740 | 0.30000 | **0.01413** |
| | A2 | 0.01860 | 0.00100 | **0.00825** | 0.32940 | 0.06480 | **0.00844** | 2.50740 | 0.30000 | **0.01453** |
| | B1 | 0.01860 | 0.00100 | **0.00571** | 0.32940 | 0.06480 | **0.00609** | 2.50740 | 0.30000 | **0.01292** |

**Internal switching power(pJ) to X rising (conditional):**

| Cell Name | Input | When | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_a21o_2 | B1 | (A1 * !A2) | 0.01860 | 0.00100 | **0.01097** | 0.32940 | 0.12960 | **0.01136** | 2.50740 | 0.60000 | **0.01785** |
| | B1 | (!A1 * A2) | 0.01860 | 0.00100 | **0.00935** | 0.32940 | 0.12960 | **0.00947** | 2.50740 | 0.60000 | **0.01688** |
| sg13g2_a21o_1 | B1 | (A1 * !A2) | 0.01860 | 0.00100 | **0.00693** | 0.32940 | 0.06480 | **0.00704** | 2.50740 | 0.30000 | **0.01344** |
| | B1 | (!A1 * A2) | 0.01860 | 0.00100 | **0.00553** | 0.32940 | 0.06480 | **0.00561** | 2.50740 | 0.30000 | **0.01373** |

**Internal switching power(pJ) to X falling (conditional):**

| Cell Name | Input | When | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_a21o_2 | B1 | (A1 * !A2) | 0.01860 | 0.00100 | **0.00980** | 0.32940 | 0.12960 | **0.00994** | 2.50740 | 0.60000 | **0.01669** |
| | B1 | (!A1 * A2) | 0.01860 | 0.00100 | **0.00962** | 0.32940 | 0.12960 | **0.00975** | 2.50740 | 0.60000 | **0.01507** |
| sg13g2_a21o_1 | B1 | (A1 * !A2) | 0.01860 | 0.00100 | **0.00583** | 0.32940 | 0.06480 | **0.00614** | 2.50740 | 0.30000 | **0.01239** |
| | B1 | (!A1 * A2) | 0.01860 | 0.00100 | **0.00571** | 0.32940 | 0.06480 | **0.00609** | 2.50740 | 0.30000 | **0.01292** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_a21o_2** | 0.01860 | **0.00015** | 0.32940 | **0.00020** | 2.50740 | **0.00020** |
| **sg13g2_a21o_1** | 0.01860 | **0.00001** | 0.32940 | **0.00004** | 2.50740 | **0.00005** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_a21o_2** | 0.01860 | **-0.00014** | 0.32940 | **-0.00015** | 2.50740 | **-0.00015** |
| **sg13g2_a21o_1** | 0.01860 | **-0.00001** | 0.32940 | **-0.00002** | 2.50740 | **-0.00002** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_a21o_2** | **(A2 * B1)** | 0.01860 | **0.00031** | 0.32940 | **0.00017** | 2.50740 | **0.00012** |
| | **(!A2 * B1)** | 0.01860 | **0.00015** | 0.32940 | **0.00020** | 2.50740 | **0.00020** |
| **sg13g2_a21o_1** | **(A2 * B1)** | 0.01860 | **0.00020** | 0.32940 | **0.00005** | 2.50740 | **-0.00000** |
| | **(!A2 * B1)** | 0.01860 | **0.00001** | 0.32940 | **0.00004** | 2.50740 | **0.00005** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_a21o_2 | (A2 * B1) | 0.01860 | **0.00011** | 0.32940 | **0.00011** | 2.50740 | **0.00011** |
| | (!A2 * B1) | 0.01860 | **-0.00014** | 0.32940 | **-0.00015** | 2.50740 | **-0.00015** |
| sg13g2_a21o_1 | (A2 * B1) | 0.01860 | **0.00025** | 0.32940 | **0.00025** | 2.50740 | **0.00025** |
| | (!A2 * B1) | 0.01860 | **-0.00001** | 0.32940 | **-0.00002** | 2.50740 | **-0.00002** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_a21o_2 | 0.01860 | **0.00015** | 0.32940 | **0.00014** | 2.50740 | **0.00014** |
| sg13g2_a21o_1 | 0.01860 | **0.00007** | 0.32940 | **0.00007** | 2.50740 | **0.00007** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_a21o_2 | 0.01860 | **-0.00010** | 0.32940 | **-0.00010** | 2.50740 | **-0.00009** |
| sg13g2_a21o_1 | 0.01860 | **-0.00004** | 0.32940 | **-0.00004** | 2.50740 | **-0.00004** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_a21o_2 | (A1 * B1) | 0.01860 | **0.00026** | 0.32940 | **0.00011** | 2.50740 | **0.00006** |
| | (!A1 * B1) | 0.01860 | **0.00015** | 0.32940 | **0.00014** | 2.50740 | **0.00014** |
| sg13g2_a21o_1 | (A1 * B1) | 0.01860 | **0.00023** | 0.32940 | **0.00007** | 2.50740 | **0.00002** |
| | (!A1 * B1) | 0.01860 | **0.00007** | 0.32940 | **0.00007** | 2.50740 | **0.00007** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_a21o_2 | (A1 * B1) | 0.01860 | **0.00017** | 0.32940 | **0.00017** | 2.50740 | **0.00017** |
| | (!A1 * B1) | 0.01860 | **-0.00010** | 0.32940 | **-0.00010** | 2.50740 | **-0.00009** |
| sg13g2_a21o_1 | (A1 * B1) | 0.01860 | **0.00022** | 0.32940 | **0.00023** | 2.50740 | **0.00022** |
| | (!A1 * B1) | 0.01860 | **-0.00004** | 0.32940 | **-0.00004** | 2.50740 | **-0.00004** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_a21o_2 | 0.01860 | **0.00073** | 0.32940 | **0.00077** | 2.50740 | **0.00077** |
| sg13g2_a21o_1 | 0.01860 | **0.00066** | 0.32940 | **0.00068** | 2.50740 | **0.00069** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_a21o_2 | 0.01860 | **0.00046** | 0.32940 | **0.00045** | 2.50740 | **0.00046** |
| sg13g2_a21o_1 | 0.01860 | **0.00055** | 0.32940 | **0.00056** | 2.50740 | **0.00057** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_a21o_2 | (A1 * A2) | 0.01860 | **0.00073** | 0.32940 | **0.00077** | 2.50740 | **0.00077** |
| sg13g2_a21o_1 | (A1 * A2) | 0.01860 | **0.00066** | 0.32940 | **0.00068** | 2.50740 | **0.00069** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_a21o_2 | (A1 * A2) | 0.01860 | **0.00046** | 0.32940 | **0.00045** | 2.50740 | **0.00046** |
| sg13g2_a21o_1 | (A1 * A2) | 0.01860 | **0.00055** | 0.32940 | **0.00056** | 2.50740 | **0.00057** |

# BTLx

*sg13g2_stdcell_typ_1p20V_25C Cell Library: Process*
*sg13g2_stdcell_typ_1p20V_25C, Voltage 1.20, Temp 25.00*

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## Truth Table

| INPUT | | OUTPUT |
|---|---|---|
| A | TE_B | Z |
| 0 | 0 | 0 |
| 1 | 0 | 1 |
| - | 1 | HiZ |

## Footprint

| Cell Name | Area |
|---|---|
| sg13g2_ebufn_8 | 45.36000 |
| sg13g2_ebufn_4 | 25.40160 |
| sg13g2_ebufn_2 | 18.14400 |

## Pin Capacitance Information

| Cell Name | Pin Cap(pf) | | Max Cap(pf) |
|---|---|---|---|
| | A | TE_B | Z |
| sg13g2_ebufn_8 | 0.00582 | 0.01641 | 2.40000 |
| sg13g2_ebufn_4 | 0.00298 | 0.00993 | 1.20000 |
| sg13g2_ebufn_2 | 0.00263 | 0.00612 | 0.60000 |

# Leakage Information

| Cell Name | Leakage(pW) | | |
|---|---|---|---|
| | Min. | Avg | Max. |
| **sg13g2_ebufn_8** | 278.55600 | 689.92700 | 1153.55000 |
| **sg13g2_ebufn_4** | 180.43500 | 376.40900 | 598.54700 |
| **sg13g2_ebufn_2** | 138.43700 | 236.41300 | 331.23500 |

# Delay Information

**Delay(ns) to Z rising :**

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_ebufn_8 | A->Z (RR) | 0.01860 | 0.01896 | **0.06421** | 0.32940 | 0.53636 | **0.57723** | 2.50740 | 2.41796 | **2.23824** |
| | TE_B->Z (RR) | 0.01860 | 0.01896 | **0.06476** | 0.32940 | 0.53636 | **0.17603** | 2.50740 | 2.41796 | **0.42371** |
| | TE_B->Z (FR) | 0.01860 | 0.01896 | **0.03553** | 0.32940 | 0.53636 | **0.52502** | 2.50740 | 2.41796 | **2.65351** |
| sg13g2_ebufn_4 | A->Z (RR) | 0.01860 | 0.01006 | **0.06614** | 0.32940 | 0.26826 | **0.57808** | 2.50740 | 1.20906 | **2.23627** |
| | TE_B->Z (RR) | 0.01860 | 0.01006 | **0.05125** | 0.32940 | 0.26826 | **0.13491** | 2.50740 | 1.20906 | **0.30122** |
| | TE_B->Z (FR) | 0.01860 | 0.01006 | **0.03553** | 0.32940 | 0.26826 | **0.52348** | 2.50740 | 1.20906 | **2.64844** |
| sg13g2_ebufn_2 | A->Z (RR) | 0.01860 | 0.00560 | **0.05754** | 0.32940 | 0.13420 | **0.54094** | 2.50740 | 0.60460 | **2.13356** |
| | TE_B->Z (RR) | 0.01860 | 0.00560 | **0.04494** | 0.32940 | 0.13420 | **0.11447** | 2.50740 | 0.60460 | **0.25120** |
| | TE_B->Z (FR) | 0.01860 | 0.00560 | **0.03544** | 0.32940 | 0.13420 | **0.51880** | 2.50740 | 0.60460 | **2.63242** |

**Delay(ns) to Z falling :**

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_ebufn_8 | A->Z (FF) | 0.01860 | 0.02966 | **0.08693** | 0.32940 | 0.54706 | **0.48729** | 2.50740 | 2.42866 | **1.73431** |
| | TE_B->Z (RF) | 0.01860 | 0.02966 | **0.03854** | 0.32940 | 0.54706 | **-0.18816** | 2.50740 | 2.42866 | **-1.87475** |
| | TE_B->Z (FF) | 0.01860 | 0.02966 | **0.09457** | 0.32940 | 0.54706 | **0.56026** | 2.50740 | 2.42866 | **2.03989** |
| sg13g2_ebufn_4 | A->Z (FF) | 0.01860 | 0.01556 | **0.08934** | 0.32940 | 0.27376 | **0.48980** | 2.50740 | 1.21456 | **1.73986** |
| | TE_B->Z (RF) | 0.01860 | 0.01556 | **0.02966** | 0.32940 | 0.27376 | **-0.18710** | 2.50740 | 1.21456 | **-1.87363** |
| | TE_B->Z (FF) | 0.01860 | 0.01556 | **0.07102** | 0.32940 | 0.27376 | **0.50568** | 2.50740 | 1.21456 | **1.89332** |
| sg13g2_ebufn_2 | A->Z (FF) | 0.01860 | 0.00844 | **0.06753** | 0.32940 | 0.13704 | **0.44266** | 2.50740 | 0.60744 | **1.61408** |
| | TE_B->Z (RF) | 0.01860 | 0.00844 | **0.02103** | 0.32940 | 0.13704 | **-0.20438** | 2.50740 | 0.60744 | **-1.89061** |
| | TE_B->Z (FF) | 0.01860 | 0.00844 | **0.06018** | 0.32940 | 0.13704 | **0.46908** | 2.50740 | 0.60744 | **1.79507** |

# Power Information

**Internal switching power(pJ) to Z rising :**

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_ebufn_8 | A | 0.01860 | 0.01896 | **0.03123** | 0.32940 | 0.53636 | **0.03969** | 2.50740 | 2.41796 | **0.04032** |
| | TE_B | 0.01860 | 0.01896 | **0.00604** | 0.32940 | 0.53636 | **0.00406** | 2.50740 | 2.41796 | **-0.00033** |
| sg13g2_ebufn_4 | A | 0.01860 | 0.01006 | **0.01565** | 0.32940 | 0.26826 | **0.01951** | 2.50740 | 1.20906 | **0.01811** |
| | TE_B | 0.01860 | 0.01006 | **0.00301** | 0.32940 | 0.26826 | **0.00193** | 2.50740 | 1.20906 | **-0.00023** |
| sg13g2_ebufn_2 | A | 0.01860 | 0.00560 | **0.00816** | 0.32940 | 0.13420 | **0.00972** | 2.50740 | 0.60460 | **0.00858** |
| | TE_B | 0.01860 | 0.00560 | **0.00152** | 0.32940 | 0.13420 | **0.00103** | 2.50740 | 0.60460 | **-0.00038** |

**Internal switching power(pJ) to Z falling :**

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_ebufn_8 | A | 0.01860 | 0.02966 | **0.03396** | 0.32940 | 0.54706 | **0.03455** | 2.50740 | 2.42866 | **0.02585** |
| | TE_B | 0.01860 | 0.02966 | **0.00509** | 0.32940 | 0.54706 | **0.03971** | 2.50740 | 2.42866 | **0.17435** |
| sg13g2_ebufn_4 | A | 0.01860 | 0.01556 | **0.01704** | 0.32940 | 0.27376 | **0.01726** | 2.50740 | 1.21456 | **0.01329** |
| | TE_B | 0.01860 | 0.01556 | **0.00262** | 0.32940 | 0.27376 | **0.02019** | 2.50740 | 1.21456 | **0.08883** |
| sg13g2_ebufn_2 | A | 0.01860 | 0.00844 | **0.00850** | 0.32940 | 0.13704 | **0.00869** | 2.50740 | 0.60744 | **0.00722** |
| | TE_B | 0.01860 | 0.00844 | **0.00137** | 0.32940 | 0.13704 | **0.01034** | 2.50740 | 0.60744 | **0.04299** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_ebufn_8** | 0.01860 | **0.01120** | 0.32940 | **0.01159** | 2.50740 | **0.02839** |
| **sg13g2_ebufn_4** | 0.01860 | **0.00598** | 0.32940 | **0.00616** | 2.50740 | **0.01441** |
| **sg13g2_ebufn_2** | 0.01860 | **0.00361** | 0.32940 | **0.00385** | 2.50740 | **0.01137** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_ebufn_8** | 0.01860 | **0.00905** | 0.32940 | **0.00974** | 2.50740 | **0.02628** |
| **sg13g2_ebufn_4** | 0.01860 | **0.00487** | 0.32940 | **0.00516** | 2.50740 | **0.01340** |
| **sg13g2_ebufn_2** | 0.01860 | **0.00311** | 0.32940 | **0.00349** | 2.50740 | **0.01089** |

**Passive power(pJ) for TE_B rising :**

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_ebufn_8** | 0.01860 | **-0.00309** | 0.32940 | **-0.00419** | 2.50740 | **0.00233** |
| **sg13g2_ebufn_4** | 0.01860 | **-0.00044** | 0.32940 | **-0.00105** | 2.50740 | **0.00671** |
| **sg13g2_ebufn_2** | 0.01860 | **0.00042** | 0.32940 | **0.00021** | 2.50740 | **0.00741** |

**Passive power(pJ) for TE_B falling :**

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_ebufn_8** | 0.01860 | **0.05124** | 0.32940 | **0.05218** | 2.50740 | **0.05925** |
| **sg13g2_ebufn_4** | 0.01860 | **0.02650** | 0.32940 | **0.02734** | 2.50740 | **0.03510** |
| **sg13g2_ebufn_2** | 0.01860 | **0.01400** | 0.32940 | **0.01450** | 2.50740 | **0.02184** |

# BUx

*sg13g2_stdcell_typ_1p20V_25C Cell Library: Process*
*sg13g2_stdcell_typ_1p20V_25C, Voltage 1.20, Temp 25.00*

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## Truth Table

| INPUT | OUTPUT |
|---|---|
| A | X |
| 0 | 0 |
| 1 | 1 |

## Footprint

| Cell Name | Area |
|---|---|
| **sg13g2_buf_16** | 45.36000 |
| **sg13g2_buf_8** | 23.58720 |
| **sg13g2_buf_4** | 14.51520 |
| **sg13g2_buf_2** | 9.07200 |
| **sg13g2_buf_1** | 7.25760 |

## Pin Capacitance Information

| Cell Name | Pin Cap(pf) | Max Cap(pf) |
|---|---|---|
| | A | X |
| **sg13g2_buf_16** | 0.01718 | 4.80000 |
| **sg13g2_buf_8** | 0.00862 | 2.40000 |
| **sg13g2_buf_4** | 0.00374 | 1.20000 |
| **sg13g2_buf_2** | 0.00263 | 0.60000 |
| **sg13g2_buf_1** | 0.00234 | 0.30000 |

# Leakage Information

| Cell Name | Leakage(pW) | | |
|---|---|---|---|
| | Min. | Avg | Max. |
| **sg13g2_buf_16** | 1191.00000 | 1385.37000 | 1579.74000 |
| **sg13g2_buf_8** | 595.51200 | 692.68800 | 789.86400 |
| **sg13g2_buf_4** | 291.93100 | 337.35700 | 382.78200 |
| **sg13g2_buf_2** | 160.48500 | 181.52500 | 202.56400 |
| **sg13g2_buf_1** | 106.67400 | 110.33900 | 114.00400 |

# Delay Information

**Delay(ns) to X rising :**

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| **sg13g2_buf_16** | **A->X (RR)** | 0.01860 | 0.00100 | **0.05428** | 0.32940 | 1.03680 | **0.35377** | 2.50740 | 4.80000 | **1.27621** |
| **sg13g2_buf_8** | **A->X (RR)** | 0.01860 | 0.00100 | **0.05383** | 0.32940 | 0.51840 | **0.35247** | 2.50740 | 2.40000 | **1.27381** |
| **sg13g2_buf_4** | **A->X (RR)** | 0.01860 | 0.00100 | **0.06865** | 0.32940 | 0.25920 | **0.38706** | 2.50740 | 1.20000 | **1.39912** |
| **sg13g2_buf_2** | **A->X (RR)** | 0.01860 | 0.00100 | **0.05396** | 0.32940 | 0.12960 | **0.34775** | 2.50740 | 0.60000 | **1.26535** |
| **sg13g2_buf_1** | **A->X (RR)** | 0.01860 | 0.00100 | **0.04807** | 0.32940 | 0.06480 | **0.32378** | 2.50740 | 0.30000 | **1.19822** |

**Delay(ns) to X falling :**

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| **sg13g2_buf_16** | **A->X (FF)** | 0.01860 | 0.00100 | **0.06297** | 0.32940 | 1.03680 | **0.33288** | 2.50740 | 4.80000 | **1.10116** |
| **sg13g2_buf_8** | **A->X (FF)** | 0.01860 | 0.00100 | **0.06237** | 0.32940 | 0.51840 | **0.33212** | 2.50740 | 2.40000 | **1.10272** |
| **sg13g2_buf_4** | **A->X (FF)** | 0.01860 | 0.00100 | **0.06165** | 0.32940 | 0.25920 | **0.32879** | 2.50740 | 1.20000 | **1.06377** |
| **sg13g2_buf_2** | **A->X (FF)** | 0.01860 | 0.00100 | **0.06037** | 0.32940 | 0.12960 | **0.32086** | 2.50740 | 0.60000 | **1.06630** |
| **sg13g2_buf_1** | **A->X (FF)** | 0.01860 | 0.00100 | **0.05249** | 0.32940 | 0.06480 | **0.29242** | 2.50740 | 0.30000 | **0.99224** |

# Power Information

**Internal switching power(pJ) to X rising :**

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| **sg13g2_buf_16** | **A** | 0.01860 | 0.00100 | **0.07454** | 0.32940 | 1.03680 | **0.07723** | 2.50740 | 4.80000 | **0.11904** |
| **sg13g2_buf_8** | **A** | 0.01860 | 0.00100 | **0.03676** | 0.32940 | 0.51840 | **0.03830** | 2.50740 | 2.40000 | **0.05896** |
| **sg13g2_buf_4** | **A** | 0.01860 | 0.00100 | **0.01782** | 0.32940 | 0.25920 | **0.01856** | 2.50740 | 1.20000 | **0.02830** |
| **sg13g2_buf_2** | **A** | 0.01860 | 0.00100 | **0.00966** | 0.32940 | 0.12960 | **0.00993** | 2.50740 | 0.60000 | **0.01610** |
| **sg13g2_buf_1** | **A** | 0.01860 | 0.00100 | **0.00573** | 0.32940 | 0.06480 | **0.00602** | 2.50740 | 0.30000 | **0.01152** |

**Internal switching power(pJ) to X falling :**

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| **sg13g2_buf_16** | **A** | 0.01860 | 0.00100 | **0.07157** | 0.32940 | 1.03680 | **0.07622** | 2.50740 | 4.80000 | **0.12444** |
| **sg13g2_buf_8** | **A** | 0.01860 | 0.00100 | **0.03532** | 0.32940 | 0.51840 | **0.03769** | 2.50740 | 2.40000 | **0.06501** |
| **sg13g2_buf_4** | **A** | 0.01860 | 0.00100 | **0.01781** | 0.32940 | 0.25920 | **0.01883** | 2.50740 | 1.20000 | **0.03018** |
| **sg13g2_buf_2** | **A** | 0.01860 | 0.00100 | **0.00941** | 0.32940 | 0.12960 | **0.01001** | 2.50740 | 0.60000 | **0.01905** |
| **sg13g2_buf_1** | **A** | 0.01860 | 0.00100 | **0.00565** | 0.32940 | 0.06480 | **0.00605** | 2.50740 | 0.30000 | **0.01164** |

# DECAPx

*sg13g2_stdcell_typ_1p20V_25C Cell Library: Process*
*sg13g2_stdcell_typ_1p20V_25C, Voltage 1.20, Temp 25.00*

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## Footprint

| Cell Name | Area |
|---|---|
| **sg13g2_decap_4** | 7.25760 |
| **sg13g2_decap_8** | 12.70080 |

## Pin Capacitance Information
## Leakage Information

| Cell Name | Leakage(pW) | | |
|---|---|---|---|
| | **Min.** | **Avg** | **Max.** |
| **sg13g2_decap_4** | 395.58100 | 395.58100 | 395.58100 |
| **sg13g2_decap_8** | 791.19800 | 791.19800 | 791.19800 |

# DFFRRx

*sg13g2_stdcell_typ_1p20V_25C Cell Library: Process*
*sg13g2_stdcell_typ_1p20V_25C, Voltage 1.20, Temp 25.00*

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## Truth Table

| INPUT | | | OUTPUT | |
|---|---|---|---|---|
| D | RESET_B | CLK | Q | Q_N |
| 0 | 1 | R | 0 | 1 |
| 1 | 1 | R | 1 | 0 |
| x | 0 | x | 0 | 1 |
| x | 1 | x | IQ | IQN |

## Footprint

| Cell Name | Area |
|---|---|
| sg13g2_dfrbp_2 | 54.43200 |
| sg13g2_dfrbp_1 | 47.17440 |

## Pin Capacitance Information

| Cell Name | Pin Cap(pf) | | | Max Cap(pf) | |
|---|---|---|---|---|---|
| | D | RESET_B | CLK | Q | Q_N |
| sg13g2_dfrbp_2 | 0.00163 | 0.00593 | 0.00285 | 0.60000 | 0.60000 |
| sg13g2_dfrbp_1 | 0.00175 | 0.00648 | 0.00277 | 0.30000 | 0.30000 |

# Leakage Information

| Cell Name | Leakage(pW) | | |
|---|---|---|---|
| | Min. | Avg | Max. |
| **sg13g2_dfrbp_2** | 606.91000 | 685.72400 | 774.40500 |
| **sg13g2_dfrbp_1** | 459.13100 | 538.54200 | 621.78800 |

# Delay Information

### Delay(ns) to Q rising :

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| **sg13g2_dfrbp_2** | **CLK->Q (RR)** | 0.01860 | 0.00100 | **0.24250** | 0.32940 | 0.12960 | **0.51772** | 2.50740 | 0.60000 | **1.43629** |
| **sg13g2_dfrbp_1** | **CLK->Q (RR)** | 0.01860 | 0.00100 | **0.19485** | 0.32940 | 0.06480 | **0.47604** | 2.50740 | 0.30000 | **1.37695** |

### Delay(ns) to Q falling :

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| **sg13g2_dfrbp_2** | **CLK->Q (RF)** | 0.01860 | 0.00100 | **0.20861** | 0.32940 | 0.12960 | **0.45797** | 2.50740 | 0.60000 | **1.20783** |
| | **RESET_B->Q (FF)** | 0.01860 | 0.00100 | **0.28137** | 0.32940 | 0.12960 | **0.56438** | 2.50740 | 0.60000 | **1.48049** |
| **sg13g2_dfrbp_1** | **CLK->Q (RF)** | 0.01860 | 0.00100 | **0.18548** | 0.32940 | 0.06480 | **0.43603** | 2.50740 | 0.30000 | **1.17784** |
| | **RESET_B->Q (FF)** | 0.01860 | 0.00100 | **0.24789** | 0.32940 | 0.06480 | **0.52829** | 2.50740 | 0.30000 | **1.42665** |

### Delay(ns) to Q_N rising :

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| **sg13g2_dfrbp_2** | **CLK->Q_N (RR)** | 0.01860 | 0.00100 | **0.13853** | 0.32940 | 0.12960 | **0.45516** | 2.50740 | 0.60000 | **1.33593** |
| | **RESET_B->Q_N (FR)** | 0.01860 | 0.00100 | **0.21267** | 0.32940 | 0.12960 | **0.55966** | 2.50740 | 0.60000 | **1.60642** |
| **sg13g2_dfrbp_1** | **CLK->Q_N (RR)** | 0.01860 | 0.00100 | **0.14157** | 0.32940 | 0.06480 | **0.44955** | 2.50740 | 0.30000 | **1.32436** |
| | **RESET_B->Q_N (FR)** | 0.01860 | 0.00100 | **0.20443** | 0.32940 | 0.06480 | **0.53970** | 2.50740 | 0.30000 | **1.57096** |

### Delay(ns) to Q_N falling :

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| **sg13g2_dfrbp_2** | **CLK->Q_N (RF)** | 0.01860 | 0.00100 | **0.15724** | 0.32940 | 0.12960 | **0.47276** | 2.50740 | 0.60000 | **1.26201** |
| **sg13g2_dfrbp_1** | **CLK->Q_N (RF)** | 0.01860 | 0.00100 | **0.14599** | 0.32940 | 0.06480 | **0.44007** | 2.50740 | 0.30000 | **1.21642** |

# Constraint Information

### Constraints(ns) for D rising :

| Cell Name | Timing Check | Ref Pin(trans) | Constraint(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Input Slew(ns) | Ref Slew(ns) | Min | Input Slew(ns) | Ref Slew(ns) | Mid | Input Slew(ns) | Ref Slew(ns) | Max |
| **sg13g2_dfrbp_2** | **hold** | **CLK (R)** | 0.01860 | 0.01860 | **-0.04401** | 1.26300 | 1.26300 | **-0.18619** | 2.50740 | 2.50740 | **-0.24793** |
| | **setup** | **CLK (R)** | 0.01860 | 0.01860 | **0.12715** | 1.26300 | 1.26300 | **0.26984** | 2.50740 | 2.50740 | **0.33057** |
| **sg13g2_dfrbp_1** | **hold** | **CLK (R)** | 0.01860 | 0.01860 | **-0.04890** | 1.26300 | 1.26300 | **-0.19698** | 2.50740 | 2.50740 | **-0.27154** |
| | **setup** | **CLK (R)** | 0.01860 | 0.01860 | **0.12226** | 1.26300 | 1.26300 | **0.27523** | 2.50740 | 2.50740 | **0.34533** |

### Constraints(ns) for D falling :

| Cell Name | Timing Check | Ref Pin(trans) | Constraint(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Input Slew(ns) | Ref Slew(ns) | Min | Input Slew(ns) | Ref Slew(ns) | Mid | Input Slew(ns) | Ref Slew(ns) | Max |
| **sg13g2_dfrbp_2** | **hold** | **CLK (R)** | 0.01860 | 0.01860 | **-0.02201** | 1.26300 | 1.26300 | **-0.13762** | 2.50740 | 2.50740 | **-0.22432** |
| | **setup** | **CLK (R)** | 0.01860 | 0.01860 | **0.12715** | 1.26300 | 1.26300 | **0.26174** | 2.50740 | 2.50740 | **0.35123** |
| **sg13g2_dfrbp_1** | **hold** | **CLK (R)** | 0.01860 | 0.01860 | **-0.01956** | 1.26300 | 1.26300 | **-0.12682** | 2.50740 | 2.50740 | **-0.20661** |
| | **setup** | **CLK (R)** | 0.01860 | 0.01860 | **0.11981** | 1.26300 | 1.26300 | **0.25634** | 2.50740 | 2.50740 | **0.34828** |

### Constraints(ns) for RESET_B rising :

| Cell Name | Timing Check | Ref Pin(trans) | Constraint(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Input Slew(ns) | Ref Slew(ns) | Min | Input Slew(ns) | Ref Slew(ns) | Mid | Input Slew(ns) | Ref Slew(ns) | Max |
| **sg13g2_dfrbp_2** | **recovery** | **CLK (R)** | 0.01860 | 0.01860 | **0.13448** | 1.26300 | 1.26300 | **0.29412** | 2.50740 | 2.50740 | **0.39846** |
| | **removal** | **CLK (R)** | 0.01860 | 0.01860 | **-0.10514** | 1.26300 | 1.26300 | **-0.26984** | 2.50740 | 2.50740 | **-0.38370** |
| **sg13g2_dfrbp_1** | **recovery** | **CLK (R)** | 0.01860 | 0.01860 | **0.12959** | 1.26300 | 1.26300 | **0.29682** | 2.50740 | 2.50740 | **0.41617** |
| | **removal** | **CLK (R)** | 0.01860 | 0.01860 | **-0.09781** | 1.26300 | 1.26300 | **-0.26714** | 2.50740 | 2.50740 | **-0.38370** |

### Min Pulse Width (ns) for RESET_B:

| Cell Name | High | Low |
|---|---|---|
| **sg13g2_dfrbp_2** | - | 3.3435 |
| **sg13g2_dfrbp_1** | - | 3.3435 |

### Min Pulse Width (ns) for CLK:

| Cell Name | High | Low |
|---|---|---|
| **sg13g2_dfrbp_2** | 3.3435 | 3.3435 |
| **sg13g2_dfrbp_1** | 3.3435 | 3.3435 |

# Power Information

**Internal switching power(pJ) to Q rising :**

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_dfrbp_2 | CLK | 0.01860 | 0.00100 | **0.03748** | 0.32940 | 0.12960 | **0.13100** | 2.50740 | 0.60000 | **0.48287** |
| sg13g2_dfrbp_1 | CLK | 0.01860 | 0.00100 | **0.03049** | 0.32940 | 0.06480 | **0.07689** | 2.50740 | 0.30000 | **0.25858** |

**Internal switching power(pJ) to Q falling :**

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_dfrbp_2 | CLK | 0.01860 | 0.00100 | **0.03793** | 0.32940 | 0.12960 | **0.13169** | 2.50740 | 0.60000 | **0.47870** |
| | RESET_B | 0.01860 | 0.00100 | **0.02856** | 0.32940 | 0.12960 | **0.12219** | 2.50740 | 0.60000 | **0.46524** |
| sg13g2_dfrbp_1 | CLK | 0.01860 | 0.00100 | **0.02983** | 0.32940 | 0.06480 | **0.07641** | 2.50740 | 0.30000 | **0.25408** |
| | RESET_B | 0.01860 | 0.00100 | **0.02010** | 0.32940 | 0.06480 | **0.06644** | 2.50740 | 0.30000 | **0.23959** |

**Internal switching power(pJ) to Q_N rising :**

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_dfrbp_2 | CLK | 0.01860 | 0.00100 | **0.03795** | 0.32940 | 0.12960 | **0.13220** | 2.50740 | 0.60000 | **0.48402** |
| | RESET_B | 0.01860 | 0.00100 | **0.02859** | 0.32940 | 0.12960 | **0.12277** | 2.50740 | 0.60000 | **0.46660** |
| sg13g2_dfrbp_1 | CLK | 0.01860 | 0.00100 | **0.02984** | 0.32940 | 0.06480 | **0.07672** | 2.50740 | 0.30000 | **0.25660** |
| | RESET_B | 0.01860 | 0.00100 | **0.02011** | 0.32940 | 0.06480 | **0.06678** | 2.50740 | 0.30000 | **0.24135** |

**Internal switching power(pJ) to Q_N falling :**

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_dfrbp_2 | CLK | 0.01860 | 0.00100 | **0.03749** | 0.32940 | 0.12960 | **0.13043** | 2.50740 | 0.60000 | **0.47900** |
| sg13g2_dfrbp_1 | CLK | 0.01860 | 0.00100 | **0.03047** | 0.32940 | 0.06480 | **0.07664** | 2.50740 | 0.30000 | **0.25367** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_dfrbp_2 | 0.01860 | **0.00164** | 0.32940 | **0.00173** | 2.50740 | **0.00503** |
| sg13g2_dfrbp_1 | 0.01860 | **0.00184** | 0.32940 | **0.00191** | 2.50740 | **0.00518** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_dfrbp_2** | 0.01860 | **0.00128** | 0.32940 | **0.00139** | 2.50740 | **0.00469** |
| **sg13g2_dfrbp_1** | 0.01860 | **0.00143** | 0.32940 | **0.00152** | 2.50740 | **0.00480** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_dfrbp_2** | **CLK** | 0.01860 | **0.00164** | 0.32940 | **0.00173** | 2.50740 | **0.00503** |
| | **(!CLK * RESET_B)** | 0.01860 | **0.01194** | 0.32940 | **0.01189** | 2.50740 | **0.01534** |
| | **(!CLK * !RESET_B)** | 0.01860 | **-0.00001** | 0.32940 | **-0.00002** | 2.50740 | **-0.00002** |
| **sg13g2_dfrbp_1** | **CLK** | 0.01860 | **0.00184** | 0.32940 | **0.00191** | 2.50740 | **0.00518** |
| | **(!CLK * RESET_B)** | 0.01860 | **0.01026** | 0.32940 | **0.01030** | 2.50740 | **0.01371** |
| | **(!CLK * !RESET_B)** | 0.01860 | **0.00012** | 0.32940 | **0.00011** | 2.50740 | **0.00011** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_dfrbp_2** | **CLK** | 0.01860 | **0.00128** | 0.32940 | **0.00139** | 2.50740 | **0.00469** |
| | **(!CLK * RESET_B)** | 0.01860 | **0.00913** | 0.32940 | **0.00909** | 2.50740 | **0.01268** |
| | **(!CLK * !RESET_B)** | 0.01860 | **0.00018** | 0.32940 | **0.00020** | 2.50740 | **0.00020** |
| **sg13g2_dfrbp_1** | **CLK** | 0.01860 | **0.00143** | 0.32940 | **0.00152** | 2.50740 | **0.00480** |
| | **(!CLK * RESET_B)** | 0.01860 | **0.00853** | 0.32940 | **0.00851** | 2.50740 | **0.01211** |
| | **(!CLK * !RESET_B)** | 0.01860 | **0.00010** | 0.32940 | **0.00011** | 2.50740 | **0.00012** |

**Passive power(pJ) for RESET_B rising :**

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_dfrbp_2** | 0.01860 | **0.00436** | 0.32940 | **0.00427** | 2.50740 | **0.00689** |
| **sg13g2_dfrbp_1** | 0.01860 | **0.00477** | 0.32940 | **0.00469** | 2.50740 | **0.00722** |

**Passive power(pJ) for RESET_B falling :**

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_dfrbp_2** | 0.01860 | **0.00883** | 0.32940 | **0.00836** | 2.50740 | **0.01258** |
| **sg13g2_dfrbp_1** | 0.01860 | **0.00787** | 0.32940 | **0.00738** | 2.50740 | **0.01169** |

**Passive power(pJ) for RESET_B rising (conditional):**

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_dfrbp_2** | **(CLK * D * !Q * Q_N)** | 0.01860 | **0.00436** | 0.32940 | **0.00427** | 2.50740 | **0.00689** |
| | **(CLK * !D * !Q * Q_N)** | 0.01860 | **0.00181** | 0.32940 | **0.00177** | 2.50740 | **0.00178** |
| | **(!CLK * D * !Q * Q_N)** | 0.01860 | **0.01480** | 0.32940 | **0.01451** | 2.50740 | **0.01821** |
| | **(!CLK * !D * !Q * Q_N)** | 0.01860 | **0.00189** | 0.32940 | **0.00185** | 2.50740 | **0.00184** |
| **sg13g2_dfrbp_1** | **(CLK * D * !Q * Q_N)** | 0.01860 | **0.00477** | 0.32940 | **0.00469** | 2.50740 | **0.00722** |
| | **(CLK * !D * !Q * Q_N)** | 0.01860 | **0.00223** | 0.32940 | **0.00219** | 2.50740 | **0.00219** |
| | **(!CLK * D * !Q * Q_N)** | 0.01860 | **0.01344** | 0.32940 | **0.01319** | 2.50740 | **0.01688** |
| | **(!CLK * !D * !Q * Q_N)** | 0.01860 | **0.00230** | 0.32940 | **0.00226** | 2.50740 | **0.00225** |

**Passive power(pJ) for RESET_B falling (conditional):**

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_dfrbp_2 | (CLK * D * !Q * Q_N) | 0.01860 | **0.03689** | 0.32940 | **0.03635** | 2.50740 | **0.04513** |
| | (CLK * !D * !Q * Q_N) | 0.01860 | **-0.00129** | 0.32940 | **-0.00146** | 2.50740 | **-0.00152** |
| | (!CLK * D * !Q * Q_N) | 0.01860 | **0.00883** | 0.32940 | **0.00836** | 2.50740 | **0.01258** |
| | (!CLK * !D * !Q * Q_N) | 0.01860 | **-0.00144** | 0.32940 | **-0.00154** | 2.50740 | **-0.00158** |
| sg13g2_dfrbp_1 | (CLK * D * !Q * Q_N) | 0.01860 | **0.02727** | 0.32940 | **0.02674** | 2.50740 | **0.03535** |
| | (CLK * !D * !Q * Q_N) | 0.01860 | **-0.00169** | 0.32940 | **-0.00186** | 2.50740 | **-0.00192** |
| | (!CLK * D * !Q * Q_N) | 0.01860 | **0.00787** | 0.32940 | **0.00738** | 2.50740 | **0.01169** |
| | (!CLK * !D * !Q * Q_N) | 0.01860 | **-0.00177** | 0.32940 | **-0.00190** | 2.50740 | **-0.00195** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_dfrbp_2 | 0.01860 | **0.01115** | 0.32940 | **0.01117** | 2.50740 | **0.01981** |
| sg13g2_dfrbp_1 | 0.01860 | **0.01127** | 0.32940 | **0.01130** | 2.50740 | **0.01922** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_dfrbp_2 | 0.01860 | **0.02091** | 0.32940 | **0.02078** | 2.50740 | **0.02962** |
| sg13g2_dfrbp_1 | 0.01860 | **0.01936** | 0.32940 | **0.01934** | 2.50740 | **0.02743** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_dfrbp_2 | (D * RESET_B * Q * !Q_N) | 0.01860 | **0.01115** | 0.32940 | **0.01117** | 2.50740 | **0.01981** |
| | (D * !RESET_B * !Q * Q_N) | 0.01860 | **0.01172** | 0.32940 | **0.01176** | 2.50740 | **0.02035** |
| | (!D * RESET_B * !Q * Q_N) | 0.01860 | **0.01100** | 0.32940 | **0.01102** | 2.50740 | **0.01965** |
| | (!D * !RESET_B * !Q * Q_N) | 0.01860 | **0.01174** | 0.32940 | **0.01177** | 2.50740 | **0.02034** |
| sg13g2_dfrbp_1 | (D * RESET_B * Q * !Q_N) | 0.01860 | **0.01157** | 0.32940 | **0.01157** | 2.50740 | **0.01952** |
| | (D * !RESET_B * !Q * Q_N) | 0.01860 | **0.01127** | 0.32940 | **0.01130** | 2.50740 | **0.01922** |
| | (!D * RESET_B * !Q * Q_N) | 0.01860 | **0.01111** | 0.32940 | **0.01113** | 2.50740 | **0.01907** |
| | (!D * !RESET_B * !Q * Q_N) | 0.01860 | **0.01128** | 0.32940 | **0.01128** | 2.50740 | **0.01922** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_dfrbp_2 | (D * RESET_B * Q * !Q_N) | 0.01860 | **0.02106** | 0.32940 | **0.02096** | 2.50740 | **0.02977** |
| | (D * RESET_B * !Q * Q_N) | 0.01860 | **0.02091** | 0.32940 | **0.02078** | 2.50740 | **0.02962** |
| | (D * !RESET_B * !Q * Q_N) | 0.01860 | **0.01083** | 0.32940 | **0.01093** | 2.50740 | **0.01951** |
| | (!D * RESET_B * Q * !Q_N) | 0.01860 | **0.00313** | 0.32940 | **0.04648** | 2.50740 | **0.05497** |
| | (!D * RESET_B * !Q * Q_N) | 0.01860 | **0.01082** | 0.32940 | **0.01089** | 2.50740 | **0.01952** |
| | (!D * !RESET_B * !Q * Q_N) | 0.01860 | **0.01081** | 0.32940 | **0.01091** | 2.50740 | **0.01950** |
| sg13g2_dfrbp_1 | (D * RESET_B * Q * !Q_N) | 0.01860 | **0.01953** | 0.32940 | **0.01952** | 2.50740 | **0.02760** |
| | (D * RESET_B * !Q * Q_N) | 0.01860 | **0.01936** | 0.32940 | **0.01934** | 2.50740 | **0.02743** |
| | (D * !RESET_B * !Q * Q_N) | 0.01860 | **0.01110** | 0.32940 | **0.01125** | 2.50740 | **0.01912** |
| | (!D * RESET_B * Q * !Q_N) | 0.01860 | **0.00296** | 0.32940 | **0.03861** | 2.50740 | **0.04638** |
| | (!D * RESET_B * !Q * Q_N) | 0.01860 | **0.01110** | 0.32940 | **0.01120** | 2.50740 | **0.01912** |
| | (!D * !RESET_B * !Q * Q_N) | 0.01860 | **0.01109** | 0.32940 | **0.01120** | 2.50740 | **0.01911** |

# DLHQ

*sg13g2_stdcell_typ_1p20V_25C Cell Library: Process*
*sg13g2_stdcell_typ_1p20V_25C, Voltage 1.20, Temp 25.00*

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## Truth Table

| INPUT | | OUTPUT |
|---|---|---|
| D | GATE | Q |
| x | 0 | IQ |
| 0 | 1 | 0 |
| 1 | 1 | 1 |

## Footprint

| Cell Name | Area |
|---|---|
| sg13g2_dlhq_1 | 30.84480 |

## Pin Capacitance Information

| Cell Name | Pin Cap(pf) | | Max Cap(pf) |
|---|---|---|---|
| | D | GATE | Q |
| sg13g2_dlhq_1 | 0.00229 | 0.00232 | 0.30000 |

## Leakage Information

| Cell Name | Leakage(pW) | | |
|---|---|---|---|
| | Min. | Avg | Max. |
| **sg13g2_dlhq_1** | 339.71400 | 365.93300 | 417.21200 |

# Delay Information

**Delay(ns) to Q rising :**

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_dlhq_1 | D->Q (RR) | 0.01860 | 0.00100 | **0.17489** | 0.32940 | 0.06480 | **0.44799** | 2.50740 | 0.30000 | **1.30687** |
| | GATE->Q (RR) | 0.01860 | 0.00100 | **0.14877** | 0.32940 | 0.06480 | **0.42312** | 2.50740 | 0.30000 | **1.26437** |

**Delay(ns) to Q falling :**

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_dlhq_1 | D->Q (FF) | 0.01860 | 0.00100 | **0.15562** | 0.32940 | 0.06480 | **0.39175** | 2.50740 | 0.30000 | **1.07018** |
| | GATE->Q (RF) | 0.01860 | 0.00100 | **0.15864** | 0.32940 | 0.06480 | **0.39911** | 2.50740 | 0.30000 | **1.07906** |

# Constraint Information

### Constraints(ns) for D rising :

| Cell Name | Timing Check | Ref Pin(trans) | Constraint(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Input Slew(ns) | Ref Slew(ns) | Min | Input Slew(ns) | Ref Slew(ns) | Mid | Input Slew(ns) | Ref Slew(ns) | Max |
| sg13g2_dlhq_1 | hold | GATE (F) | 0.01860 | 0.01860 | **-0.09292** | 1.26300 | 1.26300 | **-0.23206** | 2.50740 | 2.50740 | **-0.28925** |
| | setup | GATE (F) | 0.01860 | 0.01860 | **0.10514** | 1.26300 | 1.26300 | **0.29682** | 2.50740 | 2.50740 | **0.38665** |

### Constraints(ns) for D falling :

| Cell Name | Timing Check | Ref Pin(trans) | Constraint(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Input Slew(ns) | Ref Slew(ns) | Min | Input Slew(ns) | Ref Slew(ns) | Mid | Input Slew(ns) | Ref Slew(ns) | Max |
| sg13g2_dlhq_1 | hold | GATE (F) | 0.01860 | 0.01860 | **-0.03668** | 1.26300 | 1.26300 | **-0.00540** | 2.50740 | 2.50740 | **0.02361** |
| | setup | GATE (F) | 0.01860 | 0.01860 | **0.05135** | 1.26300 | 1.26300 | **0.01889** | 2.50740 | 2.50740 | **-0.01181** |

### Min Pulse Width (ns) for GATE:

| Cell Name | High | Low |
|---|---|---|
| **sg13g2_dlhq_1** | 3.3435 | - |

# Power Information

**Internal switching power(pJ) to Q rising :**

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_dlhq_1 | D | 0.01860 | 0.00100 | **0.01450** | 0.32940 | 0.06480 | **0.01473** | 2.50740 | 0.30000 | **0.01516** |
| | GATE | 0.01860 | 0.00100 | **0.01235** | 0.32940 | 0.06480 | **0.01246** | 2.50740 | 0.30000 | **0.01291** |

**Internal switching power(pJ) to Q falling :**

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_dlhq_1 | D | 0.01860 | 0.00100 | **0.01511** | 0.32940 | 0.06480 | **0.01546** | 2.50740 | 0.30000 | **0.01629** |
| | GATE | 0.01860 | 0.00100 | **0.01346** | 0.32940 | 0.06480 | **0.01405** | 2.50740 | 0.30000 | **0.01483** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_dlhq_1 | 0.01860 | **0.00367** | 0.32940 | **0.00379** | 2.50740 | **0.00982** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_dlhq_1 | 0.01860 | **0.00387** | 0.32940 | **0.00402** | 2.50740 | **0.00997** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_dlhq_1 | (!GATE * Q) | 0.01860 | **0.00376** | 0.32940 | **0.00383** | 2.50740 | **0.00983** |
| | (!GATE * !Q) | 0.01860 | **0.00367** | 0.32940 | **0.00379** | 2.50740 | **0.00982** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_dlhq_1 | (!GATE * Q) | 0.01860 | **0.00366** | 0.32940 | **0.00391** | 2.50740 | **0.00986** |
| | (!GATE * !Q) | 0.01860 | **0.00387** | 0.32940 | **0.00402** | 2.50740 | **0.00997** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_dlhq_1 | 0.01860 | **0.00829** | 0.32940 | **0.00832** | 2.50740 | **0.01581** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_dlhq_1 | 0.01860 | **0.00288** | 0.32940 | **0.01544** | 2.50740 | **0.02298** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_dlhq_1 | (!D * !Q) | 0.01860 | **0.00829** | 0.32940 | **0.00832** | 2.50740 | **0.01581** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_dlhq_1 | (!D * !Q) | 0.01860 | **0.00288** | 0.32940 | **0.01544** | 2.50740 | **0.02298** |

# DLHRQ

*sg13g2_stdcell_typ_1p20V_25C Cell Library: Process*
*sg13g2_stdcell_typ_1p20V_25C, Voltage 1.20, Temp 25.00*

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## Truth Table

| INPUT | | | OUTPUT |
|---|---|---|---|
| D | RESET_B | GATE | Q |
| x | 0 | x | 0 |
| x | 1 | 0 | IQ |
| 0 | 1 | 1 | 0 |
| 1 | 1 | 1 | 1 |

## Footprint

| Cell Name | Area |
|---|---|
| sg13g2_dlhrq_1 | 27.21600 |

## Pin Capacitance Information

| Cell Name | Pin Cap(pf) | | | Max Cap(pf) |
|---|---|---|---|---|
| | D | RESET_B | GATE | Q |
| sg13g2_dlhrq_1 | 0.00215 | 0.00296 | 0.00224 | 0.30000 |

## Leakage Information

| Cell Name | Leakage(pW) | | |
|---|---|---|---|
| | Min. | Avg | Max. |
| **sg13g2_dlhrq_1** | 350.18600 | 400.51700 | 438.97100 |

# Delay Information

### Delay(ns) to Q rising :

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_dlhrq_1 | D->Q (RR) | 0.01860 | 0.00100 | **0.18560** | 0.32940 | 0.06480 | **0.46329** | 2.50740 | 0.30000 | **1.31894** |
| | GATE->Q (RR) | 0.01860 | 0.00100 | **0.16666** | 0.32940 | 0.06480 | **0.44740** | 2.50740 | 0.30000 | **1.28849** |

### Delay(ns) to Q falling :

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_dlhrq_1 | D->Q (FF) | 0.01860 | 0.00100 | **0.16460** | 0.32940 | 0.06480 | **0.40325** | 2.50740 | 0.30000 | **1.08837** |
| | GATE->Q (RF) | 0.01860 | 0.00100 | **0.16966** | 0.32940 | 0.06480 | **0.41523** | 2.50740 | 0.30000 | **1.10852** |
| | RESET_B->Q (FF) | 0.01860 | 0.00100 | **0.06478** | 0.32940 | 0.06480 | **0.32472** | 2.50740 | 0.30000 | **1.08375** |

# Constraint Information

### Constraints(ns) for D rising :

| Cell Name | Timing Check | Ref Pin(trans) | Constraint(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Input Slew(ns) | Ref Slew(ns) | Min | Input Slew(ns) | Ref Slew(ns) | Mid | Input Slew(ns) | Ref Slew(ns) | Max |
| sg13g2_dlhrq_1 | hold | GATE (F) | 0.01860 | 0.01860 | **-0.07825** | 1.26300 | 1.26300 | **-0.21047** | 2.50740 | 2.50740 | **-0.25973** |
| | setup | GATE (F) | 0.01860 | 0.01860 | **0.10270** | 1.26300 | 1.26300 | **0.27523** | 2.50740 | 2.50740 | **0.36009** |

### Constraints(ns) for D falling :

| Cell Name | Timing Check | Ref Pin(trans) | Constraint(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Input Slew(ns) | Ref Slew(ns) | Min | Input Slew(ns) | Ref Slew(ns) | Mid | Input Slew(ns) | Ref Slew(ns) | Max |
| sg13g2_dlhrq_1 | hold | GATE (F) | 0.01860 | 0.01860 | **-0.04157** | 1.26300 | 1.26300 | **-0.00540** | 2.50740 | 2.50740 | **0.02656** |
| | setup | GATE (F) | 0.01860 | 0.01860 | **0.05868** | 1.26300 | 1.26300 | **0.01619** | 2.50740 | 2.50740 | **-0.01476** |

### Constraints(ns) for RESET_B rising :

| Cell Name | Timing Check | Ref Pin(trans) | Constraint(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Input Slew(ns) | Ref Slew(ns) | Min | Input Slew(ns) | Ref Slew(ns) | Mid | Input Slew(ns) | Ref Slew(ns) | Max |
| sg13g2_dlhrq_1 | recovery | GATE (F) | 0.01860 | 0.01860 | **-0.00978** | 1.26300 | 1.26300 | **-0.08905** | 2.50740 | 2.50740 | **-0.12397** |
| | removal | GATE (F) | 0.01860 | 0.01860 | **0.02934** | 1.26300 | 1.26300 | **0.12412** | 2.50740 | 2.50740 | **0.16234** |

### Min Pulse Width (ns) for RESET_B:

| Cell Name | High | Low |
|---|---|---|
| **sg13g2_dlhrq_1** | - | 3.3435 |

### Min Pulse Width (ns) for GATE:

| Cell Name | High | Low |
|---|---|---|
| **sg13g2_dlhrq_1** | 3.3435 | - |

# Power Information

**Internal switching power(pJ) to Q rising :**

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_dlhrq_1 | D | 0.01860 | 0.00100 | **0.00139** | 0.32940 | 0.06480 | **0.00084** | 2.50740 | 0.30000 | **0.00141** |
| | GATE | 0.01860 | 0.00100 | **0.01260** | 0.32940 | 0.06480 | **0.01269** | 2.50740 | 0.30000 | **0.01328** |

**Internal switching power(pJ) to Q falling :**

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_dlhrq_1 | D | 0.01860 | 0.00100 | **0.00676** | 0.32940 | 0.06480 | **-0.00084** | 2.50740 | 0.30000 | **-0.00141** |
| | GATE | 0.01860 | 0.00100 | **0.01253** | 0.32940 | 0.06480 | **0.01316** | 2.50740 | 0.30000 | **0.01406** |
| | RESET_B | 0.01860 | 0.00100 | **0.00749** | 0.32940 | 0.06480 | **0.00793** | 2.50740 | 0.30000 | **0.01522** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_dlhrq_1 | 0.01860 | **0.01687** | 0.32940 | **0.01777** | 2.50740 | **0.02364** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_dlhrq_1 | 0.01860 | **0.01095** | 0.32940 | **0.02481** | 2.50740 | **0.03073** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_dlhrq_1 | (!GATE * RESET_B * Q) | 0.01860 | **0.00347** | 0.32940 | **0.00357** | 2.50740 | **0.00960** |
| | !RESET_B | 0.01860 | **0.01687** | 0.32940 | **0.01777** | 2.50740 | **0.02364** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_dlhrq_1 | (!GATE * RESET_B * Q) | 0.01860 | **0.00387** | 0.32940 | **0.00410** | 2.50740 | **0.01007** |
| | !RESET_B | 0.01860 | **0.01095** | 0.32940 | **0.02481** | 2.50740 | **0.03073** |

**Passive power(pJ) for RESET_B rising :**

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_dlhrq_1 | 0.01860 | **0.00002** | 0.32940 | **0.00000** | 2.50740 | **0.00000** |

**Passive power(pJ) for RESET_B falling :**

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_dlhrq_1 | 0.01860 | **0.00004** | 0.32940 | **0.00000** | 2.50740 | **0.00000** |

**Passive power(pJ) for RESET_B rising (conditional):**

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_dlhrq_1 | (D * !GATE * !Q) | 0.01860 | **0.00014** | 0.32940 | **0.00011** | 2.50740 | **0.00011** |
| | (!D * !GATE * !Q) | 0.01860 | **0.00002** | 0.32940 | **0.00000** | 2.50740 | **0.00000** |

**Passive power(pJ) for RESET_B falling (conditional):**

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_dlhrq_1 | (D * !GATE * !Q) | 0.01860 | **0.00017** | 0.32940 | **0.00008** | 2.50740 | **0.00004** |
| | (!D * !GATE * !Q) | 0.01860 | **0.00004** | 0.32940 | **0.00000** | 2.50740 | **0.00000** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_dlhrq_1 | 0.01860 | **0.00862** | 0.32940 | **0.00865** | 2.50740 | **0.01608** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_dlhrq_1** | 0.01860 | **0.00281** | 0.32940 | **0.01561** | 2.50740 | **0.02310** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_dlhrq_1** | **(D * !RESET_B * !Q)** | 0.01860 | **0.01167** | 0.32940 | **0.01159** | 2.50740 | **0.01936** |
| | **(!D * !RESET_B * !Q)** | 0.01860 | **0.00862** | 0.32940 | **0.00865** | 2.50740 | **0.01608** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_dlhrq_1** | **(D * !RESET_B * !Q)** | 0.01860 | **0.01211** | 0.32940 | **0.01215** | 2.50740 | **0.02019** |
| | **(!D * RESET_B * !Q)** | 0.01860 | **0.00281** | 0.32940 | **0.01561** | 2.50740 | **0.02310** |
| | **(!D * !RESET_B * !Q)** | 0.01860 | **0.00286** | 0.32940 | **0.01566** | 2.50740 | **0.02315** |

# DLHR

*sg13g2_stdcell_typ_1p20V_25C Cell Library: Process*
*sg13g2_stdcell_typ_1p20V_25C, Voltage 1.20, Temp 25.00*

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## Truth Table

| INPUT | | | OUTPUT | |
|---|---|---|---|---|
| D | RESET_B | GATE | Q | Q_N |
| x | 0 | x | 0 | 1 |
| x | 1 | 0 | IQ | IQN |
| 0 | 1 | 1 | 0 | 1 |
| 1 | 1 | 1 | 1 | 0 |

## Footprint

| Cell Name | Area |
|---|---|
| sg13g2_dlhr_1 | 32.65920 |

## Pin Capacitance Information

| Cell Name | Pin Cap(pf) | | | Max Cap(pf) | |
|---|---|---|---|---|---|
| | D | RESET_B | GATE | Q | Q_N |
| sg13g2_dlhr_1 | 0.00210 | 0.00312 | 0.00229 | 0.30000 | 0.30000 |

## Leakage Information

| Cell Name | Leakage(pW) | | |
|---|---|---|---|
| | Min. | Avg | Max. |
| **sg13g2_dlhr_1** | 461.80400 | 512.46300 | 562.27400 |

# Delay Information

### Delay(ns) to Q rising :

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_dlhr_1 | D->Q (RR) | 0.01860 | 0.00100 | **0.20082** | 0.32940 | 0.06480 | **0.48566** | 2.50740 | 0.30000 | **1.33900** |
| | GATE->Q (RR) | 0.01860 | 0.00100 | **0.18261** | 0.32940 | 0.06480 | **0.47127** | 2.50740 | 0.30000 | **1.31476** |

### Delay(ns) to Q falling :

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_dlhr_1 | D->Q (FF) | 0.01860 | 0.00100 | **0.17077** | 0.32940 | 0.06480 | **0.41271** | 2.50740 | 0.30000 | **1.09170** |
| | GATE->Q (RF) | 0.01860 | 0.00100 | **0.17613** | 0.32940 | 0.06480 | **0.42569** | 2.50740 | 0.30000 | **1.11397** |
| | RESET_B->Q (FF) | 0.01860 | 0.00100 | **0.07070** | 0.32940 | 0.06480 | **0.34323** | 2.50740 | 0.30000 | **1.12810** |

### Delay(ns) to Q_N rising :

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_dlhr_1 | D->Q_N (FR) | 0.01860 | 0.00100 | **0.20902** | 0.32940 | 0.06480 | **0.47208** | 2.50740 | 0.30000 | **1.28370** |
| | GATE->Q_N (RR) | 0.01860 | 0.00100 | **0.21456** | 0.32940 | 0.06480 | **0.48520** | 2.50740 | 0.30000 | **1.30697** |
| | RESET_B->Q_N (FR) | 0.01860 | 0.00100 | **0.10880** | 0.32940 | 0.06480 | **0.39747** | 2.50740 | 0.30000 | **1.26309** |

### Delay(ns) to Q_N falling :

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_dlhr_1 | D->Q_N (RF) | 0.01860 | 0.00100 | **0.24478** | 0.32940 | 0.06480 | **0.47735** | 2.50740 | 0.30000 | **1.19794** |
| | GATE->Q_N (RF) | 0.01860 | 0.00100 | **0.22633** | 0.32940 | 0.06480 | **0.46286** | 2.50740 | 0.30000 | **1.17233** |

# Constraint Information

### Constraints(ns) for D rising :

| Cell Name | Timing Check | Ref Pin(trans) | Constraint(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Input Slew(ns) | Ref Slew(ns) | Min | Input Slew(ns) | Ref Slew(ns) | Mid | Input Slew(ns) | Ref Slew(ns) | Max |
| sg13g2_dlhr_1 | hold | GATE (F) | 0.01860 | 0.01860 | **-0.08558** | 1.26300 | 1.26300 | **-0.21317** | 2.50740 | 2.50740 | **-0.26269** |
| | setup | GATE (F) | 0.01860 | 0.01860 | **0.11248** | 1.26300 | 1.26300 | **0.27793** | 2.50740 | 2.50740 | **0.36009** |

### Constraints(ns) for D falling :

| Cell Name | Timing Check | Ref Pin(trans) | Constraint(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Input Slew(ns) | Ref Slew(ns) | Min | Input Slew(ns) | Ref Slew(ns) | Mid | Input Slew(ns) | Ref Slew(ns) | Max |
| sg13g2_dlhr_1 | hold | GATE (F) | 0.01860 | 0.01860 | **-0.04401** | 1.26300 | 1.26300 | **-0.00540** | 2.50740 | 2.50740 | **0.02656** |
| | setup | GATE (F) | 0.01860 | 0.01860 | **0.06113** | 1.26300 | 1.26300 | **0.01619** | 2.50740 | 2.50740 | **-0.01181** |

### Constraints(ns) for RESET_B rising :

| Cell Name | Timing Check | Ref Pin(trans) | Constraint(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Input Slew(ns) | Ref Slew(ns) | Min | Input Slew(ns) | Ref Slew(ns) | Mid | Input Slew(ns) | Ref Slew(ns) | Max |
| sg13g2_dlhr_1 | recovery | GATE (F) | 0.01860 | 0.01860 | **0.00000** | 1.26300 | 1.26300 | **-0.03778** | 2.50740 | 2.50740 | **-0.05608** |
| | removal | GATE (F) | 0.01860 | 0.01860 | **0.02201** | 1.26300 | 1.26300 | **0.08365** | 2.50740 | 2.50740 | **0.09740** |

### Min Pulse Width (ns) for RESET_B:

| Cell Name | High | Low |
|---|---|---|
| **sg13g2_dlhr_1** | - | 3.3435 |

### Min Pulse Width (ns) for GATE:

| Cell Name | High | Low |
|---|---|---|
| **sg13g2_dlhr_1** | 3.3435 | - |

# Power Information

**Internal switching power(pJ) to Q rising :**

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_dlhr_1 | D | 0.01860 | 0.00100 | **0.00475** | 0.32940 | 0.06480 | **0.00471** | 2.50740 | 0.30000 | **0.00616** |
| | GATE | 0.01860 | 0.00100 | **0.01024** | 0.32940 | 0.06480 | **0.01046** | 2.50740 | 0.30000 | **0.01133** |

**Internal switching power(pJ) to Q falling :**

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_dlhr_1 | D | 0.01860 | 0.00100 | **0.00736** | 0.32940 | 0.06480 | **0.00078** | 2.50740 | 0.30000 | **0.00134** |
| | GATE | 0.01860 | 0.00100 | **0.01024** | 0.32940 | 0.06480 | **0.01057** | 2.50740 | 0.30000 | **0.01123** |
| | RESET_B | 0.01860 | 0.00100 | **0.00758** | 0.32940 | 0.06480 | **0.00781** | 2.50740 | 0.30000 | **0.01185** |

**Internal switching power(pJ) to Q_N rising :**

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_dlhr_1 | D | 0.01860 | 0.00100 | **0.00737** | 0.32940 | 0.06480 | **0.00095** | 2.50740 | 0.30000 | **0.00112** |
| | GATE | 0.01860 | 0.00100 | **0.01441** | 0.32940 | 0.06480 | **0.01494** | 2.50740 | 0.30000 | **0.01941** |
| | RESET_B | 0.01860 | 0.00100 | **0.00758** | 0.32940 | 0.06480 | **0.00801** | 2.50740 | 0.30000 | **0.01173** |

**Internal switching power(pJ) to Q_N falling :**

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_dlhr_1 | D | 0.01860 | 0.00100 | **0.00474** | 0.32940 | 0.06480 | **0.00457** | 2.50740 | 0.30000 | **0.00460** |
| | GATE | 0.01860 | 0.00100 | **0.01023** | 0.32940 | 0.06480 | **0.01033** | 2.50740 | 0.30000 | **0.01036** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_dlhr_1 | 0.01860 | **0.01649** | 0.32940 | **0.01742** | 2.50740 | **0.02332** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_dlhr_1 | 0.01860 | **0.01077** | 0.32940 | **0.02457** | 2.50740 | **0.03052** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_dlhr_1 | (!GATE * RESET_B * Q) | 0.01860 | **0.00354** | 0.32940 | **0.00367** | 2.50740 | **0.00972** |
| | !RESET_B | 0.01860 | **0.01649** | 0.32940 | **0.01742** | 2.50740 | **0.02332** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_dlhr_1 | (!GATE * RESET_B * Q) | 0.01860 | **0.00385** | 0.32940 | **0.00410** | 2.50740 | **0.01011** |
| | !RESET_B | 0.01860 | **0.01077** | 0.32940 | **0.02457** | 2.50740 | **0.03052** |

**Passive power(pJ) for RESET_B rising :**

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_dlhr_1 | 0.01860 | **-0.00009** | 0.32940 | **-0.00006** | 2.50740 | **-0.00002** |

**Passive power(pJ) for RESET_B falling :**

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_dlhr_1 | 0.01860 | **0.00014** | 0.32940 | **0.00006** | 2.50740 | **0.00002** |

**Passive power(pJ) for RESET_B rising (conditional):**

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_dlhr_1 | (D * !GATE * !Q) | 0.01860 | **0.00003** | 0.32940 | **-0.00001** | 2.50740 | **-0.00001** |
| | (!D * !GATE * !Q) | 0.01860 | **-0.00009** | 0.32940 | **-0.00006** | 2.50740 | **-0.00002** |

**Passive power(pJ) for RESET_B falling (conditional):**

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_dlhr_1 | (D * !GATE * !Q) | 0.01860 | **0.00026** | 0.32940 | **0.00018** | 2.50740 | **0.00014** |
| | (!D * !GATE * !Q) | 0.01860 | **0.00014** | 0.32940 | **0.00006** | 2.50740 | **0.00002** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_dlhr_1 | 0.01860 | **0.00833** | 0.32940 | **0.00842** | 2.50740 | **0.01582** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_dlhr_1 | 0.01860 | **0.00289** | 0.32940 | **0.01541** | 2.50740 | **0.02294** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_dlhr_1 | (D * !RESET_B * !Q) | 0.01860 | **0.01137** | 0.32940 | **0.01128** | 2.50740 | **0.01912** |
| | (!D * !RESET_B * !Q) | 0.01860 | **0.00833** | 0.32940 | **0.00842** | 2.50740 | **0.01582** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_dlhr_1 | (D * !RESET_B * !Q) | 0.01860 | **0.01239** | 0.32940 | **0.01246** | 2.50740 | **0.02050** |
| | (!D * RESET_B * !Q) | 0.01860 | **0.00289** | 0.32940 | **0.01541** | 2.50740 | **0.02294** |
| | (!D * !RESET_B * !Q) | 0.01860 | **0.00294** | 0.32940 | **0.01546** | 2.50740 | **0.02299** |

# DLLRQ

*sg13g2_stdcell_typ_1p20V_25C Cell Library: Process*
*sg13g2_stdcell_typ_1p20V_25C, Voltage 1.20, Temp 25.00*

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## Truth Table

| INPUT | | | OUTPUT |
|---|---|---|---|
| D | RESET_B | GATE_N | Q |
| x | 0 | x | 0 |
| 0 | 1 | 0 | 0 |
| x | 1 | 1 | IQ |
| 1 | 1 | 0 | 1 |

## Footprint

| Cell Name | Area |
|---|---|
| sg13g2_dllrq_1 | 29.03040 |

## Pin Capacitance Information

| Cell Name | Pin Cap(pf) | | | Max Cap(pf) |
|---|---|---|---|---|
| | D | RESET_B | GATE_N | Q |
| sg13g2_dllrq_1 | 0.00206 | 0.00297 | 0.00222 | 0.30000 |

## Leakage Information

| Cell Name | Leakage(pW) | | |
|---|---|---|---|
| | Min. | Avg | Max. |
| **sg13g2_dllrq_1** | 345.21300 | 400.65800 | 446.38300 |

# Delay Information

### Delay(ns) to Q rising :

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_dllrq_1 | D->Q (RR) | 0.01860 | 0.00100 | **0.18452** | 0.32940 | 0.06480 | **0.46179** | 2.50740 | 0.30000 | **1.31666** |
| | GATE_N->Q (FR) | 0.01860 | 0.00100 | **0.20809** | 0.32940 | 0.06480 | **0.49425** | 2.50740 | 0.30000 | **1.35777** |
| | RESET_B->Q (RR) | 0.01860 | 0.00100 | **0.08522** | 0.32940 | 0.06480 | **0.36440** | 2.50740 | 0.30000 | **1.26923** |

### Delay(ns) to Q falling :

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_dllrq_1 | D->Q (FF) | 0.01860 | 0.00100 | **0.16369** | 0.32940 | 0.06480 | **0.40025** | 2.50740 | 0.30000 | **1.08066** |
| | GATE_N->Q (FF) | 0.01860 | 0.00100 | **0.15688** | 0.32940 | 0.06480 | **0.41256** | 2.50740 | 0.30000 | **1.17411** |
| | RESET_B->Q (FF) | 0.01860 | 0.00100 | **0.06530** | 0.32940 | 0.06480 | **0.32404** | 2.50740 | 0.30000 | **1.08027** |

# Constraint Information

### Constraints(ns) for D rising :

| Cell Name | Timing Check | Ref Pin(trans) | Constraint(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Input Slew(ns) | Ref Slew(ns) | Min | Input Slew(ns) | Ref Slew(ns) | Mid | Input Slew(ns) | Ref Slew(ns) | Max |
| sg13g2_dllrq_1 | hold | GATE_N (R) | 0.01860 | 0.01860 | **-0.07580** | 1.26300 | 1.26300 | **-0.08365** | 2.50740 | 2.50740 | **-0.11216** |
| | setup | GATE_N (R) | 0.01860 | 0.01860 | **0.09047** | 1.26300 | 1.26300 | **0.09984** | 2.50740 | 2.50740 | **0.12987** |

### Constraints(ns) for D falling :

| Cell Name | Timing Check | Ref Pin(trans) | Constraint(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Input Slew(ns) | Ref Slew(ns) | Min | Input Slew(ns) | Ref Slew(ns) | Mid | Input Slew(ns) | Ref Slew(ns) | Max |
| sg13g2_dllrq_1 | hold | GATE_N (R) | 0.01860 | 0.01860 | **-0.08314** | 1.26300 | 1.26300 | **-0.22396** | 2.50740 | 2.50740 | **-0.28335** |
| | setup | GATE_N (R) | 0.01860 | 0.01860 | **0.09536** | 1.26300 | 1.26300 | **0.28603** | 2.50740 | 2.50740 | **0.38370** |

### Constraints(ns) for RESET_B rising :

| Cell Name | Timing Check | Ref Pin(trans) | Constraint(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Input Slew(ns) | Ref Slew(ns) | Min | Input Slew(ns) | Ref Slew(ns) | Mid | Input Slew(ns) | Ref Slew(ns) | Max |
| sg13g2_dllrq_1 | recovery | GATE_N (R) | 0.01860 | 0.01860 | **-0.02690** | 1.26300 | 1.26300 | **-0.09174** | 2.50740 | 2.50740 | **-0.09445** |
| | removal | GATE_N (R) | 0.01860 | 0.01860 | **0.04646** | 1.26300 | 1.26300 | **0.11333** | 2.50740 | 2.50740 | **0.11511** |

### Min Pulse Width (ns) for RESET_B:

| Cell Name | High | Low |
|---|---|---|
| **sg13g2_dllrq_1** | - | 3.3435 |

### Min Pulse Width (ns) for GATE_N:

| Cell Name | High | Low |
|---|---|---|
| **sg13g2_dllrq_1** | - | 3.3435 |

# Power Information

**Internal switching power(pJ) to Q rising :**

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_dllrq_1 | D | 0.01860 | 0.00100 | **0.00626** | 0.32940 | 0.06480 | **0.00676** | 2.50740 | 0.30000 | **0.00691** |
| | GATE_N | 0.01860 | 0.00100 | **0.01894** | 0.32940 | 0.06480 | **0.00663** | 2.50740 | 0.30000 | **0.00692** |
| | RESET_B | 0.01860 | 0.00100 | **0.00987** | 0.32940 | 0.06480 | **0.00995** | 2.50740 | 0.30000 | **0.01585** |

**Internal switching power(pJ) to Q falling :**

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_dllrq_1 | D | 0.01860 | 0.00100 | **0.01547** | 0.32940 | 0.06480 | **0.00020** | 2.50740 | 0.30000 | **0.00158** |
| | GATE_N | 0.01860 | 0.00100 | **0.01770** | 0.32940 | 0.06480 | **0.00535** | 2.50740 | 0.30000 | **0.00581** |
| | RESET_B | 0.01860 | 0.00100 | **0.00757** | 0.32940 | 0.06480 | **0.00803** | 2.50740 | 0.30000 | **0.01564** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_dllrq_1 | 0.01860 | **0.01189** | 0.32940 | **0.01177** | 2.50740 | **0.01779** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_dllrq_1 | 0.01860 | **0.00235** | 0.32940 | **0.01810** | 2.50740 | **0.02406** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_dllrq_1 | (GATE_N * RESET_B * Q) | 0.01860 | **0.00333** | 0.32940 | **0.00344** | 2.50740 | **0.00949** |
| | !RESET_B | 0.01860 | **0.01189** | 0.32940 | **0.01177** | 2.50740 | **0.01779** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_dllrq_1 | (GATE_N * RESET_B * Q) | 0.01860 | **0.00388** | 0.32940 | **0.00412** | 2.50740 | **0.01011** |
| | !RESET_B | 0.01860 | **0.00235** | 0.32940 | **0.01810** | 2.50740 | **0.02406** |

**Passive power(pJ) for RESET_B rising :**

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_dllrq_1 | 0.01860 | **0.00006** | 0.32940 | **0.00002** | 2.50740 | **0.00003** |

**Passive power(pJ) for RESET_B falling :**

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_dllrq_1 | 0.01860 | **0.00011** | 0.32940 | **0.00002** | 2.50740 | **-0.00002** |

**Passive power(pJ) for RESET_B rising (conditional):**

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_dllrq_1 | (D * GATE_N * !Q) | 0.01860 | **0.00006** | 0.32940 | **0.00002** | 2.50740 | **0.00003** |
| | (!D * GATE_N * !Q) | 0.01860 | **0.00006** | 0.32940 | **0.00002** | 2.50740 | **0.00003** |

**Passive power(pJ) for RESET_B falling (conditional):**

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_dllrq_1 | (D * GATE_N * !Q) | 0.01860 | **0.00010** | 0.32940 | **0.00001** | 2.50740 | **-0.00002** |
| | (!D * GATE_N * !Q) | 0.01860 | **0.00011** | 0.32940 | **0.00002** | 2.50740 | **-0.00002** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_dllrq_1** | 0.01860 | **0.00791** | 0.32940 | **0.00799** | 2.50740 | **0.01538** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_dllrq_1** | 0.01860 | **0.00289** | 0.32940 | **0.01563** | 2.50740 | **0.02318** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_dllrq_1** | **(D * !RESET_B * !Q)** | 0.01860 | **0.01333** | 0.32940 | **0.01329** | 2.50740 | **0.02043** |
| | **(!D * !RESET_B * !Q)** | 0.01860 | **0.00791** | 0.32940 | **0.00799** | 2.50740 | **0.01538** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_dllrq_1** | **(D * !RESET_B * !Q)** | 0.01860 | **0.01238** | 0.32940 | **0.01251** | 2.50740 | **0.01988** |
| | **(!D * RESET_B * !Q)** | 0.01860 | **0.00289** | 0.32940 | **0.01563** | 2.50740 | **0.02318** |
| | **(!D * !RESET_B * !Q)** | 0.01860 | **0.00294** | 0.32940 | **0.01567** | 2.50740 | **0.02323** |

# DLLR

*sg13g2_stdcell_typ_1p20V_25C Cell Library: Process*
*sg13g2_stdcell_typ_1p20V_25C, Voltage 1.20, Temp 25.00*

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## Truth Table

| INPUT | | | OUTPUT | |
|---|---|---|---|---|
| D | RESET_B | GATE_N | Q | Q_N |
| x | 0 | x | 0 | 1 |
| 0 | 1 | 0 | 0 | 1 |
| x | 1 | 1 | IQ | IQN |
| 1 | 1 | 0 | 1 | 0 |

## Footprint

| Cell Name | Area |
|---|---|
| sg13g2_dllr_1 | 34.47360 |

## Pin Capacitance Information

| Cell Name | Pin Cap(pf) | | | Max Cap(pf) | |
|---|---|---|---|---|---|
| | D | RESET_B | GATE_N | Q | Q_N |
| sg13g2_dllr_1 | 0.00217 | 0.00308 | 0.00235 | 0.30000 | 0.30000 |

## Leakage Information

| Cell Name | Leakage(pW) | | |
|---|---|---|---|
| | Min. | Avg | Max. |
| **sg13g2_dllr_1** | 456.77000 | 529.23800 | 593.03000 |

# Delay Information

### Delay(ns) to Q rising :

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_dllr_1 | D->Q (RR) | 0.01860 | 0.00100 | **0.20247** | 0.32940 | 0.06480 | **0.48676** | 2.50740 | 0.30000 | **1.33941** |
| | GATE_N->Q (FR) | 0.01860 | 0.00100 | **0.22588** | 0.32940 | 0.06480 | **0.52024** | 2.50740 | 0.30000 | **1.38397** |

### Delay(ns) to Q falling :

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_dllr_1 | D->Q (FF) | 0.01860 | 0.00100 | **0.17270** | 0.32940 | 0.06480 | **0.41386** | 2.50740 | 0.30000 | **1.09274** |
| | GATE_N->Q (FF) | 0.01860 | 0.00100 | **0.16680** | 0.32940 | 0.06480 | **0.42834** | 2.50740 | 0.30000 | **1.19269** |
| | RESET_B->Q (FF) | 0.01860 | 0.00100 | **0.07061** | 0.32940 | 0.06480 | **0.34822** | 2.50740 | 0.30000 | **1.11978** |

### Delay(ns) to Q_N rising :

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_dllr_1 | D->Q_N (FR) | 0.01860 | 0.00100 | **0.21073** | 0.32940 | 0.06480 | **0.47309** | 2.50740 | 0.30000 | **1.28390** |
| | GATE_N->Q_N (FR) | 0.01860 | 0.00100 | **0.20502** | 0.32940 | 0.06480 | **0.48755** | 2.50740 | 0.30000 | **1.38297** |
| | RESET_B->Q_N (FR) | 0.01860 | 0.00100 | **0.10948** | 0.32940 | 0.06480 | **0.39827** | 2.50740 | 0.30000 | **1.27156** |

### Delay(ns) to Q_N falling :

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_dllr_1 | D->Q_N (RF) | 0.01860 | 0.00100 | **0.24616** | 0.32940 | 0.06480 | **0.47859** | 2.50740 | 0.30000 | **1.19843** |
| | GATE_N->Q_N (FF) | 0.01860 | 0.00100 | **0.26932** | 0.32940 | 0.06480 | **0.51218** | 2.50740 | 0.30000 | **1.24432** |

# Constraint Information

### Constraints(ns) for D rising :

| Cell Name | Timing Check | Ref Pin(trans) | Constraint(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Input Slew(ns) | Ref Slew(ns) | Min | Input Slew(ns) | Ref Slew(ns) | Mid | Input Slew(ns) | Ref Slew(ns) | Max |
| sg13g2_dllr_1 | hold | GATE_N (R) | 0.01860 | 0.01860 | **-0.08558** | 1.26300 | 1.26300 | **-0.08905** | 2.50740 | 2.50740 | **-0.11806** |
| | setup | GATE_N (R) | 0.01860 | 0.01860 | **0.10270** | 1.26300 | 1.26300 | **0.10794** | 2.50740 | 2.50740 | **0.13577** |

### Constraints(ns) for D falling :

| Cell Name | Timing Check | Ref Pin(trans) | Constraint(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Input Slew(ns) | Ref Slew(ns) | Min | Input Slew(ns) | Ref Slew(ns) | Mid | Input Slew(ns) | Ref Slew(ns) | Max |
| sg13g2_dllr_1 | hold | GATE_N (R) | 0.01860 | 0.01860 | **-0.08803** | 1.26300 | 1.26300 | **-0.22666** | 2.50740 | 2.50740 | **-0.28630** |
| | setup | GATE_N (R) | 0.01860 | 0.01860 | **0.10270** | 1.26300 | 1.26300 | **0.28873** | 2.50740 | 2.50740 | **0.38665** |

### Constraints(ns) for RESET_B rising :

| Cell Name | Timing Check | Ref Pin(trans) | Constraint(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Input Slew(ns) | Ref Slew(ns) | Min | Input Slew(ns) | Ref Slew(ns) | Mid | Input Slew(ns) | Ref Slew(ns) | Max |
| sg13g2_dllr_1 | recovery | GATE_N (R) | 0.01860 | 0.01860 | **-0.01467** | 1.26300 | 1.26300 | **-0.04857** | 2.50740 | 2.50740 | **-0.03247** |
| | removal | GATE_N (R) | 0.01860 | 0.01860 | **0.04157** | 1.26300 | 1.26300 | **0.07555** | 2.50740 | 2.50740 | **0.05903** |

### Min Pulse Width (ns) for RESET_B:

| Cell Name | High | Low |
|---|---|---|
| **sg13g2_dllr_1** | - | 3.3435 |

### Min Pulse Width (ns) for GATE_N:

| Cell Name | High | Low |
|---|---|---|
| **sg13g2_dllr_1** | - | 3.3435 |

# Power Information

**Internal switching power(pJ) to Q rising :**

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_dllr_1 | D | 0.01860 | 0.00100 | **0.00911** | 0.32940 | 0.06480 | **0.05582** | 2.50740 | 0.30000 | **0.22797** |
| | GATE_N | 0.01860 | 0.00100 | **0.02216** | 0.32940 | 0.06480 | **0.06896** | 2.50740 | 0.30000 | **0.24167** |

**Internal switching power(pJ) to Q falling :**

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_dllr_1 | D | 0.01860 | 0.00100 | **0.01509** | 0.32940 | 0.06480 | **0.04579** | 2.50740 | 0.30000 | **0.21538** |
| | GATE_N | 0.01860 | 0.00100 | **0.02052** | 0.32940 | 0.06480 | **0.06682** | 2.50740 | 0.30000 | **0.23608** |
| | RESET_B | 0.01860 | 0.00100 | **0.02360** | 0.32940 | 0.06480 | **0.06941** | 2.50740 | 0.30000 | **0.24529** |

**Internal switching power(pJ) to Q_N rising :**

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_dllr_1 | D | 0.01860 | 0.00100 | **0.01511** | 0.32940 | 0.06480 | **0.04611** | 2.50740 | 0.30000 | **0.21586** |
| | GATE_N | 0.01860 | 0.00100 | **0.02910** | 0.32940 | 0.06480 | **0.07584** | 2.50740 | 0.30000 | **0.25678** |
| | RESET_B | 0.01860 | 0.00100 | **0.02360** | 0.32940 | 0.06480 | **0.06973** | 2.50740 | 0.30000 | **0.24587** |

**Internal switching power(pJ) to Q_N falling :**

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_dllr_1 | D | 0.01860 | 0.00100 | **0.00909** | 0.32940 | 0.06480 | **0.05558** | 2.50740 | 0.30000 | **0.22438** |
| | GATE_N | 0.01860 | 0.00100 | **0.02214** | 0.32940 | 0.06480 | **0.06867** | 2.50740 | 0.30000 | **0.23763** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_dllr_1 | 0.01860 | **0.01804** | 0.32940 | **0.01812** | 2.50740 | **0.02402** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_dllr_1** | 0.01860 | **0.01103** | 0.32940 | **0.02687** | 2.50740 | **0.03283** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_dllr_1** | **(GATE_N * RESET_B * Q)** | 0.01860 | **0.00360** | 0.32940 | **0.00371** | 2.50740 | **0.00977** |
| | **!RESET_B** | 0.01860 | **0.01804** | 0.32940 | **0.01812** | 2.50740 | **0.02402** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_dllr_1** | **(GATE_N * RESET_B * Q)** | 0.01860 | **0.00326** | 0.32940 | **0.00350** | 2.50740 | **0.00952** |
| | **!RESET_B** | 0.01860 | **0.01103** | 0.32940 | **0.02687** | 2.50740 | **0.03283** |

**Passive power(pJ) for RESET_B rising :**

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_dllr_1** | 0.01860 | **-0.00012** | 0.32940 | **-0.00014** | 2.50740 | **-0.00010** |

**Passive power(pJ) for RESET_B falling :**

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_dllr_1** | 0.01860 | **0.00022** | 0.32940 | **0.00014** | 2.50740 | **0.00010** |

**Passive power(pJ) for RESET_B rising (conditional):**

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_dllr_1 | (D * GATE_N * !Q) | 0.01860 | **0.00020** | 0.32940 | **0.00015** | 2.50740 | **0.00015** |
| | (!D * GATE_N * !Q) | 0.01860 | **-0.00012** | 0.32940 | **-0.00014** | 2.50740 | **-0.00010** |

**Passive power(pJ) for RESET_B falling (conditional):**

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_dllr_1 | (D * GATE_N * !Q) | 0.01860 | **0.00022** | 0.32940 | **0.00013** | 2.50740 | **0.00010** |
| | (!D * GATE_N * !Q) | 0.01860 | **0.00022** | 0.32940 | **0.00014** | 2.50740 | **0.00010** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_dllr_1 | 0.01860 | **0.00215** | 0.32940 | **0.01572** | 2.50740 | **0.02311** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_dllr_1 | 0.01860 | **0.00857** | 0.32940 | **0.00869** | 2.50740 | **0.01636** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_dllr_1 | (D * !RESET_B * !Q) | 0.01860 | **0.01340** | 0.32940 | **0.01334** | 2.50740 | **0.02051** |
| | (!D * RESET_B * !Q) | 0.01860 | **0.00215** | 0.32940 | **0.01572** | 2.50740 | **0.02311** |
| | (!D * !RESET_B * !Q) | 0.01860 | **0.00225** | 0.32940 | **0.01582** | 2.50740 | **0.02320** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_dllr_1 | (D * !RESET_B * !Q) | 0.01860 | **0.01258** | 0.32940 | **0.01272** | 2.50740 | **0.02009** |
| | (!D * !RESET_B * !Q) | 0.01860 | **0.00857** | 0.32940 | **0.00869** | 2.50740 | **0.01636** |

# DLY1

*sg13g2_stdcell_typ_1p20V_25C Cell Library: Process*
*sg13g2_stdcell_typ_1p20V_25C, Voltage 1.20, Temp 25.00*

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## Truth Table

| INPUT | OUTPUT |
|---|---|
| A | X |
| 0 | 0 |
| 1 | 1 |

## Footprint

| Cell Name | Area |
|---|---|
| sg13g2_dlygate4sd1_1 | 14.51520 |

## Pin Capacitance Information

| Cell Name | Pin Cap(pf) | Max Cap(pf) |
|---|---|---|
| | A | X |
| sg13g2_dlygate4sd1_1 | 0.00148 | 0.30000 |

## Leakage Information

| Cell Name | Leakage(pW) | | |
|---|---|---|---|
| | Min. | Avg | Max. |
| sg13g2_dlygate4sd1_1 | 176.82300 | 186.80100 | 196.77800 |

# Delay Information

### Delay(ns) to X rising :

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| **sg13g2_dlygate4sd1_1** | **A->X (RR)** | 0.01860 | 0.00100 | **0.11321** | 0.32940 | 0.06480 | **0.38614** | 2.50740 | 0.30000 | **1.19320** |

### Delay(ns) to X falling :

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| **sg13g2_dlygate4sd1_1** | **A->X (FF)** | 0.01860 | 0.00100 | **0.13426** | 0.32940 | 0.06480 | **0.39540** | 2.50740 | 0.30000 | **1.19118** |

# Power Information

### Internal switching power(pJ) to X rising :

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| **sg13g2_dlygate4sd1_1** | **A** | 0.01860 | 0.00100 | **0.01261** | 0.32940 | 0.06480 | **0.01268** | 2.50740 | 0.30000 | **0.01672** |

### Internal switching power(pJ) to X falling :

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| **sg13g2_dlygate4sd1_1** | **A** | 0.01860 | 0.00100 | **0.01195** | 0.32940 | 0.06480 | **0.01228** | 2.50740 | 0.30000 | **0.01565** |

# DLY2

*sg13g2_stdcell_typ_1p20V_25C Cell Library: Process*
*sg13g2_stdcell_typ_1p20V_25C, Voltage 1.20, Temp 25.00*

---

## Truth Table

| INPUT | OUTPUT |
|---|---|
| A | X |
| 0 | 0 |
| 1 | 1 |

## Footprint

| Cell Name | Area |
|---|---|
| sg13g2_dlygate4sd2_1 | 14.51520 |

## Pin Capacitance Information

| Cell Name | Pin Cap(pf) | Max Cap(pf) |
|---|---|---|
| | A | X |
| sg13g2_dlygate4sd2_1 | 0.00149 | 0.30000 |

## Leakage Information

| Cell Name | Leakage(pW) | | |
|---|---|---|---|
| | Min. | Avg | Max. |
| sg13g2_dlygate4sd2_1 | 178.59300 | 188.57100 | 198.54900 |

# Delay Information

### Delay(ns) to X rising :

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| **sg13g2_dlygate4sd2_1** | **A->X (RR)** | 0.01860 | 0.00100 | **0.16529** | 0.32940 | 0.06480 | **0.44948** | 2.50740 | 0.30000 | **1.30374** |

### Delay(ns) to X falling :

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| **sg13g2_dlygate4sd2_1** | **A->X (FF)** | 0.01860 | 0.00100 | **0.18908** | 0.32940 | 0.06480 | **0.46967** | 2.50740 | 0.30000 | **1.31163** |

# Power Information

### Internal switching power(pJ) to X rising :

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| **sg13g2_dlygate4sd2_1** | **A** | 0.01860 | 0.00100 | **0.01484** | 0.32940 | 0.06480 | **0.01487** | 2.50740 | 0.30000 | **0.01857** |

### Internal switching power(pJ) to X falling :

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| **sg13g2_dlygate4sd2_1** | **A** | 0.01860 | 0.00100 | **0.01429** | 0.32940 | 0.06480 | **0.01441** | 2.50740 | 0.30000 | **0.01847** |

# DLY4

*sg13g2_stdcell_typ_1p20V_25C Cell Library: Process*
*sg13g2_stdcell_typ_1p20V_25C, Voltage 1.20, Temp 25.00*

---

## Truth Table

| INPUT | OUTPUT |
|---|---|
| A | X |
| 0 | 0 |
| 1 | 1 |

## Footprint

| Cell Name | Area |
|---|---|
| sg13g2_dlygate4sd3_1 | 16.32960 |

## Pin Capacitance Information

| Cell Name | Pin Cap(pf) | Max Cap(pf) |
|---|---|---|
| | A | X |
| sg13g2_dlygate4sd3_1 | 0.00151 | 0.30000 |

## Leakage Information

| Cell Name | Leakage(pW) | | |
|---|---|---|---|
| | Min. | Avg | Max. |
| sg13g2_dlygate4sd3_1 | 389.90600 | 399.86200 | 409.81900 |

# Delay Information

### Delay(ns) to X rising :

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| **sg13g2_dlygate4sd3_1** | **A->X (RR)** | 0.01860 | 0.00100 | **0.34325** | 0.32940 | 0.06480 | **0.65741** | 2.50740 | 0.30000 | **1.60963** |

### Delay(ns) to X falling :

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| **sg13g2_dlygate4sd3_1** | **A->X (FF)** | 0.01860 | 0.00100 | **0.35836** | 0.32940 | 0.06480 | **0.67600** | 2.50740 | 0.30000 | **1.62193** |

# Power Information

### Internal switching power(pJ) to X rising :

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| **sg13g2_dlygate4sd3_1** | **A** | 0.01860 | 0.00100 | **0.02106** | 0.32940 | 0.06480 | **0.02098** | 2.50740 | 0.30000 | **0.02393** |

### Internal switching power(pJ) to X falling :

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| **sg13g2_dlygate4sd3_1** | **A** | 0.01860 | 0.00100 | **0.02072** | 0.32940 | 0.06480 | **0.02057** | 2.50740 | 0.30000 | **0.02342** |

# EINVINx

*sg13g2_stdcell_typ_1p20V_25C Cell Library: Process*
*sg13g2_stdcell_typ_1p20V_25C, Voltage 1.20, Temp 25.00*

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## Truth Table

| INPUT | | OUTPUT |
|---|---|---|
| A | TE_B | Z |
| 0 | 0 | 1 |
| 1 | 0 | 0 |
| - | 1 | HiZ |

## Footprint

| Cell Name | Area |
|---|---|
| sg13g2_einvn_4 | 23.58720 |
| sg13g2_einvn_2 | 16.32960 |

## Pin Capacitance Information

| Cell Name | Pin Cap(pf) | | Max Cap(pf) |
|---|---|---|---|
| | A | TE_B | Z |
| sg13g2_einvn_4 | 0.00777 | 0.00922 | 1.20000 |
| sg13g2_einvn_2 | 0.00395 | 0.00492 | 0.60000 |

## Leakage Information

| Cell Name | Leakage(pW) | | |
|---|---|---|---|
| | Min. | Avg | Max. |
| **sg13g2_einvn_4** | 399.52500 | 477.26800 | 555.01000 |
| **sg13g2_einvn_2** | 201.55400 | 240.42400 | 279.29400 |

# Delay Information

**Delay(ns) to Z rising :**

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_einvn_4 | A->Z (FR) | 0.01860 | 0.01021 | **0.02515** | 0.32940 | 0.26841 | **0.52907** | 2.50740 | 1.20921 | **2.80919** |
| | TE_B->Z (RR) | 0.01860 | 0.01021 | **0.04957** | 0.32940 | 0.26841 | **0.13357** | 2.50740 | 1.20921 | **0.30017** |
| | TE_B->Z (FR) | 0.01860 | 0.01021 | **0.03188** | 0.32940 | 0.26841 | **0.51885** | 2.50740 | 1.20921 | **2.63761** |
| sg13g2_einvn_2 | A->Z (FR) | 0.01860 | 0.00565 | **0.02671** | 0.32940 | 0.13425 | **0.52871** | 2.50740 | 0.60465 | **2.80887** |
| | TE_B->Z (RR) | 0.01860 | 0.00565 | **0.04843** | 0.32940 | 0.13425 | **0.13066** | 2.50740 | 0.60465 | **0.29706** |
| | TE_B->Z (FR) | 0.01860 | 0.00565 | **0.03330** | 0.32940 | 0.13425 | **0.51828** | 2.50740 | 0.60465 | **2.63850** |

**Delay(ns) to Z falling :**

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_einvn_4 | A->Z (RF) | 0.01860 | 0.01559 | **0.02280** | 0.32940 | 0.27379 | **0.43234** | 2.50740 | 1.21459 | **2.39965** |
| sg13g2_einvn_2 | A->Z (RF) | 0.01860 | 0.00845 | **0.02407** | 0.32940 | 0.13705 | **0.43246** | 2.50740 | 0.60745 | **2.39921** |

# Power Information

**Internal switching power(pJ) to Z rising :**

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_einvn_4 | A | 0.01860 | 0.01021 | **0.00974** | 0.32940 | 0.26841 | **0.00988** | 2.50740 | 1.20921 | **0.01398** |
| | TE_B | 0.01860 | 0.01021 | **0.02272** | 0.32940 | 0.26841 | **0.01477** | 2.50740 | 1.20921 | **0.01135** |
| sg13g2_einvn_2 | A | 0.01860 | 0.00565 | **0.00487** | 0.32940 | 0.13425 | **0.00486** | 2.50740 | 0.60465 | **0.00676** |
| | TE_B | 0.01860 | 0.00565 | **0.01127** | 0.32940 | 0.13425 | **0.00718** | 2.50740 | 0.60465 | **0.00574** |

**Internal switching power(pJ) to Z falling :**

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_einvn_4 | A | 0.01860 | 0.01559 | **0.00923** | 0.32940 | 0.27379 | **0.01067** | 2.50740 | 1.21459 | **0.01149** |
| sg13g2_einvn_2 | A | 0.01860 | 0.00845 | **0.00478** | 0.32940 | 0.13705 | **0.00540** | 2.50740 | 0.60745 | **0.00582** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_einvn_4 | 0.01860 | **0.00000** | 0.32940 | **0.00000** | 2.50740 | **0.00000** |
| sg13g2_einvn_2 | 0.01860 | **0.00000** | 0.32940 | **0.00000** | 2.50740 | **0.00000** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_einvn_4 | 0.01860 | **0.00000** | 0.32940 | **0.00000** | 2.50740 | **0.00000** |
| sg13g2_einvn_2 | 0.01860 | **0.00000** | 0.32940 | **0.00000** | 2.50740 | **0.00000** |

**Passive power(pJ) for TE_B rising :**

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_einvn_4 | 0.01860 | **-0.00429** | 0.32940 | **-0.00464** | 2.50740 | **0.00315** |
| sg13g2_einvn_2 | 0.01860 | **-0.00184** | 0.32940 | **-0.00204** | 2.50740 | **0.00206** |

**Passive power(pJ) for TE_B falling :**

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_einvn_4** | 0.01860 | **0.00696** | 0.32940 | **0.01471** | 2.50740 | **0.02331** |
| **sg13g2_einvn_2** | 0.01860 | **0.00354** | 0.32940 | **0.00745** | 2.50740 | **0.01186** |

# GCLK

*sg13g2_stdcell_typ_1p20V_25C Cell Library: Process*
*sg13g2_stdcell_typ_1p20V_25C, Voltage 1.20, Temp 25.00*

---

## Truth Table

| INPUT | | OUTPUT |
|---|---|---|
| GATE | CLK | GCLK |
| x | 0 | 0 |
| x | 1 | GCLK |

## Footprint

| Cell Name | Area |
|---|---|
| sg13g2_lgcp_1 | 27.21600 |

## Pin Capacitance Information

| Cell Name | Pin Cap(pf) | | Max Cap(pf) |
|---|---|---|---|
| | GATE | CLK | GCLK |
| sg13g2_lgcp_1 | 0.00235 | 0.00495 | 0.30000 |

## Leakage Information

| Cell Name | Leakage(pW) | | |
|---|---|---|---|
| | Min. | Avg | Max. |
| sg13g2_lgcp_1 | 377.61000 | 387.84600 | 400.61300 |

# Delay Information

### Delay(ns) to GCLK rising :

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| **sg13g2_lgcp_1** | **CLK->GCLK (RR)** | 0.01860 | 0.00100 | **0.07397** | 0.32940 | 0.06480 | **0.34881** | 2.50740 | 0.30000 | **1.22792** |

### Delay(ns) to GCLK falling :

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| **sg13g2_lgcp_1** | **CLK->GCLK (FF)** | 0.01860 | 0.00100 | **0.06037** | 0.32940 | 0.06480 | **0.31257** | 2.50740 | 0.30000 | **1.05226** |

# Constraint Information

### Constraints(ns) for GATE rising :

| Cell Name | Timing Check | Ref Pin(trans) | Constraint(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Input Slew(ns) | Ref Slew(ns) | Min | Input Slew(ns) | Ref Slew(ns) | Mid | Input Slew(ns) | Ref Slew(ns) | Max |
| sg13g2_lgcp_1 | hold | CLK (R) | 0.01860 | 0.01860 | **-0.03582** | 1.26300 | 1.26300 | **-0.16460** | 2.50740 | 2.50740 | **-0.25614** |
| | setup | CLK (R) | 0.01860 | 0.01860 | **0.05835** | 1.26300 | 1.26300 | **0.22396** | 2.50740 | 2.50740 | **0.35415** |

### Constraints(ns) for GATE falling :

| Cell Name | Timing Check | Ref Pin(trans) | Constraint(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Input Slew(ns) | Ref Slew(ns) | Min | Input Slew(ns) | Ref Slew(ns) | Mid | Input Slew(ns) | Ref Slew(ns) | Max |
| sg13g2_lgcp_1 | hold | CLK (R) | 0.01860 | 0.01860 | **-0.01683** | 1.26300 | 1.26300 | **-0.00270** | 2.50740 | 2.50740 | **0.00522** |
| | setup | CLK (R) | 0.01860 | 0.01860 | **0.04580** | 1.26300 | 1.26300 | **0.04587** | 2.50740 | 2.50740 | **0.04753** |

### Min Pulse Width (ns) for CLK:

| Cell Name | High | Low |
|---|---|---|
| **sg13g2_lgcp_1** | 3.3435 | 3.3435 |

# Power Information

**Internal switching power(pJ) to GCLK rising :**

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_lgcp_1 | CLK | 0.01860 | 0.00100 | **0.00866** | 0.32940 | 0.06480 | **0.00876** | 2.50740 | 0.30000 | **0.01369** |

**Internal switching power(pJ) to GCLK falling :**

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_lgcp_1 | CLK | 0.01860 | 0.00100 | **0.00526** | 0.32940 | 0.06480 | **0.00572** | 2.50740 | 0.30000 | **0.01309** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_lgcp_1 | 0.01860 | **0.01853** | 0.32940 | **0.02000** | 2.50740 | **0.02541** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_lgcp_1 | 0.01860 | **0.01006** | 0.32940 | **0.02853** | 2.50740 | **0.03434** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_lgcp_1 | !CLK | 0.01860 | **0.01853** | 0.32940 | **0.02000** | 2.50740 | **0.02541** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_lgcp_1 | !CLK | 0.01860 | **0.01006** | 0.32940 | **0.02853** | 2.50740 | **0.03434** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_lgcp_1** | 0.01860 | **0.00722** | 0.32940 | **0.00720** | 2.50740 | **0.01473** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_lgcp_1** | 0.01860 | **0.00865** | 0.32940 | **0.00875** | 2.50740 | **0.01629** |

# INx

*sg13g2_stdcell_typ_1p20V_25C Cell Library: Process*
*sg13g2_stdcell_typ_1p20V_25C, Voltage 1.20, Temp 25.00*

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## Truth Table

| INPUT | OUTPUT |
|---|---|
| A | Y |
| 0 | 1 |
| 1 | 0 |

## Footprint

| Cell Name | Area |
|---|---|
| **sg13g2_inv_16** | 34.47360 |
| **sg13g2_inv_8** | 18.14400 |
| **sg13g2_inv_4** | 10.88640 |
| **sg13g2_inv_2** | 7.25760 |
| **sg13g2_inv_1** | 5.44320 |

## Pin Capacitance Information

| Cell Name | Pin Cap(pf) | Max Cap(pf) |
|---|---|---|
| | A | Y |
| **sg13g2_inv_16** | 0.04623 | 4.80000 |
| **sg13g2_inv_8** | 0.02256 | 2.40000 |
| **sg13g2_inv_4** | 0.01128 | 1.20000 |
| **sg13g2_inv_2** | 0.00566 | 0.60000 |
| **sg13g2_inv_1** | 0.00289 | 0.30000 |

# Leakage Information

| Cell Name | Leakage(pW) | | |
|---|---|---|---|
| | Min. | Avg | Max. |
| **sg13g2_inv_16** | 696.58800 | 1007.55000 | 1318.51000 |
| **sg13g2_inv_8** | 348.28900 | 503.79900 | 659.30900 |
| **sg13g2_inv_4** | 174.15100 | 251.89000 | 329.62900 |
| **sg13g2_inv_2** | 87.07520 | 125.93700 | 164.79900 |
| **sg13g2_inv_1** | 43.53730 | 62.97230 | 82.40730 |

# Delay Information

**Delay(ns) to Y rising :**

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| **sg13g2_inv_16** | **A->Y (FR)** | 0.01860 | 0.00100 | **0.01712** | 0.32940 | 1.03680 | **0.35277** | 2.50740 | 4.80000 | **2.04645** |
| **sg13g2_inv_8** | **A->Y (FR)** | 0.01860 | 0.00100 | **0.01700** | 0.32940 | 0.51840 | **0.35214** | 2.50740 | 2.40000 | **2.04369** |
| **sg13g2_inv_4** | **A->Y (FR)** | 0.01860 | 0.00100 | **0.01738** | 0.32940 | 0.25920 | **0.35225** | 2.50740 | 1.20000 | **2.04305** |
| **sg13g2_inv_2** | **A->Y (FR)** | 0.01860 | 0.00100 | **0.01845** | 0.32940 | 0.12960 | **0.35152** | 2.50740 | 0.60000 | **2.03724** |
| **sg13g2_inv_1** | **A->Y (FR)** | 0.01860 | 0.00100 | **0.02082** | 0.32940 | 0.06480 | **0.35200** | 2.50740 | 0.30000 | **2.03781** |

**Delay(ns) to Y falling :**

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| **sg13g2_inv_16** | **A->Y (RF)** | 0.01860 | 0.00100 | **0.01624** | 0.32940 | 1.03680 | **0.32227** | 2.50740 | 4.80000 | **1.90864** |
| **sg13g2_inv_8** | **A->Y (RF)** | 0.01860 | 0.00100 | **0.01615** | 0.32940 | 0.51840 | **0.32229** | 2.50740 | 2.40000 | **1.90701** |
| **sg13g2_inv_4** | **A->Y (RF)** | 0.01860 | 0.00100 | **0.01644** | 0.32940 | 0.25920 | **0.32243** | 2.50740 | 1.20000 | **1.90781** |
| **sg13g2_inv_2** | **A->Y (RF)** | 0.01860 | 0.00100 | **0.01735** | 0.32940 | 0.12960 | **0.32096** | 2.50740 | 0.60000 | **1.90015** |
| **sg13g2_inv_1** | **A->Y (RF)** | 0.01860 | 0.00100 | **0.01950** | 0.32940 | 0.06480 | **0.32165** | 2.50740 | 0.30000 | **1.90127** |

# Power Information

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

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| **sg13g2_inv_16** | **A** | 0.01860 | 0.00100 | **0.02150** | 0.32940 | 1.03680 | **0.02396** | 2.50740 | 4.80000 | **0.04037** |
| **sg13g2_inv_8** | **A** | 0.01860 | 0.00100 | **0.01027** | 0.32940 | 0.51840 | **0.01149** | 2.50740 | 2.40000 | **0.01836** |
| **sg13g2_inv_4** | **A** | 0.01860 | 0.00100 | **0.00517** | 0.32940 | 0.25920 | **0.00592** | 2.50740 | 1.20000 | **0.00911** |
| **sg13g2_inv_2** | **A** | 0.01860 | 0.00100 | **0.00261** | 0.32940 | 0.12960 | **0.00287** | 2.50740 | 0.60000 | **0.00404** |
| **sg13g2_inv_1** | **A** | 0.01860 | 0.00100 | **0.00153** | 0.32940 | 0.06480 | **0.00156** | 2.50740 | 0.30000 | **0.00220** |

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

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| **sg13g2_inv_16** | **A** | 0.01860 | 0.00100 | **0.01857** | 0.32940 | 1.03680 | **0.01884** | 2.50740 | 4.80000 | **0.03230** |
| **sg13g2_inv_8** | **A** | 0.01860 | 0.00100 | **0.00888** | 0.32940 | 0.51840 | **0.00902** | 2.50740 | 2.40000 | **0.01291** |
| **sg13g2_inv_4** | **A** | 0.01860 | 0.00100 | **0.00449** | 0.32940 | 0.25920 | **0.00473** | 2.50740 | 1.20000 | **0.00711** |
| **sg13g2_inv_2** | **A** | 0.01860 | 0.00100 | **0.00235** | 0.32940 | 0.12960 | **0.00229** | 2.50740 | 0.60000 | **0.00335** |
| **sg13g2_inv_1** | **A** | 0.01860 | 0.00100 | **0.00157** | 0.32940 | 0.06480 | **0.00148** | 2.50740 | 0.30000 | **0.00206** |

# ITL

*sg13g2_stdcell_typ_1p20V_25C Cell Library: Process*
*sg13g2_stdcell_typ_1p20V_25C, Voltage 1.20, Temp 25.00*

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## Truth Table

| INPUT | | OUTPUT |
|---|---|---|
| A | TE_B | Z |
| 0 | 0 | 1 |
| 1 | 0 | 0 |
| - | 1 | HiZ |

## Footprint

| Cell Name | Area |
|---|---|
| sg13g2_einvn_8 | 39.91680 |

## Pin Capacitance Information

| Cell Name | Pin Cap(pf) | | Max Cap(pf) |
|---|---|---|---|
| | A | TE_B | Z |
| sg13g2_einvn_8 | 0.01527 | 0.01568 | 2.40000 |

## Leakage Information

| Cell Name | Leakage(pW) | | |
|---|---|---|---|
| | Min. | Avg | Max. |
| **sg13g2_einvn_8** | 755.51400 | 910.99700 | 1066.48000 |

# Delay Information

**Delay(ns) to Z rising :**

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_einvn_8 | A->Z (FR) | 0.01860 | 0.01932 | **0.02443** | 0.32940 | 0.53672 | **0.53065** | 2.50740 | 2.41832 | **2.82043** |
| | TE_B->Z (RR) | 0.01860 | 0.01932 | **0.06266** | 0.32940 | 0.53672 | **0.17483** | 2.50740 | 2.41832 | **0.41894** |
| | TE_B->Z (FR) | 0.01860 | 0.01932 | **0.03283** | 0.32940 | 0.53672 | **0.52151** | 2.50740 | 2.41832 | **2.64452** |

**Delay(ns) to Z falling :**

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_einvn_8 | A->Z (RF) | 0.01860 | 0.02997 | **0.02321** | 0.32940 | 0.54737 | **0.43371** | 2.50740 | 2.42897 | **2.40871** |

# Power Information

**Internal switching power(pJ) to Z rising :**

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_einvn_8 | A | 0.01860 | 0.01932 | **0.01940** | 0.32940 | 0.53672 | **0.02039** | 2.50740 | 2.41832 | **0.03297** |
| | TE_B | 0.01860 | 0.01932 | **0.04644** | 0.32940 | 0.53672 | **0.03043** | 2.50740 | 2.41832 | **0.02490** |

**Internal switching power(pJ) to Z falling :**

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_einvn_8 | A | 0.01860 | 0.02997 | **0.01790** | 0.32940 | 0.54737 | **0.02122** | 2.50740 | 2.42897 | **0.02407** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_einvn_8 | 0.01860 | **0.00000** | 0.32940 | **0.00000** | 2.50740 | **0.00000** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_einvn_8 | 0.01860 | **0.00000** | 0.32940 | **0.00000** | 2.50740 | **0.00000** |

**Passive power(pJ) for TE_B rising :**

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_einvn_8 | 0.01860 | **-0.01085** | 0.32940 | **-0.01164** | 2.50740 | **-0.00505** |

**Passive power(pJ) for TE_B falling :**

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_einvn_8 | 0.01860 | **0.01085** | 0.32940 | **0.02584** | 2.50740 | **0.03398** |

# KEEPSTATE

*sg13g2_stdcell_typ_1p20V_25C Cell Library:*
*Process sg13g2_stdcell_typ_1p20V_25C,*
*Voltage 1.20, Temp 25.00*

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## Truth Table

| INPUT | OUTPUT |
|---|---|
| SH | SH |
| x | - |

## Footprint

| Cell Name | Area |
|---|---|
| sg13g2_sighold | 9.07200 |

## Pin Capacitance Information

| Cell Name | Pin Cap(pf) | Max Cap(pf) |
|---|---|---|
| | SH | SH |
| sg13g2_sighold | 0.00000 | - |

## Leakage Information

| Cell Name | Leakage(pW) | | |
|---|---|---|---|
| | Min. | Avg | Max. |
| sg13g2_sighold | 37.36880 | 110.80400 | 184.23900 |

# Passive Power Information

**Passive power(pJ) for SH rising :**

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_sighold** | 0.01860 | **0.00000** | 0.32940 | **0.00000** | 2.50740 | **0.00000** |

**Passive power(pJ) for SH falling :**

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_sighold** | 0.01860 | **0.00000** | 0.32940 | **0.00000** | 2.50740 | **0.00000** |

# MUX2x

*sg13g2_stdcell_typ_1p20V_25C Cell Library: Process*
*sg13g2_stdcell_typ_1p20V_25C, Voltage 1.20, Temp 25.00*

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## Truth Table

| INPUT | | | OUTPUT |
|---|---|---|---|
| A0 | A1 | S | X |
| 0 | 0 | x | 0 |
| 0 | 1 | 0 | 0 |
| x | 1 | 1 | 1 |
| 1 | x | 0 | 1 |
| 1 | 0 | 1 | 0 |

## Footprint

| Cell Name | Area |
|---|---|
| **sg13g2_mux2_2** | 19.95840 |
| **sg13g2_mux2_1** | 18.14400 |

## Pin Capacitance Information

| Cell Name | Pin Cap(pf) | | | Max Cap(pf) |
|---|---|---|---|---|
| | A0 | A1 | S | X |
| **sg13g2_mux2_2** | 0.00210 | 0.00220 | 0.00506 | 0.60000 |
| **sg13g2_mux2_1** | 0.00209 | 0.00219 | 0.00506 | 0.30000 |

# Leakage Information

| Cell Name | Leakage(pW) | | |
|---|---|---|---|
| | Min. | Avg | Max. |
| **sg13g2_mux2_2** | 279.36200 | 309.31200 | 337.40300 |
| **sg13g2_mux2_1** | 220.22200 | 246.34000 | 274.31700 |

# Delay Information

**Delay(ns) to X rising :**

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_mux2_2 | A0->X (RR) | 0.01860 | 0.00100 | **0.08279** | 0.32940 | 0.12960 | **0.39361** | 2.50740 | 0.60000 | **1.33775** |
| | A1->X (RR) | 0.01860 | 0.00100 | **0.04964** | 0.32940 | 0.12960 | **0.39721** | 2.50740 | 0.60000 | **1.35118** |
| | S->X (-R) | 0.01860 | 0.00100 | **0.09162** | 0.32940 | 0.12960 | **0.39346** | 2.50740 | 0.60000 | **1.34385** |
| sg13g2_mux2_1 | A0->X (RR) | 0.01860 | 0.00100 | **0.07227** | 0.32940 | 0.06480 | **0.35942** | 2.50740 | 0.30000 | **1.25421** |
| | A1->X (RR) | 0.01860 | 0.00100 | **0.05077** | 0.32940 | 0.06480 | **0.36429** | 2.50740 | 0.30000 | **1.26953** |
| | S->X (-R) | 0.01860 | 0.00100 | **0.07989** | 0.32940 | 0.06480 | **0.36412** | 2.50740 | 0.30000 | **1.26654** |

**Delay(ns) to X falling :**

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_mux2_2 | A0->X (FF) | 0.01860 | 0.00100 | **0.05851** | 0.32940 | 0.12960 | **0.41441** | 2.50740 | 0.60000 | **1.27281** |
| | A1->X (FF) | 0.01860 | 0.00100 | **0.11731** | 0.32940 | 0.12960 | **0.42029** | 2.50740 | 0.60000 | **1.28420** |
| | S->X (-F) | 0.01860 | 0.00100 | **0.12923** | 0.32940 | 0.12960 | **0.40759** | 2.50740 | 0.60000 | **1.23491** |
| sg13g2_mux2_1 | A0->X (FF) | 0.01860 | 0.00100 | **0.05833** | 0.32940 | 0.06480 | **0.36713** | 2.50740 | 0.30000 | **1.17301** |
| | A1->X (FF) | 0.01860 | 0.00100 | **0.09759** | 0.32940 | 0.06480 | **0.37387** | 2.50740 | 0.30000 | **1.18674** |
| | S->X (-F) | 0.01860 | 0.00100 | **0.10819** | 0.32940 | 0.06480 | **0.36463** | 2.50740 | 0.30000 | **1.14261** |

**Delay(ns) to X rising (conditional):**

| Cell Name | Timing Arc(Dir) | When | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_mux2_2 | S->X (RR) | (!A0 * A1) | 0.01860 | 0.00100 | **0.09162** | 0.32940 | 0.12960 | **0.39346** | 2.50740 | 0.60000 | **1.34385** |
| | S->X (FR) | (A0 * !A1) | 0.01860 | 0.00100 | **0.12859** | 0.32940 | 0.12960 | **0.41159** | 2.50740 | 0.60000 | **1.23263** |
| sg13g2_mux2_1 | S->X (RR) | (!A0 * A1) | 0.01860 | 0.00100 | **0.07989** | 0.32940 | 0.06480 | **0.36412** | 2.50740 | 0.30000 | **1.26654** |
| | S->X (FR) | (A0 * !A1) | 0.01860 | 0.00100 | **0.11666** | 0.32940 | 0.06480 | **0.39005** | 2.50740 | 0.30000 | **1.20650** |

## Delay(ns) to X falling (conditional):

| Cell Name | Timing Arc(Dir) | When | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_mux2_2 | S->X (FF) | (!A0 * A1) | 0.01860 | 0.00100 | **0.12923** | 0.32940 | 0.12960 | **0.40759** | 2.50740 | 0.60000 | **1.23491** |
| | S->X (RF) | (A0 * !A1) | 0.01860 | 0.00100 | **0.15978** | 0.32940 | 0.12960 | **0.42767** | 2.50740 | 0.60000 | **1.16309** |
| sg13g2_mux2_1 | S->X (FF) | (!A0 * A1) | 0.01860 | 0.00100 | **0.10819** | 0.32940 | 0.06480 | **0.36463** | 2.50740 | 0.30000 | **1.14261** |
| | S->X (RF) | (A0 * !A1) | 0.01860 | 0.00100 | **0.13864** | 0.32940 | 0.06480 | **0.39082** | 2.50740 | 0.30000 | **1.12457** |

# Power Information

**Internal switching power(pJ) to X rising :**

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_mux2_2 | A0 | 0.01860 | 0.00100 | **0.01370** | 0.32940 | 0.12960 | **0.01394** | 2.50740 | 0.60000 | **0.02159** |
| | A1 | 0.01860 | 0.00100 | **0.01208** | 0.32940 | 0.12960 | **0.01867** | 2.50740 | 0.60000 | **0.02631** |
| | S | 0.01860 | 0.00100 | **0.01303** | 0.32940 | 0.12960 | **0.01363** | 2.50740 | 0.60000 | **0.01926** |
| sg13g2_mux2_1 | A0 | 0.01860 | 0.00100 | **0.00993** | 0.32940 | 0.06480 | **0.01004** | 2.50740 | 0.30000 | **0.01659** |
| | A1 | 0.01860 | 0.00100 | **0.00864** | 0.32940 | 0.06480 | **0.01289** | 2.50740 | 0.30000 | **0.01969** |
| | S | 0.01860 | 0.00100 | **0.00933** | 0.32940 | 0.06480 | **0.00983** | 2.50740 | 0.30000 | **0.01507** |

**Internal switching power(pJ) to X falling :**

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_mux2_2 | A0 | 0.01860 | 0.00100 | **0.01160** | 0.32940 | 0.12960 | **0.01875** | 2.50740 | 0.60000 | **0.02553** |
| | A1 | 0.01860 | 0.00100 | **0.01362** | 0.32940 | 0.12960 | **0.01378** | 2.50740 | 0.60000 | **0.01937** |
| | S | 0.01860 | 0.00100 | **0.01268** | 0.32940 | 0.12960 | **0.01327** | 2.50740 | 0.60000 | **0.01846** |
| sg13g2_mux2_1 | A0 | 0.01860 | 0.00100 | **0.00815** | 0.32940 | 0.06480 | **0.01285** | 2.50740 | 0.30000 | **0.01962** |
| | A1 | 0.01860 | 0.00100 | **0.00978** | 0.32940 | 0.06480 | **0.01008** | 2.50740 | 0.30000 | **0.01678** |
| | S | 0.01860 | 0.00100 | **0.00902** | 0.32940 | 0.06480 | **0.00947** | 2.50740 | 0.30000 | **0.01483** |

**Internal switching power(pJ) to X rising (conditional):**

| Cell Name | Input | When | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_mux2_2 | S | (A0 * !A1) | 0.01860 | 0.00100 | **0.01314** | 0.32940 | 0.12960 | **0.01368** | 2.50740 | 0.60000 | **0.01421** |
| | S | (!A0 * A1) | 0.01860 | 0.00100 | **0.01303** | 0.32940 | 0.12960 | **0.01363** | 2.50740 | 0.60000 | **0.01926** |
| sg13g2_mux2_1 | S | (A0 * !A1) | 0.01860 | 0.00100 | **0.00942** | 0.32940 | 0.06480 | **0.00963** | 2.50740 | 0.30000 | **0.00949** |
| | S | (!A0 * A1) | 0.01860 | 0.00100 | **0.00933** | 0.32940 | 0.06480 | **0.00983** | 2.50740 | 0.30000 | **0.01507** |

**Internal switching power(pJ) to X falling (conditional):**

| Cell Name | Input | When | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_mux2_2 | S | (A0 * !A1) | 0.01860 | 0.00100 | **0.01322** | 0.32940 | 0.12960 | **0.01367** | 2.50740 | 0.60000 | **0.01461** |
| | S | (!A0 * A1) | 0.01860 | 0.00100 | **0.01268** | 0.32940 | 0.12960 | **0.01327** | 2.50740 | 0.60000 | **0.01846** |
| sg13g2_mux2_1 | S | (A0 * !A1) | 0.01860 | 0.00100 | **0.00954** | 0.32940 | 0.06480 | **0.00990** | 2.50740 | 0.30000 | **0.01005** |
| | S | (!A0 * A1) | 0.01860 | 0.00100 | **0.00902** | 0.32940 | 0.06480 | **0.00947** | 2.50740 | 0.30000 | **0.01483** |

**Passive power(pJ) for S rising :**

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_mux2_2** | 0.01860 | **0.00407** | 0.32940 | **0.00400** | 2.50740 | **0.01000** |
| **sg13g2_mux2_1** | 0.01860 | **0.00407** | 0.32940 | **0.00401** | 2.50740 | **0.01000** |

**Passive power(pJ) for S falling :**

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_mux2_2** | 0.01860 | **0.00420** | 0.32940 | **0.00430** | 2.50740 | **0.01021** |
| **sg13g2_mux2_1** | 0.01860 | **0.00420** | 0.32940 | **0.00431** | 2.50740 | **0.01022** |

# MUX4

***sg13g2_stdcell_typ_1p20V_25C Cell Library: Process***
***sg13g2_stdcell_typ_1p20V_25C, Voltage 1.20, Temp 25.00***

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## Truth Table

| INPUT | | | | | | OUTPUT |
|---|---|---|---|---|---|---|
| A0 | A1 | A2 | A3 | S0 | S1 | X |
| 0 | 0 | 0 | 0 | x | x | 0 |
| 0 | x | 0 | 1 | 0 | x | 0 |
| x | 0 | x | 1 | 1 | 0 | 0 |
| x | x | x | 1 | 1 | 1 | 1 |
| 0 | 0 | 1 | x | x | 0 | 0 |
| 0 | x | 1 | x | 0 | 1 | 1 |
| 0 | x | 1 | 0 | 1 | 1 | 0 |
| 0 | 1 | 0 | x | 0 | x | 0 |
| 0 | 1 | x | x | 1 | 0 | 1 |
| 0 | 1 | x | 0 | 1 | 1 | 0 |
| 0 | 1 | 1 | x | 0 | 0 | 0 |
| 1 | 0 | 0 | x | 0 | 0 | 1 |
| 1 | x | 0 | 0 | x | 1 | 0 |
| 1 | 0 | x | 0 | 1 | x | 0 |
| 1 | x | 0 | 1 | 0 | 1 | 0 |
| 1 | x | 1 | x | 0 | x | 1 |
| 1 | 1 | 0 | x | x | 0 | 1 |
| 1 | 1 | 1 | x | 1 | 0 | 1 |
| 1 | 1 | 1 | 0 | 1 | 1 | 0 |

## Footprint

| Cell Name | Area |
|---|---|
| sg13g2_mux4_1 | 38.10240 |

## Pin Capacitance Information

| Cell Name | Pin Cap(pf) | | | | | | Max Cap(pf) |
|---|---|---|---|---|---|---|---|
| | A0 | A1 | A2 | A3 | S0 | S1 | X |
| sg13g2_mux4_1 | 0.00279 | 0.00277 | 0.00279 | 0.00288 | 0.00828 | 0.00505 | 0.30000 |

# Leakage Information

| Cell Name | Leakage(pW) | | |
|---|---|---|---|
| | Min. | Avg | Max. |
| **sg13g2_mux4_1** | 346.84700 | 464.97700 | 578.36100 |

# Delay Information

**Delay(ns) to X rising :**

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_mux4_1 | A0->X (RR) | 0.01860 | 0.00100 | **0.13530** | 0.32940 | 0.06480 | **0.44284** | 2.50740 | 0.30000 | **1.45261** |
| | A1->X (RR) | 0.01860 | 0.00100 | **0.13212** | 0.32940 | 0.06480 | **0.44150** | 2.50740 | 0.30000 | **1.44820** |
| | A2->X (RR) | 0.01860 | 0.00100 | **0.14414** | 0.32940 | 0.06480 | **0.45109** | 2.50740 | 0.30000 | **1.47302** |
| | A3->X (RR) | 0.01860 | 0.00100 | **0.13746** | 0.32940 | 0.06480 | **0.44929** | 2.50740 | 0.30000 | **1.46956** |
| | S0->X (-R) | 0.01860 | 0.00100 | **0.11905** | 0.32940 | 0.06480 | **0.43600** | 2.50740 | 0.30000 | **1.43376** |
| | S1->X (-R) | 0.01860 | 0.00100 | **0.06954** | 0.32940 | 0.06480 | **0.35833** | 2.50740 | 0.30000 | **1.23931** |

**Delay(ns) to X falling :**

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_mux4_1 | A0->X (FF) | 0.01860 | 0.00100 | **0.15983** | 0.32940 | 0.06480 | **0.44143** | 2.50740 | 0.30000 | **1.26428** |
| | A1->X (FF) | 0.01860 | 0.00100 | **0.15933** | 0.32940 | 0.06480 | **0.44101** | 2.50740 | 0.30000 | **1.26487** |
| | A2->X (FF) | 0.01860 | 0.00100 | **0.16981** | 0.32940 | 0.06480 | **0.45536** | 2.50740 | 0.30000 | **1.29322** |
| | A3->X (FF) | 0.01860 | 0.00100 | **0.16935** | 0.32940 | 0.06480 | **0.45471** | 2.50740 | 0.30000 | **1.29183** |
| | S0->X (-F) | 0.01860 | 0.00100 | **0.14762** | 0.32940 | 0.06480 | **0.44168** | 2.50740 | 0.30000 | **1.28647** |
| | S1->X (-F) | 0.01860 | 0.00100 | **0.08641** | 0.32940 | 0.06480 | **0.35246** | 2.50740 | 0.30000 | **1.10110** |

**Delay(ns) to X rising (conditional):**

| Cell Name | Timing Arc(Dir) | When | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_mux4_1 | S0->X (RR) | (!A2 * A3 * S1) | 0.01860 | 0.00100 | **0.11905** | 0.32940 | 0.06480 | **0.43600** | 2.50740 | 0.30000 | **1.43376** |
| | S0->X (RR) | (!A0 * A1 * !S1) | 0.01860 | 0.00100 | **0.11152** | 0.32940 | 0.06480 | **0.42169** | 2.50740 | 0.30000 | **1.39884** |
| | S0->X (FR) | (A2 * !A3 * S1) | 0.01860 | 0.00100 | **0.17607** | 0.32940 | 0.06480 | **0.47691** | 2.50740 | 0.30000 | **1.35470** |
| | S0->X (FR) | (A0 * !A1 * !S1) | 0.01860 | 0.00100 | **0.17067** | 0.32940 | 0.06480 | **0.46956** | 2.50740 | 0.30000 | **1.34193** |
| | S1->X (RR) | (!A1 * A3 * S0) | 0.01860 | 0.00100 | **0.06966** | 0.32940 | 0.06480 | **0.35834** | 2.50740 | 0.30000 | **1.23926** |
| | S1->X (RR) | (!A0 * A2 * !S0) | 0.01860 | 0.00100 | **0.06954** | 0.32940 | 0.06480 | **0.35833** | 2.50740 | 0.30000 | **1.23931** |
| | S1->X (FR) | (A1 * !A3 * S0) | 0.01860 | 0.00100 | **0.09518** | 0.32940 | 0.06480 | **0.37507** | 2.50740 | 0.30000 | **1.17705** |
| | S1->X (FR) | (A0 * !A2 * !S0) | 0.01860 | 0.00100 | **0.09483** | 0.32940 | 0.06480 | **0.37498** | 2.50740 | 0.30000 | **1.17703** |

**Delay(ns) to X falling (conditional):**

| Cell Name | Timing Arc(Dir) | When | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_mux4_1 | S0->X (FF) | (!A2 * A3 * S1) | 0.01860 | 0.00100 | **0.14762** | 0.32940 | 0.06480 | **0.44168** | 2.50740 | 0.30000 | **1.28647** |
| | S0->X (FF) | (!A0 * A1 * !S1) | 0.01860 | 0.00100 | **0.13471** | 0.32940 | 0.06480 | **0.42268** | 2.50740 | 0.30000 | **1.24792** |
| | S0->X (RF) | (A2 * !A3 * S1) | 0.01860 | 0.00100 | **0.18968** | 0.32940 | 0.06480 | **0.48079** | 2.50740 | 0.30000 | **1.27210** |
| | S0->X (RF) | (A0 * !A1 * !S1) | 0.01860 | 0.00100 | **0.17995** | 0.32940 | 0.06480 | **0.46724** | 2.50740 | 0.30000 | **1.25462** |
| | S1->X (FF) | (!A1 * A3 * S0) | 0.01860 | 0.00100 | **0.08663** | 0.32940 | 0.06480 | **0.35266** | 2.50740 | 0.30000 | **1.10075** |
| | S1->X (FF) | (!A0 * A2 * !S0) | 0.01860 | 0.00100 | **0.08641** | 0.32940 | 0.06480 | **0.35246** | 2.50740 | 0.30000 | **1.10110** |
| | S1->X (RF) | (A1 * !A3 * S0) | 0.01860 | 0.00100 | **0.10583** | 0.32940 | 0.06480 | **0.37213** | 2.50740 | 0.30000 | **1.09690** |
| | S1->X (RF) | (A0 * !A2 * !S0) | 0.01860 | 0.00100 | **0.10612** | 0.32940 | 0.06480 | **0.37219** | 2.50740 | 0.30000 | **1.09664** |

# Power Information

**Internal switching power(pJ) to X rising :**

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_mux4_1 | A0 | 0.01860 | 0.00100 | **0.01189** | 0.32940 | 0.06480 | **0.01184** | 2.50740 | 0.30000 | **0.01662** |
| | A1 | 0.01860 | 0.00100 | **0.01847** | 0.32940 | 0.06480 | **0.01837** | 2.50740 | 0.30000 | **0.02288** |
| | A2 | 0.01860 | 0.00100 | **0.01834** | 0.32940 | 0.06480 | **0.01815** | 2.50740 | 0.30000 | **0.02247** |
| | A3 | 0.01860 | 0.00100 | **0.01787** | 0.32940 | 0.06480 | **0.01766** | 2.50740 | 0.30000 | **0.02188** |
| | S0 | 0.01860 | 0.00100 | **0.00865** | 0.32940 | 0.06480 | **0.00835** | 2.50740 | 0.30000 | **0.01519** |
| | S1 | 0.01860 | 0.00100 | **0.00519** | 0.32940 | 0.06480 | **0.00552** | 2.50740 | 0.30000 | **0.01090** |

**Internal switching power(pJ) to X falling :**

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_mux4_1 | A0 | 0.01860 | 0.00100 | **0.01290** | 0.32940 | 0.06480 | **0.01288** | 2.50740 | 0.30000 | **0.01726** |
| | A1 | 0.01860 | 0.00100 | **0.01876** | 0.32940 | 0.06480 | **0.01876** | 2.50740 | 0.30000 | **0.02361** |
| | A2 | 0.01860 | 0.00100 | **0.01816** | 0.32940 | 0.06480 | **0.01829** | 2.50740 | 0.30000 | **0.02292** |
| | A3 | 0.01860 | 0.00100 | **0.01899** | 0.32940 | 0.06480 | **0.01910** | 2.50740 | 0.30000 | **0.02343** |
| | S0 | 0.01860 | 0.00100 | **0.01268** | 0.32940 | 0.06480 | **0.01150** | 2.50740 | 0.30000 | **0.01185** |
| | S1 | 0.01860 | 0.00100 | **0.00524** | 0.32940 | 0.06480 | **0.00550** | 2.50740 | 0.30000 | **0.01292** |

**Internal switching power(pJ) to X rising (conditional):**

| Cell Name | Input | When | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_mux4_1 | S0 | (A2 * !A3 * S1) | 0.01860 | 0.00100 | **0.01772** | 0.32940 | 0.06480 | **0.01087** | 2.50740 | 0.30000 | **0.00483** |
| | S0 | (A0 * !A1 * !S1) | 0.01860 | 0.00100 | **0.01769** | 0.32940 | 0.06480 | **0.01091** | 2.50740 | 0.30000 | **0.00528** |
| | S0 | (!A2 * A3 * S1) | 0.01860 | 0.00100 | **0.00667** | 0.32940 | 0.06480 | **-0.00088** | 2.50740 | 0.30000 | **0.01208** |
| | S0 | (!A0 * A1 * !S1) | 0.01860 | 0.00100 | **0.00865** | 0.32940 | 0.06480 | **0.00835** | 2.50740 | 0.30000 | **0.01519** |
| | S1 | (A1 * !A3 * S0) | 0.01860 | 0.00100 | **0.00815** | 0.32940 | 0.06480 | **0.00909** | 2.50740 | 0.30000 | **0.01430** |
| | S1 | (A0 * !A2 * !S0) | 0.01860 | 0.00100 | **0.00749** | 0.32940 | 0.06480 | **0.00845** | 2.50740 | 0.30000 | **0.01366** |
| | S1 | (!A1 * A3 * S0) | 0.01860 | 0.00100 | **0.00452** | 0.32940 | 0.06480 | **0.00486** | 2.50740 | 0.30000 | **0.01025** |
| | S1 | (!A0 * A2 * !S0) | 0.01860 | 0.00100 | **0.00519** | 0.32940 | 0.06480 | **0.00552** | 2.50740 | 0.30000 | **0.01090** |

**Internal switching power(pJ) to X falling (conditional):**

| Cell Name | Input | When | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_mux4_1 | S0 | (A2 * !A3 * S1) | 0.01860 | 0.00100 | **0.01268** | 0.32940 | 0.06480 | **0.01150** | 2.50740 | 0.30000 | **0.01185** |
| | S0 | (A0 * !A1 * !S1) | 0.01860 | 0.00100 | **0.01223** | 0.32940 | 0.06480 | **0.01195** | 2.50740 | 0.30000 | **0.01250** |
| | S0 | (!A2 * A3 * S1) | 0.01860 | 0.00100 | **0.00899** | 0.32940 | 0.06480 | **0.00754** | 2.50740 | 0.30000 | **0.01326** |
| | S0 | (!A0 * A1 * !S1) | 0.01860 | 0.00100 | **0.00801** | 0.32940 | 0.06480 | **0.00800** | 2.50740 | 0.30000 | **0.01411** |
| | S1 | (A1 * !A3 * S0) | 0.01860 | 0.00100 | **0.00769** | 0.32940 | 0.06480 | **0.00894** | 2.50740 | 0.30000 | **0.01374** |
| | S1 | (A0 * !A2 * !S0) | 0.01860 | 0.00100 | **0.00836** | 0.32940 | 0.06480 | **0.00961** | 2.50740 | 0.30000 | **0.01447** |
| | S1 | (!A1 * A3 * S0) | 0.01860 | 0.00100 | **0.00397** | 0.32940 | 0.06480 | **0.00426** | 2.50740 | 0.30000 | **0.01159** |
| | S1 | (!A0 * A2 * !S0) | 0.01860 | 0.00100 | **0.00524** | 0.32940 | 0.06480 | **0.00550** | 2.50740 | 0.30000 | **0.01292** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_mux4_1 | 0.01860 | **0.01024** | 0.32940 | **0.01811** | 2.50740 | **0.02523** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_mux4_1 | 0.01860 | **0.00682** | 0.32940 | **0.01332** | 2.50740 | **0.02691** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_mux4_1 | (A2 * A3 * S1) | 0.01860 | **0.00992** | 0.32940 | **0.01690** | 2.50740 | **0.02420** |
| | (A0 * A1 * !S1) | 0.01860 | **0.01024** | 0.32940 | **0.01811** | 2.50740 | **0.02523** |
| | (!A2 * !A3 * S1) | 0.01860 | **0.01021** | 0.32940 | **0.01718** | 2.50740 | **0.02457** |
| | (!A0 * !A1 * !S1) | 0.01860 | **0.01084** | 0.32940 | **0.01877** | 2.50740 | **0.02590** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_mux4_1 | (A2 * A3 * S1) | 0.01860 | **0.00631** | 0.32940 | **0.01138** | 2.50740 | **0.02525** |
| | (A0 * A1 * !S1) | 0.01860 | **0.00682** | 0.32940 | **0.01332** | 2.50740 | **0.02691** |
| | (!A2 * !A3 * S1) | 0.01860 | **0.00612** | 0.32940 | **0.01111** | 2.50740 | **0.02495** |
| | (!A0 * !A1 * !S1) | 0.01860 | **0.01132** | 0.32940 | **0.01911** | 2.50740 | **0.02596** |

**Passive power(pJ) for S1 rising :**

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_mux4_1 | 0.01860 | **0.00429** | 0.32940 | **0.00459** | 2.50740 | **0.01215** |

**Passive power(pJ) for S1 falling :**

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_mux4_1 | 0.01860 | **0.00424** | 0.32940 | **0.00476** | 2.50740 | **0.01227** |

**Passive power(pJ) for S1 rising (conditional):**

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_mux4_1 | (A1 * A3 * S0) | 0.01860 | **0.00429** | 0.32940 | **0.00459** | 2.50740 | **0.01215** |
| | (A0 * A2 * !S0) | 0.01860 | **0.00429** | 0.32940 | **0.00458** | 2.50740 | **0.01214** |
| | (!A1 * !A3 * S0) | 0.01860 | **0.00437** | 0.32940 | **0.00481** | 2.50740 | **0.01235** |
| | (!A0 * !A2 * !S0) | 0.01860 | **0.00438** | 0.32940 | **0.00481** | 2.50740 | **0.01234** |

**Passive power(pJ) for S1 falling (conditional):**

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_mux4_1 | (A1 * A3 * S0) | 0.01860 | **0.00426** | 0.32940 | **0.00478** | 2.50740 | **0.01229** |
| | (A0 * A2 * !S0) | 0.01860 | **0.00424** | 0.32940 | **0.00476** | 2.50740 | **0.01227** |
| | (!A1 * !A3 * S0) | 0.01860 | **0.00428** | 0.32940 | **0.00468** | 2.50740 | **0.01219** |
| | (!A0 * !A2 * !S0) | 0.01860 | **0.00427** | 0.32940 | **0.00468** | 2.50740 | **0.01219** |

# NAND2B1

*sg13g2_stdcell_typ_1p20V_25C Cell Library: Process sg13g2_stdcell_typ_1p20V_25C, Voltage 1.20, Temp 25.00*

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## Truth Table

| INPUT | | OUTPUT |
|---|---|---|
| A_N | B | Y |
| x | 0 | 1 |
| 0 | 1 | 0 |
| 1 | 1 | 1 |

## Footprint

| Cell Name | Area |
|---|---|
| sg13g2_nand2b_1 | 9.07200 |

## Pin Capacitance Information

| Cell Name | Pin Cap(pf) | | Max Cap(pf) |
|---|---|---|---|
| | A_N | B | Y |
| sg13g2_nand2b_1 | 0.00231 | 0.00312 | 0.30000 |

## Leakage Information

| Cell Name | Leakage(pW) | | |
|---|---|---|---|
| | Min. | Avg | Max. |
| **sg13g2_nand2b_1** | 74.95850 | 128.61900 | 196.40400 |

# Delay Information

**Delay(ns) to Y rising :**

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_nand2b_1 | A_N->Y (RR) | 0.01860 | 0.00100 | **0.05010** | 0.32940 | 0.06480 | **0.32528** | 2.50740 | 0.30000 | **1.20073** |
| | B->Y (FR) | 0.01860 | 0.00100 | **0.02525** | 0.32940 | 0.06480 | **0.35783** | 2.50740 | 0.30000 | **2.04312** |

**Delay(ns) to Y falling :**

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_nand2b_1 | A_N->Y (FF) | 0.01860 | 0.00100 | **0.06201** | 0.32940 | 0.06480 | **0.41422** | 2.50740 | 0.30000 | **1.53604** |
| | B->Y (RF) | 0.01860 | 0.00100 | **0.03693** | 0.32940 | 0.06480 | **0.42597** | 2.50740 | 0.30000 | **2.27778** |

# Power Information

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

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_nand2b_1 | A_N | 0.01860 | 0.00100 | **0.00180** | 0.32940 | 0.06480 | **0.00191** | 2.50740 | 0.30000 | **0.00133** |
| | B | 0.01860 | 0.00100 | **0.00173** | 0.32940 | 0.06480 | **0.00157** | 2.50740 | 0.30000 | **0.00153** |

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

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_nand2b_1 | A_N | 0.01860 | 0.00100 | **0.00423** | 0.32940 | 0.06480 | **0.00435** | 2.50740 | 0.30000 | **0.00391** |
| | B | 0.01860 | 0.00100 | **0.00426** | 0.32940 | 0.06480 | **0.00416** | 2.50740 | 0.30000 | **0.00424** |

**Passive power(pJ) for A_N rising :**

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_nand2b_1 | 0.01860 | **0.00411** | 0.32940 | **0.00432** | 2.50740 | **0.01054** |

**Passive power(pJ) for A_N falling :**

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_nand2b_1 | 0.01860 | **0.00219** | 0.32940 | **0.00244** | 2.50740 | **0.00846** |

**Passive power(pJ) for A_N rising (conditional):**

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_nand2b_1 | !B | 0.01860 | **0.00411** | 0.32940 | **0.00432** | 2.50740 | **0.01054** |

**Passive power(pJ) for A_N falling (conditional):**

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_nand2b_1 | !B | 0.01860 | **0.00219** | 0.32940 | **0.00244** | 2.50740 | **0.00846** |

# NAND2B2

*sg13g2_stdcell_typ_1p20V_25C Cell Library: Process sg13g2_stdcell_typ_1p20V_25C, Voltage 1.20, Temp 25.00*

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## Truth Table

| INPUT | | OUTPUT |
|---|---|---|
| A_N | B | Y |
| x | 0 | 1 |
| 0 | 1 | 0 |
| 1 | 1 | 1 |

## Footprint

| Cell Name | Area |
|---|---|
| sg13g2_nand2b_2 | 14.51520 |

## Pin Capacitance Information

| Cell Name | Pin Cap(pf) | | Max Cap(pf) |
|---|---|---|---|
| | A_N | B | Y |
| sg13g2_nand2b_2 | 0.00221 | 0.00540 | 0.60000 |

## Leakage Information

| Cell Name | Leakage(pW) | | |
|---|---|---|---|
| | Min. | Avg | Max. |
| **sg13g2_nand2b_2** | 148.68900 | 207.93900 | 357.86600 |

# Delay Information

**Delay(ns) to Y rising :**

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_nand2b_2 | A_N->Y (RR) | 0.01860 | 0.00100 | **0.06590** | 0.32940 | 0.12960 | **0.36391** | 2.50740 | 0.60000 | **1.29755** |
| | B->Y (FR) | 0.01860 | 0.00100 | **0.01984** | 0.32940 | 0.12960 | **0.35304** | 2.50740 | 0.60000 | **2.04133** |

**Delay(ns) to Y falling :**

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_nand2b_2 | A_N->Y (FF) | 0.01860 | 0.00100 | **0.08530** | 0.32940 | 0.12960 | **0.47860** | 2.50740 | 0.60000 | **1.72672** |
| | B->Y (RF) | 0.01860 | 0.00100 | **0.02740** | 0.32940 | 0.12960 | **0.44294** | 2.50740 | 0.60000 | **2.43713** |

# Power Information

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

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_nand2b_2 | A_N | 0.01860 | 0.00100 | **0.00376** | 0.32940 | 0.12960 | **0.00367** | 2.50740 | 0.60000 | **0.00341** |
| | B | 0.01860 | 0.00100 | **0.00484** | 0.32940 | 0.12960 | **0.00485** | 2.50740 | 0.60000 | **0.00560** |

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

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_nand2b_2 | A_N | 0.01860 | 0.00100 | **0.00852** | 0.32940 | 0.12960 | **0.00884** | 2.50740 | 0.60000 | **0.00848** |
| | B | 0.01860 | 0.00100 | **0.00667** | 0.32940 | 0.12960 | **0.00668** | 2.50740 | 0.60000 | **0.00673** |

**Passive power(pJ) for A_N rising :**

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_nand2b_2 | 0.01860 | **0.00660** | 0.32940 | **0.00654** | 2.50740 | **0.01192** |

**Passive power(pJ) for A_N falling :**

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_nand2b_2 | 0.01860 | **0.00616** | 0.32940 | **0.00626** | 2.50740 | **0.01171** |

**Passive power(pJ) for A_N rising (conditional):**

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_nand2b_2 | !B | 0.01860 | **0.00660** | 0.32940 | **0.00654** | 2.50740 | **0.01192** |

**Passive power(pJ) for A_N falling (conditional):**

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_nand2b_2 | !B | 0.01860 | **0.00616** | 0.32940 | **0.00626** | 2.50740 | **0.01171** |

# NAND2x

*sg13g2_stdcell_typ_1p20V_25C Cell Library: Process*
*sg13g2_stdcell_typ_1p20V_25C, Voltage 1.20, Temp 25.00*

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## Truth Table

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

## Footprint

| Cell Name | Area |
|---|---|
| sg13g2_nand2_2 | 10.88640 |
| sg13g2_nand2_1 | 7.25760 |

## Pin Capacitance Information

| Cell Name | Pin Cap(pf) | | Max Cap(pf) |
|---|---|---|---|
| | A | B | Y |
| sg13g2_nand2_2 | 0.00560 | 0.00573 | 0.60000 |
| sg13g2_nand2_1 | 0.00295 | 0.00302 | 0.30000 |

## Leakage Information

| Cell Name | Leakage(pW) | | |
|---|---|---|---|
| | Min. | Avg | Max. |
| **sg13g2_nand2_2** | 85.56970 | 160.58100 | 326.27800 |
| **sg13g2_nand2_1** | 43.32830 | 81.22160 | 164.75900 |

# Delay Information

**Delay(ns) to Y rising :**

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_nand2_2 | A->Y (FR) | 0.01860 | 0.00100 | **0.02065** | 0.32940 | 0.12960 | **0.35410** | 2.50740 | 0.60000 | **2.04435** |
| | B->Y (FR) | 0.01860 | 0.00100 | **0.02436** | 0.32940 | 0.12960 | **0.35792** | 2.50740 | 0.60000 | **2.04511** |
| sg13g2_nand2_1 | A->Y (FR) | 0.01860 | 0.00100 | **0.02262** | 0.32940 | 0.06480 | **0.35395** | 2.50740 | 0.30000 | **2.04244** |
| | B->Y (FR) | 0.01860 | 0.00100 | **0.02591** | 0.32940 | 0.06480 | **0.35762** | 2.50740 | 0.30000 | **2.04785** |

**Delay(ns) to Y falling :**

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_nand2_2 | A->Y (RF) | 0.01860 | 0.00100 | **0.02667** | 0.32940 | 0.12960 | **0.44237** | 2.50740 | 0.60000 | **2.43649** |
| | B->Y (RF) | 0.01860 | 0.00100 | **0.03248** | 0.32940 | 0.12960 | **0.43582** | 2.50740 | 0.60000 | **2.33294** |
| sg13g2_nand2_1 | A->Y (RF) | 0.01860 | 0.00100 | **0.02896** | 0.32940 | 0.06480 | **0.43057** | 2.50740 | 0.30000 | **2.39017** |
| | B->Y (RF) | 0.01860 | 0.00100 | **0.03358** | 0.32940 | 0.06480 | **0.42362** | 2.50740 | 0.30000 | **2.27614** |

# Power Information

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

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| **sg13g2_nand2_2** | **A** | 0.01860 | 0.00100 | **0.00296** | 0.32940 | 0.12960 | **0.00314** | 2.50740 | 0.60000 | **0.00407** |
| | **B** | 0.01860 | 0.00100 | **0.00385** | 0.32940 | 0.12960 | **0.00346** | 2.50740 | 0.60000 | **0.00357** |
| **sg13g2_nand2_1** | **A** | 0.01860 | 0.00100 | **0.00163** | 0.32940 | 0.06480 | **0.00166** | 2.50740 | 0.30000 | **0.00214** |
| | **B** | 0.01860 | 0.00100 | **0.00175** | 0.32940 | 0.06480 | **0.00160** | 2.50740 | 0.30000 | **0.00221** |

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

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| **sg13g2_nand2_2** | **A** | 0.01860 | 0.00100 | **0.00438** | 0.32940 | 0.12960 | **0.00453** | 2.50740 | 0.60000 | **0.00464** |
| | **B** | 0.01860 | 0.00100 | **0.00775** | 0.32940 | 0.12960 | **0.00759** | 2.50740 | 0.60000 | **0.00814** |
| **sg13g2_nand2_1** | **A** | 0.01860 | 0.00100 | **0.00237** | 0.32940 | 0.06480 | **0.00232** | 2.50740 | 0.30000 | **0.00297** |
| | **B** | 0.01860 | 0.00100 | **0.00410** | 0.32940 | 0.06480 | **0.00402** | 2.50740 | 0.30000 | **0.00418** |

# NAND3B1

*sg13g2_stdcell_typ_1p20V_25C Cell Library: Process sg13g2_stdcell_typ_1p20V_25C, Voltage 1.20, Temp 25.00*

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## Truth Table

| INPUT | | | OUTPUT |
|---|---|---|---|
| A_N | B | C | Y |
| x | 0 | x | 1 |
| x | 1 | 0 | 1 |
| 0 | 1 | 1 | 0 |
| 1 | 1 | 1 | 1 |

## Footprint

| Cell Name | Area |
|---|---|
| sg13g2_nand3b_1 | 12.70080 |

## Pin Capacitance Information

| Cell Name | Pin Cap(pf) | | | Max Cap(pf) |
|---|---|---|---|---|
| | A_N | B | C | Y |
| sg13g2_nand3b_1 | 0.00224 | 0.00302 | 0.00302 | 0.30000 |

## Leakage Information

| Cell Name | Leakage(pW) | | |
|---|---|---|---|
| | Min. | Avg | Max. |
| **sg13g2_nand3b_1** | 76.88740 | 134.54300 | 278.76600 |

# Delay Information

**Delay(ns) to Y rising :**

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_nand3b_1 | A_N->Y (RR) | 0.01860 | 0.00100 | **0.05318** | 0.32940 | 0.06480 | **0.32666** | 2.50740 | 0.30000 | **1.19805** |
| | B->Y (FR) | 0.01860 | 0.00100 | **0.02853** | 0.32940 | 0.06480 | **0.36062** | 2.50740 | 0.30000 | **2.04832** |
| | C->Y (FR) | 0.01860 | 0.00100 | **0.03093** | 0.32940 | 0.06480 | **0.36406** | 2.50740 | 0.30000 | **2.05478** |

**Delay(ns) to Y falling :**

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_nand3b_1 | A_N->Y (FF) | 0.01860 | 0.00100 | **0.07580** | 0.32940 | 0.06480 | **0.54434** | 2.50740 | 0.30000 | **2.10215** |
| | B->Y (RF) | 0.01860 | 0.00100 | **0.05613** | 0.32940 | 0.06480 | **0.55734** | 2.50740 | 0.30000 | **2.80988** |
| | C->Y (RF) | 0.01860 | 0.00100 | **0.06150** | 0.32940 | 0.06480 | **0.54986** | 2.50740 | 0.30000 | **2.67359** |

# Power Information

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

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_nand3b_1 | A_N | 0.01860 | 0.00100 | **0.00205** | 0.32940 | 0.06480 | **0.00209** | 2.50740 | 0.30000 | **0.00128** |
| | B | 0.01860 | 0.00100 | **0.00215** | 0.32940 | 0.06480 | **0.00193** | 2.50740 | 0.30000 | **0.00197** |
| | C | 0.01860 | 0.00100 | **0.00246** | 0.32940 | 0.06480 | **0.00215** | 2.50740 | 0.30000 | **0.00247** |

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

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_nand3b_1 | A_N | 0.01860 | 0.00100 | **0.00545** | 0.32940 | 0.06480 | **0.00551** | 2.50740 | 0.30000 | **0.00485** |
| | B | 0.01860 | 0.00100 | **0.00548** | 0.32940 | 0.06480 | **0.00529** | 2.50740 | 0.30000 | **0.00550** |
| | C | 0.01860 | 0.00100 | **0.00718** | 0.32940 | 0.06480 | **0.00700** | 2.50740 | 0.30000 | **0.00710** |

**Passive power(pJ) for A_N rising :**

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_nand3b_1 | 0.01860 | **0.00407** | 0.32940 | **0.00430** | 2.50740 | **0.01051** |

**Passive power(pJ) for A_N falling :**

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_nand3b_1 | 0.01860 | **0.00225** | 0.32940 | **0.00248** | 2.50740 | **0.00852** |

**Passive power(pJ) for A_N rising (conditional):**

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_nand3b_1 | (B * !C) + (!B) | 0.01860 | **0.00407** | 0.32940 | **0.00430** | 2.50740 | **0.01051** |

**Passive power(pJ) for A_N falling (conditional):**

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_nand3b_1** | **(B * !C) + (!B)** | 0.01860 | **0.00225** | 0.32940 | **0.00248** | 2.50740 | **0.00852** |

# NAND3

*sg13g2_stdcell_typ_1p20V_25C Cell Library: Process*
*sg13g2_stdcell_typ_1p20V_25C, Voltage 1.20, Temp 25.00*

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## Truth Table

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

## Footprint

| Cell Name | Area |
|---|---|
| sg13g2_nand3_1 | 9.07200 |

## Pin Capacitance Information

| Cell Name | Pin Cap(pf) | | | Max Cap(pf) |
|---|---|---|---|---|
| | A | B | C | Y |
| sg13g2_nand3_1 | 0.00282 | 0.00294 | 0.00291 | 0.30000 |

## Leakage Information

| Cell Name | Leakage(pW) | | |
|---|---|---|---|
| | Min. | Avg | Max. |
| **sg13g2_nand3_1** | 45.34030 | 87.23850 | 247.22400 |

# Delay Information

**Delay(ns) to Y rising :**

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_nand3_1 | A->Y (FR) | 0.01860 | 0.00100 | **0.02558** | 0.32940 | 0.06480 | **0.35694** | 2.50740 | 0.30000 | **2.04728** |
| | B->Y (FR) | 0.01860 | 0.00100 | **0.02925** | 0.32940 | 0.06480 | **0.36061** | 2.50740 | 0.30000 | **2.04852** |
| | C->Y (FR) | 0.01860 | 0.00100 | **0.03116** | 0.32940 | 0.06480 | **0.36364** | 2.50740 | 0.30000 | **2.05477** |

**Delay(ns) to Y falling :**

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_nand3_1 | A->Y (RF) | 0.01860 | 0.00100 | **0.04315** | 0.32940 | 0.06480 | **0.55185** | 2.50740 | 0.30000 | **2.86814** |
| | B->Y (RF) | 0.01860 | 0.00100 | **0.05242** | 0.32940 | 0.06480 | **0.55433** | 2.50740 | 0.30000 | **2.80552** |
| | C->Y (RF) | 0.01860 | 0.00100 | **0.05674** | 0.32940 | 0.06480 | **0.54406** | 2.50740 | 0.30000 | **2.66570** |

# Power Information

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

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_nand3_1 | A | 0.01860 | 0.00100 | **0.00198** | 0.32940 | 0.06480 | **0.00197** | 2.50740 | 0.30000 | **0.00244** |
| | B | 0.01860 | 0.00100 | **0.00216** | 0.32940 | 0.06480 | **0.00192** | 2.50740 | 0.30000 | **0.00200** |
| | C | 0.01860 | 0.00100 | **0.00248** | 0.32940 | 0.06480 | **0.00211** | 2.50740 | 0.30000 | **0.00251** |

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

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_nand3_1 | A | 0.01860 | 0.00100 | **0.00356** | 0.32940 | 0.06480 | **0.00345** | 2.50740 | 0.30000 | **0.00402** |
| | B | 0.01860 | 0.00100 | **0.00531** | 0.32940 | 0.06480 | **0.00513** | 2.50740 | 0.30000 | **0.00530** |
| | C | 0.01860 | 0.00100 | **0.00677** | 0.32940 | 0.06480 | **0.00657** | 2.50740 | 0.30000 | **0.00661** |

# NAND4

*sg13g2_stdcell_typ_1p20V_25C Cell Library: Process*
*sg13g2_stdcell_typ_1p20V_25C, Voltage 1.20, Temp 25.00*

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## Truth Table

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

## Footprint

| Cell Name | Area |
|---|---|
| sg13g2_nand4_1 | 10.88640 |

## Pin Capacitance Information

| Cell Name | Pin Cap(pf) | | | | Max Cap(pf) |
|---|---|---|---|---|---|
| | A | B | C | D | Y |
| sg13g2_nand4_1 | 0.00279 | 0.00291 | 0.00292 | 0.00291 | 0.30000 |

## Leakage Information

| Cell Name | Leakage(pW) | | |
|---|---|---|---|
| | Min. | Avg | Max. |
| **sg13g2_nand4_1** | 47.40900 | 91.54030 | 329.59000 |

# Delay Information

**Delay(ns) to Y rising :**

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_nand4_1 | A->Y (FR) | 0.01860 | 0.00100 | **0.02677** | 0.32940 | 0.06480 | **0.35810** | 2.50740 | 0.30000 | **2.04396** |
| | B->Y (FR) | 0.01860 | 0.00100 | **0.03070** | 0.32940 | 0.06480 | **0.36250** | 2.50740 | 0.30000 | **2.04716** |
| | C->Y (FR) | 0.01860 | 0.00100 | **0.03288** | 0.32940 | 0.06480 | **0.36576** | 2.50740 | 0.30000 | **2.05659** |
| | D->Y (FR) | 0.01860 | 0.00100 | **0.03356** | 0.32940 | 0.06480 | **0.36878** | 2.50740 | 0.30000 | **2.06101** |

**Delay(ns) to Y falling :**

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_nand4_1 | A->Y (RF) | 0.01860 | 0.00100 | **0.05565** | 0.32940 | 0.06480 | **0.67511** | 2.50740 | 0.30000 | **3.36275** |
| | B->Y (RF) | 0.01860 | 0.00100 | **0.06986** | 0.32940 | 0.06480 | **0.68463** | 2.50740 | 0.30000 | **3.33007** |
| | C->Y (RF) | 0.01860 | 0.00100 | **0.07794** | 0.32940 | 0.06480 | **0.68198** | 2.50740 | 0.30000 | **3.22014** |
| | D->Y (RF) | 0.01860 | 0.00100 | **0.08190** | 0.32940 | 0.06480 | **0.67842** | 2.50740 | 0.30000 | **3.12032** |

# Power Information

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

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_nand4_1 | A | 0.01860 | 0.00100 | **0.00191** | 0.32940 | 0.06480 | **0.00189** | 2.50740 | 0.30000 | **0.00179** |
| | B | 0.01860 | 0.00100 | **0.00218** | 0.32940 | 0.06480 | **0.00199** | 2.50740 | 0.30000 | **0.00162** |
| | C | 0.01860 | 0.00100 | **0.00246** | 0.32940 | 0.06480 | **0.00212** | 2.50740 | 0.30000 | **0.00223** |
| | D | 0.01860 | 0.00100 | **0.00266** | 0.32940 | 0.06480 | **0.00230** | 2.50740 | 0.30000 | **0.00247** |

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

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_nand4_1 | A | 0.01860 | 0.00100 | **0.00431** | 0.32940 | 0.06480 | **0.00422** | 2.50740 | 0.30000 | **0.00449** |
| | B | 0.01860 | 0.00100 | **0.00606** | 0.32940 | 0.06480 | **0.00586** | 2.50740 | 0.30000 | **0.00571** |
| | C | 0.01860 | 0.00100 | **0.00754** | 0.32940 | 0.06480 | **0.00736** | 2.50740 | 0.30000 | **0.00724** |
| | D | 0.01860 | 0.00100 | **0.00900** | 0.32940 | 0.06480 | **0.00884** | 2.50740 | 0.30000 | **0.00893** |

# NOR2Bx

*sg13g2_stdcell_typ_1p20V_25C Cell Library: Process*
*sg13g2_stdcell_typ_1p20V_25C, Voltage 1.20, Temp 25.00*

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## Truth Table

| INPUT | | OUTPUT |
|---|---|---|
| A | B_N | Y |
| x | 0 | 0 |
| 0 | 1 | 1 |
| 1 | 1 | 0 |

## Footprint

| Cell Name | Area |
|---|---|
| sg13g2_nor2b_2 | 12.70080 |
| sg13g2_nor2b_1 | 9.07200 |

## Pin Capacitance Information

| Cell Name | Pin Cap(pf) | | Max Cap(pf) |
|---|---|---|---|
| | A | B_N | Y |
| sg13g2_nor2b_2 | 0.00570 | 0.00270 | 0.60000 |
| sg13g2_nor2b_1 | 0.00294 | 0.00228 | 0.30000 |

## Leakage Information

| Cell Name | Leakage(pW) | | |
|---|---|---|---|
| | Min. | Avg | Max. |
| **sg13g2_nor2b_2** | 165.75900 | 219.06600 | 278.92800 |
| **sg13g2_nor2b_1** | 97.26460 | 130.26100 | 166.70000 |

# Delay Information

**Delay(ns) to Y rising :**

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_nor2b_2 | A->Y (FR) | 0.01860 | 0.00100 | **0.03045** | 0.32940 | 0.12960 | **0.53169** | 2.50740 | 0.60000 | **2.80472** |
| | B_N->Y (RR) | 0.01860 | 0.00100 | **0.07653** | 0.32940 | 0.12960 | **0.55884** | 2.50740 | 0.60000 | **2.17738** |
| sg13g2_nor2b_1 | A->Y (FR) | 0.01860 | 0.00100 | **0.03505** | 0.32940 | 0.06480 | **0.53292** | 2.50740 | 0.30000 | **2.80692** |
| | B_N->Y (RR) | 0.01860 | 0.00100 | **0.07004** | 0.32940 | 0.06480 | **0.53319** | 2.50740 | 0.30000 | **2.09916** |

**Delay(ns) to Y falling :**

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_nor2b_2 | A->Y (RF) | 0.01860 | 0.00100 | **0.01958** | 0.32940 | 0.12960 | **0.32924** | 2.50740 | 0.60000 | **1.94128** |
| | B_N->Y (FF) | 0.01860 | 0.00100 | **0.06941** | 0.32940 | 0.12960 | **0.33144** | 2.50740 | 0.60000 | **1.09304** |
| sg13g2_nor2b_1 | A->Y (RF) | 0.01860 | 0.00100 | **0.02096** | 0.32940 | 0.06480 | **0.32266** | 2.50740 | 0.30000 | **1.90197** |
| | B_N->Y (FF) | 0.01860 | 0.00100 | **0.05830** | 0.32940 | 0.06480 | **0.29689** | 2.50740 | 0.30000 | **0.99839** |

# Power Information

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

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_nor2b_2 | A | 0.01860 | 0.00100 | **0.00420** | 0.32940 | 0.12960 | **0.00425** | 2.50740 | 0.60000 | **0.00524** |
| | B_N | 0.01860 | 0.00100 | **0.00843** | 0.32940 | 0.12960 | **0.00848** | 2.50740 | 0.60000 | **0.00828** |
| sg13g2_nor2b_1 | A | 0.01860 | 0.00100 | **0.00212** | 0.32940 | 0.06480 | **0.00208** | 2.50740 | 0.30000 | **0.00264** |
| | B_N | 0.01860 | 0.00100 | **0.00437** | 0.32940 | 0.06480 | **0.00433** | 2.50740 | 0.30000 | **0.00395** |

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

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_nor2b_2 | A | 0.01860 | 0.00100 | **0.00288** | 0.32940 | 0.12960 | **0.00275** | 2.50740 | 0.60000 | **0.00370** |
| | B_N | 0.01860 | 0.00100 | **0.00419** | 0.32940 | 0.12960 | **0.00399** | 2.50740 | 0.60000 | **0.00543** |
| sg13g2_nor2b_1 | A | 0.01860 | 0.00100 | **0.00184** | 0.32940 | 0.06480 | **0.00165** | 2.50740 | 0.30000 | **0.00199** |
| | B_N | 0.01860 | 0.00100 | **0.00231** | 0.32940 | 0.06480 | **0.00217** | 2.50740 | 0.30000 | **0.00187** |

**Passive power(pJ) for B_N rising :**

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_nor2b_2 | 0.01860 | **0.00733** | 0.32940 | **0.00739** | 2.50740 | **0.01423** |
| sg13g2_nor2b_1 | 0.01860 | **0.00414** | 0.32940 | **0.00428** | 2.50740 | **0.01028** |

**Passive power(pJ) for B_N falling :**

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_nor2b_2 | 0.01860 | **0.00628** | 0.32940 | **0.00634** | 2.50740 | **0.01300** |
| sg13g2_nor2b_1 | 0.01860 | **0.00371** | 0.32940 | **0.00386** | 2.50740 | **0.00977** |

**Passive power(pJ) for B_N rising (conditional):**

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_nor2b_2** | **A** | 0.01860 | **0.00733** | 0.32940 | **0.00739** | 2.50740 | **0.01423** |
| **sg13g2_nor2b_1** | **A** | 0.01860 | **0.00414** | 0.32940 | **0.00428** | 2.50740 | **0.01028** |

**Passive power(pJ) for B_N falling (conditional):**

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_nor2b_2** | **A** | 0.01860 | **0.00628** | 0.32940 | **0.00634** | 2.50740 | **0.01300** |
| **sg13g2_nor2b_1** | **A** | 0.01860 | **0.00371** | 0.32940 | **0.00386** | 2.50740 | **0.00977** |

# NOR2x

*sg13g2_stdcell_typ_1p20V_25C Cell Library: Process*
*sg13g2_stdcell_typ_1p20V_25C, Voltage 1.20, Temp 25.00*

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## Truth Table

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

## Footprint

| Cell Name | Area |
|---|---|
| sg13g2_nor2_2 | 10.88640 |
| sg13g2_nor2_1 | 7.25760 |

## Pin Capacitance Information

| Cell Name | Pin Cap(pf) | | Max Cap(pf) |
|---|---|---|---|
| | A | B | Y |
| sg13g2_nor2_2 | 0.00584 | 0.00565 | 0.30000 |
| sg13g2_nor2_1 | 0.00304 | 0.00294 | 0.30000 |

## Leakage Information

| Cell Name | Leakage(pW) | | |
|---|---|---|---|
| | Min. | Avg | Max. |
| **sg13g2_nor2_2** | 131.42800 | 165.86500 | 207.25800 |
| **sg13g2_nor2_1** | 65.69990 | 82.93550 | 103.61200 |

# Delay Information

**Delay(ns) to Y rising :**

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_nor2_2 | A->Y (FR) | 0.01860 | 0.00100 | **0.03928** | 0.32940 | 0.06480 | **0.33689** | 2.50740 | 0.30000 | **1.73536** |
| | B->Y (FR) | 0.01860 | 0.00100 | **0.03085** | 0.32940 | 0.06480 | **0.34739** | 2.50740 | 0.30000 | **1.90060** |
| sg13g2_nor2_1 | A->Y (FR) | 0.01860 | 0.00100 | **0.04181** | 0.32940 | 0.06480 | **0.52139** | 2.50740 | 0.30000 | **2.64437** |
| | B->Y (FR) | 0.01860 | 0.00100 | **0.03518** | 0.32940 | 0.06480 | **0.53247** | 2.50740 | 0.30000 | **2.80571** |

**Delay(ns) to Y falling :**

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_nor2_2 | A->Y (RF) | 0.01860 | 0.00100 | **0.02231** | 0.32940 | 0.06480 | **0.24431** | 2.50740 | 0.30000 | **1.37549** |
| | B->Y (RF) | 0.01860 | 0.00100 | **0.01934** | 0.32940 | 0.06480 | **0.23799** | 2.50740 | 0.30000 | **1.36818** |
| sg13g2_nor2_1 | A->Y (RF) | 0.01860 | 0.00100 | **0.02373** | 0.32940 | 0.06480 | **0.32647** | 2.50740 | 0.30000 | **1.90628** |
| | B->Y (RF) | 0.01860 | 0.00100 | **0.02102** | 0.32940 | 0.06480 | **0.32265** | 2.50740 | 0.30000 | **1.90191** |

# Power Information

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

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_nor2_2 | A | 0.01860 | 0.00100 | **0.00870** | 0.32940 | 0.06480 | **0.00854** | 2.50740 | 0.30000 | **0.01132** |
| | B | 0.01860 | 0.00100 | **0.00429** | 0.32940 | 0.06480 | **0.00456** | 2.50740 | 0.30000 | **0.00853** |
| sg13g2_nor2_1 | A | 0.01860 | 0.00100 | **0.00430** | 0.32940 | 0.06480 | **0.00415** | 2.50740 | 0.30000 | **0.00459** |
| | B | 0.01860 | 0.00100 | **0.00213** | 0.32940 | 0.06480 | **0.00208** | 2.50740 | 0.30000 | **0.00280** |

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

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_nor2_2 | A | 0.01860 | 0.00100 | **0.00400** | 0.32940 | 0.06480 | **0.00388** | 2.50740 | 0.30000 | **0.00773** |
| | B | 0.01860 | 0.00100 | **0.00283** | 0.32940 | 0.06480 | **0.00323** | 2.50740 | 0.30000 | **0.00721** |
| sg13g2_nor2_1 | A | 0.01860 | 0.00100 | **0.00200** | 0.32940 | 0.06480 | **0.00160** | 2.50740 | 0.30000 | **0.00182** |
| | B | 0.01860 | 0.00100 | **0.00184** | 0.32940 | 0.06480 | **0.00165** | 2.50740 | 0.30000 | **0.00202** |

# NOR3x

*sg13g2_stdcell_typ_1p20V_25C Cell Library: Process*
*sg13g2_stdcell_typ_1p20V_25C, Voltage 1.20, Temp 25.00*

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## Truth Table

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

## Footprint

| Cell Name | Area |
|---|---|
| sg13g2_nor3_2 | 16.32960 |
| sg13g2_nor3_1 | 9.07200 |

## Pin Capacitance Information

| Cell Name | Pin Cap(pf) | | | Max Cap(pf) |
|---|---|---|---|---|
| | A | B | C | Y |
| sg13g2_nor3_2 | 0.00580 | 0.00577 | 0.00561 | 0.60000 |
| sg13g2_nor3_1 | 0.00306 | 0.00306 | 0.00293 | 0.30000 |

# Leakage Information

| Cell Name | Leakage(pW) | | |
|---|---|---|---|
| | Min. | Avg | Max. |
| **sg13g2_nor3_2** | 134.33800 | 185.70800 | 261.22300 |
| **sg13g2_nor3_1** | 69.78160 | 95.13840 | 133.66500 |

# Delay Information

**Delay(ns) to Y rising :**

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_nor3_2 | A->Y (FR) | 0.01860 | 0.00100 | **0.06985** | 0.32940 | 0.12960 | **0.72746** | 2.50740 | 0.60000 | **3.36455** |
| | B->Y (FR) | 0.01860 | 0.00100 | **0.06456** | 0.32940 | 0.12960 | **0.73730** | 2.50740 | 0.60000 | **3.53025** |
| | C->Y (FR) | 0.01860 | 0.00100 | **0.04620** | 0.32940 | 0.12960 | **0.72938** | 2.50740 | 0.60000 | **3.61572** |
| sg13g2_nor3_1 | A->Y (FR) | 0.01860 | 0.00100 | **0.07602** | 0.32940 | 0.06480 | **0.72518** | 2.50740 | 0.30000 | **3.35339** |
| | B->Y (FR) | 0.01860 | 0.00100 | **0.07097** | 0.32940 | 0.06480 | **0.73570** | 2.50740 | 0.30000 | **3.51879** |
| | C->Y (FR) | 0.01860 | 0.00100 | **0.05514** | 0.32940 | 0.06480 | **0.72957** | 2.50740 | 0.30000 | **3.61445** |

**Delay(ns) to Y falling :**

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_nor3_2 | A->Y (RF) | 0.01860 | 0.00100 | **0.02445** | 0.32940 | 0.12960 | **0.33206** | 2.50740 | 0.60000 | **1.91491** |
| | B->Y (RF) | 0.01860 | 0.00100 | **0.02443** | 0.32940 | 0.12960 | **0.32867** | 2.50740 | 0.60000 | **1.90877** |
| | C->Y (RF) | 0.01860 | 0.00100 | **0.02105** | 0.32940 | 0.12960 | **0.32459** | 2.50740 | 0.60000 | **1.90270** |
| sg13g2_nor3_1 | A->Y (RF) | 0.01860 | 0.00100 | **0.02590** | 0.32940 | 0.06480 | **0.32552** | 2.50740 | 0.30000 | **1.87480** |
| | B->Y (RF) | 0.01860 | 0.00100 | **0.02571** | 0.32940 | 0.06480 | **0.32254** | 2.50740 | 0.30000 | **1.87400** |
| | C->Y (RF) | 0.01860 | 0.00100 | **0.02272** | 0.32940 | 0.06480 | **0.31960** | 2.50740 | 0.30000 | **1.87024** |

# Power Information

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

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_nor3_2 | A | 0.01860 | 0.00100 | **0.01430** | 0.32940 | 0.12960 | **0.01405** | 2.50740 | 0.60000 | **0.01504** |
| | B | 0.01860 | 0.00100 | **0.01052** | 0.32940 | 0.12960 | **0.01026** | 2.50740 | 0.60000 | **0.01051** |
| | C | 0.01860 | 0.00100 | **0.00614** | 0.32940 | 0.12960 | **0.00621** | 2.50740 | 0.60000 | **0.00704** |
| sg13g2_nor3_1 | A | 0.01860 | 0.00100 | **0.00735** | 0.32940 | 0.06480 | **0.00719** | 2.50740 | 0.30000 | **0.00752** |
| | B | 0.01860 | 0.00100 | **0.00545** | 0.32940 | 0.06480 | **0.00531** | 2.50740 | 0.30000 | **0.00532** |
| | C | 0.01860 | 0.00100 | **0.00333** | 0.32940 | 0.06480 | **0.00329** | 2.50740 | 0.30000 | **0.00401** |

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

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_nor3_2 | A | 0.01860 | 0.00100 | **0.00495** | 0.32940 | 0.12960 | **0.00403** | 2.50740 | 0.60000 | **0.00424** |
| | B | 0.01860 | 0.00100 | **0.00448** | 0.32940 | 0.12960 | **0.00366** | 2.50740 | 0.60000 | **0.00379** |
| | C | 0.01860 | 0.00100 | **0.00316** | 0.32940 | 0.12960 | **0.00308** | 2.50740 | 0.60000 | **0.00313** |
| sg13g2_nor3_1 | A | 0.01860 | 0.00100 | **0.00257** | 0.32940 | 0.06480 | **0.00211** | 2.50740 | 0.30000 | **0.00353** |
| | B | 0.01860 | 0.00100 | **0.00239** | 0.32940 | 0.06480 | **0.00191** | 2.50740 | 0.30000 | **0.00350** |
| | C | 0.01860 | 0.00100 | **0.00202** | 0.32940 | 0.06480 | **0.00194** | 2.50740 | 0.30000 | **0.00305** |

# NOR4x

*sg13g2_stdcell_typ_1p20V_25C Cell Library: Process*
*sg13g2_stdcell_typ_1p20V_25C, Voltage 1.20, Temp 25.00*

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## Truth Table

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

## Footprint

| Cell Name | Area |
|---|---|
| **sg13g2_nor4_2** | 21.77280 |
| **sg13g2_nor4_1** | 10.88640 |

## Pin Capacitance Information

| Cell Name | Pin Cap(pf) | | | | Max Cap(pf) |
|---|---|---|---|---|---|
| | A | B | C | D | Y |
| **sg13g2_nor4_2** | 0.00578 | 0.00570 | 0.00499 | 0.00510 | 0.60000 |
| **sg13g2_nor4_1** | 0.00301 | 0.00300 | 0.00262 | 0.00265 | 0.30000 |

# Leakage Information

| Cell Name | Leakage(pW) | | |
|---|---|---|---|
| | Min. | Avg | Max. |
| **sg13g2_nor4_2** | 138.99200 | 199.52200 | 348.29700 |
| **sg13g2_nor4_1** | 69.50120 | 99.76760 | 174.12800 |

# Delay Information

**Delay(ns) to Y rising :**

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_nor4_2 | A->Y (FR) | 0.01860 | 0.00100 | **0.11116** | 0.32940 | 0.12960 | **0.95585** | 2.50740 | 0.60000 | **4.16942** |
| | B->Y (FR) | 0.01860 | 0.00100 | **0.10623** | 0.32940 | 0.12960 | **0.95891** | 2.50740 | 0.60000 | **4.29281** |
| | C->Y (FR) | 0.01860 | 0.00100 | **0.09126** | 0.32940 | 0.12960 | **0.95137** | 2.50740 | 0.60000 | **4.42370** |
| | D->Y (FR) | 0.01860 | 0.00100 | **0.06204** | 0.32940 | 0.12960 | **0.93043** | 2.50740 | 0.60000 | **4.46631** |
| sg13g2_nor4_1 | A->Y (FR) | 0.01860 | 0.00100 | **0.11628** | 0.32940 | 0.06480 | **0.94911** | 2.50740 | 0.30000 | **4.14859** |
| | B->Y (FR) | 0.01860 | 0.00100 | **0.11163** | 0.32940 | 0.06480 | **0.95203** | 2.50740 | 0.30000 | **4.26980** |
| | C->Y (FR) | 0.01860 | 0.00100 | **0.09780** | 0.32940 | 0.06480 | **0.94673** | 2.50740 | 0.30000 | **4.40050** |
| | D->Y (FR) | 0.01860 | 0.00100 | **0.07077** | 0.32940 | 0.06480 | **0.92743** | 2.50740 | 0.30000 | **4.45304** |

**Delay(ns) to Y falling :**

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_nor4_2 | A->Y (RF) | 0.01860 | 0.00100 | **0.02561** | 0.32940 | 0.12960 | **0.33674** | 2.50740 | 0.60000 | **1.92324** |
| | B->Y (RF) | 0.01860 | 0.00100 | **0.02655** | 0.32940 | 0.12960 | **0.33457** | 2.50740 | 0.60000 | **1.91865** |
| | C->Y (RF) | 0.01860 | 0.00100 | **0.02589** | 0.32940 | 0.12960 | **0.33098** | 2.50740 | 0.60000 | **1.91424** |
| | D->Y (RF) | 0.01860 | 0.00100 | **0.02244** | 0.32940 | 0.12960 | **0.32626** | 2.50740 | 0.60000 | **1.90450** |
| sg13g2_nor4_1 | A->Y (RF) | 0.01860 | 0.00100 | **0.02743** | 0.32940 | 0.06480 | **0.33652** | 2.50740 | 0.30000 | **1.92273** |
| | B->Y (RF) | 0.01860 | 0.00100 | **0.02836** | 0.32940 | 0.06480 | **0.33505** | 2.50740 | 0.30000 | **1.91970** |
| | C->Y (RF) | 0.01860 | 0.00100 | **0.02752** | 0.32940 | 0.06480 | **0.33162** | 2.50740 | 0.30000 | **1.91604** |
| | D->Y (RF) | 0.01860 | 0.00100 | **0.02405** | 0.32940 | 0.06480 | **0.32673** | 2.50740 | 0.30000 | **1.90808** |

# Power Information

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

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_nor4_2 | A | 0.01860 | 0.00100 | **0.01926** | 0.32940 | 0.12960 | **0.01889** | 2.50740 | 0.60000 | **0.01910** |
| | B | 0.01860 | 0.00100 | **0.01585** | 0.32940 | 0.12960 | **0.01555** | 2.50740 | 0.60000 | **0.01564** |
| | C | 0.01860 | 0.00100 | **0.01253** | 0.32940 | 0.12960 | **0.01213** | 2.50740 | 0.60000 | **0.01256** |
| | D | 0.01860 | 0.00100 | **0.00763** | 0.32940 | 0.12960 | **0.00762** | 2.50740 | 0.60000 | **0.00873** |
| sg13g2_nor4_1 | A | 0.01860 | 0.00100 | **0.00960** | 0.32940 | 0.06480 | **0.00940** | 2.50740 | 0.30000 | **0.00939** |
| | B | 0.01860 | 0.00100 | **0.00789** | 0.32940 | 0.06480 | **0.00765** | 2.50740 | 0.30000 | **0.00771** |
| | C | 0.01860 | 0.00100 | **0.00636** | 0.32940 | 0.06480 | **0.00614** | 2.50740 | 0.30000 | **0.00625** |
| | D | 0.01860 | 0.00100 | **0.00402** | 0.32940 | 0.06480 | **0.00397** | 2.50740 | 0.30000 | **0.00468** |

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

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_nor4_2 | A | 0.01860 | 0.00100 | **0.00610** | 0.32940 | 0.12960 | **0.00543** | 2.50740 | 0.60000 | **0.00621** |
| | B | 0.01860 | 0.00100 | **0.00573** | 0.32940 | 0.12960 | **0.00493** | 2.50740 | 0.60000 | **0.00513** |
| | C | 0.01860 | 0.00100 | **0.00295** | 0.32940 | 0.12960 | **0.00237** | 2.50740 | 0.60000 | **0.00257** |
| | D | 0.01860 | 0.00100 | **0.00123** | 0.32940 | 0.12960 | **0.00119** | 2.50740 | 0.60000 | **0.00096** |
| sg13g2_nor4_1 | A | 0.01860 | 0.00100 | **0.00301** | 0.32940 | 0.06480 | **0.00267** | 2.50740 | 0.30000 | **0.00297** |
| | B | 0.01860 | 0.00100 | **0.00291** | 0.32940 | 0.06480 | **0.00258** | 2.50740 | 0.30000 | **0.00239** |
| | C | 0.01860 | 0.00100 | **0.00163** | 0.32940 | 0.06480 | **0.00135** | 2.50740 | 0.30000 | **0.00140** |
| | D | 0.01860 | 0.00100 | **0.00091** | 0.32940 | 0.06480 | **0.00076** | 2.50740 | 0.30000 | **0.00069** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_nor4_2** | 0.01860 | **0.00006** | 0.32940 | **-0.00026** | 2.50740 | **-0.00035** |
| **sg13g2_nor4_1** | 0.01860 | **0.00011** | 0.32940 | **-0.00005** | 2.50740 | **-0.00009** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_nor4_2** | 0.01860 | **0.00036** | 0.32940 | **0.00039** | 2.50740 | **0.00040** |
| **sg13g2_nor4_1** | 0.01860 | **0.00009** | 0.32940 | **0.00011** | 2.50740 | **0.00012** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_nor4_2** | **(!B * C) + (!B * !C * D)** | 0.01860 | **0.00006** | 0.32940 | **-0.00026** | 2.50740 | **-0.00035** |
| **sg13g2_nor4_1** | **(!B * C) + (!B * !C * D)** | 0.01860 | **0.00011** | 0.32940 | **-0.00005** | 2.50740 | **-0.00009** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_nor4_2** | **(!B * C) + (!B * !C * D)** | 0.01860 | **0.00036** | 0.32940 | **0.00039** | 2.50740 | **0.00040** |
| **sg13g2_nor4_1** | **(!B * C) + (!B * !C * D)** | 0.01860 | **0.00009** | 0.32940 | **0.00011** | 2.50740 | **0.00012** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_nor4_2** | 0.01860 | **0.00003** | 0.32940 | **-0.00012** | 2.50740 | **-0.00013** |
| **sg13g2_nor4_1** | 0.01860 | **0.00012** | 0.32940 | **0.00000** | 2.50740 | **0.00000** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_nor4_2** | 0.01860 | **0.00009** | 0.32940 | **0.00012** | 2.50740 | **0.00013** |
| **sg13g2_nor4_1** | 0.01860 | **-0.00007** | 0.32940 | **0.00000** | 2.50740 | **0.00000** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_nor4_2** | **(!A * C) + (!A * !C * D)** | 0.01860 | **0.00003** | 0.32940 | **-0.00012** | 2.50740 | **-0.00013** |
| **sg13g2_nor4_1** | **(!A * C) + (!A * !C * D)** | 0.01860 | **0.00012** | 0.32940 | **0.00000** | 2.50740 | **0.00000** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_nor4_2** | **(!A * C) + (!A * !C * D)** | 0.01860 | **0.00009** | 0.32940 | **0.00012** | 2.50740 | **0.00013** |
| **sg13g2_nor4_1** | **(!A * C) + (!A * !C * D)** | 0.01860 | **-0.00007** | 0.32940 | **0.00000** | 2.50740 | **0.00000** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_nor4_2** | 0.01860 | **0.00166** | 0.32940 | **0.00168** | 2.50740 | **0.00169** |
| **sg13g2_nor4_1** | 0.01860 | **0.00094** | 0.32940 | **0.00095** | 2.50740 | **0.00095** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_nor4_2** | 0.01860 | **-0.00030** | 0.32940 | **-0.00030** | 2.50740 | **-0.00029** |
| **sg13g2_nor4_1** | 0.01860 | **-0.00038** | 0.32940 | **-0.00038** | 2.50740 | **-0.00038** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_nor4_2** | **(A * !D) + (!A * B * !D)** | 0.01860 | **0.00166** | 0.32940 | **0.00168** | 2.50740 | **0.00169** |
| **sg13g2_nor4_1** | **(A * !D) + (!A * B * !D)** | 0.01860 | **0.00094** | 0.32940 | **0.00095** | 2.50740 | **0.00095** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_nor4_2** | **(A * !D) + (!A * B * !D)** | 0.01860 | **-0.00030** | 0.32940 | **-0.00030** | 2.50740 | **-0.00029** |
| **sg13g2_nor4_1** | **(A * !D) + (!A * B * !D)** | 0.01860 | **-0.00038** | 0.32940 | **-0.00038** | 2.50740 | **-0.00038** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_nor4_2** | 0.01860 | **0.00208** | 0.32940 | **0.00210** | 2.50740 | **0.00210** |
| **sg13g2_nor4_1** | 0.01860 | **0.00114** | 0.32940 | **0.00115** | 2.50740 | **0.00115** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_nor4_2** | 0.01860 | **0.00025** | 0.32940 | **0.00026** | 2.50740 | **0.00030** |
| **sg13g2_nor4_1** | 0.01860 | **-0.00016** | 0.32940 | **-0.00015** | 2.50740 | **-0.00014** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_nor4_2** | **(A * !C) + (!A * B * !C)** | 0.01860 | **0.00208** | 0.32940 | **0.00210** | 2.50740 | **0.00210** |
| **sg13g2_nor4_1** | **(A * !C) + (!A * B * !C)** | 0.01860 | **0.00114** | 0.32940 | **0.00115** | 2.50740 | **0.00115** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_nor4_2** | **(A * !C) + (!A * B * !C)** | 0.01860 | **0.00025** | 0.32940 | **0.00026** | 2.50740 | **0.00030** |
| **sg13g2_nor4_1** | **(A * !C) + (!A * B * !C)** | 0.01860 | **-0.00016** | 0.32940 | **-0.00015** | 2.50740 | **-0.00014** |

# NP_ANT

*sg13g2_stdcell_typ_1p20V_25C Cell Library: Process*
*sg13g2_stdcell_typ_1p20V_25C, Voltage 1.20, Temp 25.00*

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## Truth Table

| INPUT |
|---|
| A |
| x |

## Footprint

| Cell Name | Area |
|---|---|
| sg13g2_antennanp | 5.44320 |

## Pin Capacitance Information

| Cell Name | Pin Cap(pf) |
|---|---|
| | A |
| sg13g2_antennanp | 0.00117 |

## Leakage Information

| Cell Name | Leakage(pW) | | |
|---|---|---|---|
| | Min. | Avg | Max. |
| sg13g2_antennanp | 4.31997 | 4.31997 | 4.31997 |

# Passive Power Information

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_antennanp** | 0.01860 | **-0.00021** | 0.32940 | **-0.00022** | 2.50740 | **-0.00022** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_antennanp** | 0.01860 | **0.00021** | 0.32940 | **0.00022** | 2.50740 | **0.00022** |

# O21AI

*sg13g2_stdcell_typ_1p20V_25C Cell Library: Process*
*sg13g2_stdcell_typ_1p20V_25C, Voltage 1.20, Temp 25.00*

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## Truth Table

| INPUT | | | OUTPUT |
|---|---|---|---|
| A1 | A2 | B1 | 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 |
|---|---|
| sg13g2_o21ai_1 | 9.07200 |

## Pin Capacitance Information

| Cell Name | Pin Cap(pf) | | | Max Cap(pf) |
|---|---|---|---|---|
| | A1 | A2 | B1 | Y |
| sg13g2_o21ai_1 | 0.00333 | 0.00336 | 0.00308 | 0.30000 |

## Leakage Information

| Cell Name | Leakage(pW) | | |
|---|---|---|---|
| | Min. | Avg | Max. |
| **sg13g2_o21ai_1** | 81.54170 | 126.66700 | 169.71400 |

# Delay Information

**Delay(ns) to Y rising :**

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_o21ai_1 | A1->Y (FR) | 0.01860 | 0.00100 | **0.06670** | 0.32940 | 0.06480 | **0.62004** | 2.50740 | 0.30000 | **3.00232** |
| | A2->Y (FR) | 0.01860 | 0.00100 | **0.05821** | 0.32940 | 0.06480 | **0.62996** | 2.50740 | 0.30000 | **3.17004** |
| | B1->Y (FR) | 0.01860 | 0.00100 | **0.02656** | 0.32940 | 0.06480 | **0.39679** | 2.50740 | 0.30000 | **2.26591** |

**Delay(ns) to Y falling :**

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_o21ai_1 | A1->Y (RF) | 0.01860 | 0.00100 | **0.04505** | 0.32940 | 0.06480 | **0.43137** | 2.50740 | 0.30000 | **2.22672** |
| | A2->Y (RF) | 0.01860 | 0.00100 | **0.03807** | 0.32940 | 0.06480 | **0.42254** | 2.50740 | 0.30000 | **2.21753** |
| | B1->Y (RF) | 0.01860 | 0.00100 | **0.03771** | 0.32940 | 0.06480 | **0.43847** | 2.50740 | 0.30000 | **2.36702** |

**Delay(ns) to Y rising (conditional):**

| Cell Name | Timing Arc(Dir) | When | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_o21ai_1 | B1->Y (FR) | (A1 * !A2) | 0.01860 | 0.00100 | **0.02656** | 0.32940 | 0.06480 | **0.39679** | 2.50740 | 0.30000 | **2.26591** |
| | B1->Y (FR) | (!A1 * A2) | 0.01860 | 0.00100 | **0.02590** | 0.32940 | 0.06480 | **0.39564** | 2.50740 | 0.30000 | **2.26274** |

**Delay(ns) to Y falling (conditional):**

| Cell Name | Timing Arc(Dir) | When | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_o21ai_1 | B1->Y (RF) | (A1 * !A2) | 0.01860 | 0.00100 | **0.03771** | 0.32940 | 0.06480 | **0.43847** | 2.50740 | 0.30000 | **2.36702** |
| | B1->Y (RF) | (!A1 * A2) | 0.01860 | 0.00100 | **0.02930** | 0.32940 | 0.06480 | **0.42737** | 2.50740 | 0.30000 | **2.34964** |

# Power Information

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

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_o21ai_1 | A1 | 0.01860 | 0.00100 | **0.00469** | 0.32940 | 0.06480 | **0.00453** | 2.50740 | 0.30000 | **0.00518** |
| | A2 | 0.01860 | 0.00100 | **0.00238** | 0.32940 | 0.06480 | **0.00229** | 2.50740 | 0.30000 | **0.00258** |
| | B1 | 0.01860 | 0.00100 | **0.00071** | 0.32940 | 0.06480 | **0.00070** | 2.50740 | 0.30000 | **0.00128** |

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

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_o21ai_1 | A1 | 0.01860 | 0.00100 | **0.00509** | 0.32940 | 0.06480 | **0.00470** | 2.50740 | 0.30000 | **0.00455** |
| | A2 | 0.01860 | 0.00100 | **0.00479** | 0.32940 | 0.06480 | **0.00470** | 2.50740 | 0.30000 | **0.00469** |
| | B1 | 0.01860 | 0.00100 | **0.00229** | 0.32940 | 0.06480 | **0.00228** | 2.50740 | 0.30000 | **0.00304** |

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

| Cell Name | Input | When | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_o21ai_1 | B1 | (A1 * !A2) | 0.01860 | 0.00100 | **0.00297** | 0.32940 | 0.06480 | **0.00295** | 2.50740 | 0.30000 | **0.00354** |
| | B1 | (!A1 * A2) | 0.01860 | 0.00100 | **0.00071** | 0.32940 | 0.06480 | **0.00070** | 2.50740 | 0.30000 | **0.00128** |

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

| Cell Name | Input | When | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_o21ai_1 | B1 | (A1 * !A2) | 0.01860 | 0.00100 | **0.00278** | 0.32940 | 0.06480 | **0.00260** | 2.50740 | 0.30000 | **0.00341** |
| | B1 | (!A1 * A2) | 0.01860 | 0.00100 | **0.00229** | 0.32940 | 0.06480 | **0.00228** | 2.50740 | 0.30000 | **0.00304** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_o21ai_1 | 0.01860 | **-0.00036** | 0.32940 | **-0.00030** | 2.50740 | **-0.00026** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_o21ai_1** | 0.01860 | **0.00042** | 0.32940 | **0.00030** | 2.50740 | **0.00026** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_o21ai_1** | **(!A2 * !B1)** | 0.01860 | **-0.00036** | 0.32940 | **-0.00030** | 2.50740 | **-0.00026** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_o21ai_1** | **(!A2 * !B1)** | 0.01860 | **0.00042** | 0.32940 | **0.00030** | 2.50740 | **0.00026** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_o21ai_1** | 0.01860 | **-0.00030** | 0.32940 | **-0.00024** | 2.50740 | **-0.00020** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_o21ai_1** | 0.01860 | **0.00034** | 0.32940 | **0.00024** | 2.50740 | **0.00020** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_o21ai_1** | **(!A1 * !B1)** | 0.01860 | **-0.00030** | 0.32940 | **-0.00024** | 2.50740 | **-0.00020** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_o21ai_1** | **(!A1 * !B1)** | 0.01860 | **0.00034** | 0.32940 | **0.00024** | 2.50740 | **0.00020** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_o21ai_1** | 0.01860 | **0.00011** | 0.32940 | **0.00011** | 2.50740 | **0.00012** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_o21ai_1** | 0.01860 | **0.00101** | 0.32940 | **0.00104** | 2.50740 | **0.00104** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_o21ai_1** | **(!A1 * !A2)** | 0.01860 | **0.00011** | 0.32940 | **0.00011** | 2.50740 | **0.00012** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_o21ai_1** | **(!A1 * !A2)** | 0.01860 | **0.00101** | 0.32940 | **0.00104** | 2.50740 | **0.00104** |

# OR2x

*sg13g2_stdcell_typ_1p20V_25C Cell Library: Process*
*sg13g2_stdcell_typ_1p20V_25C, Voltage 1.20, Temp 25.00*

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## Truth Table

| INPUT | | OUTPUT |
|---|---|---|
| A | B | X |
| 0 | 0 | 0 |
| x | 1 | 1 |
| 1 | x | 1 |

## Footprint

| Cell Name | Area |
|---|---|
| sg13g2_or2_2 | 10.88640 |
| sg13g2_or2_1 | 9.07200 |

## Pin Capacitance Information

| Cell Name | Pin Cap(pf) | | Max Cap(pf) |
|---|---|---|---|
| | A | B | X |
| sg13g2_or2_2 | 0.00247 | 0.00229 | 0.60000 |
| sg13g2_or2_1 | 0.00248 | 0.00230 | 0.30000 |

## Leakage Information

| Cell Name | Leakage(pW) | | |
|---|---|---|---|
| | Min. | Avg | Max. |
| **sg13g2_or2_2** | 133.82000 | 168.06100 | 227.90500 |
| **sg13g2_or2_1** | 90.37990 | 114.90400 | 145.59400 |

# Delay Information

**Delay(ns) to X rising :**

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_or2_2 | A->X (RR) | 0.01860 | 0.00100 | **0.06443** | 0.32940 | 0.12960 | **0.37319** | 2.50740 | 0.60000 | **1.32842** |
| | B->X (RR) | 0.01860 | 0.00100 | **0.06055** | 0.32940 | 0.12960 | **0.36304** | 2.50740 | 0.60000 | **1.28723** |
| sg13g2_or2_1 | A->X (RR) | 0.01860 | 0.00100 | **0.05428** | 0.32940 | 0.06480 | **0.33985** | 2.50740 | 0.30000 | **1.23236** |
| | B->X (RR) | 0.01860 | 0.00100 | **0.05022** | 0.32940 | 0.06480 | **0.32710** | 2.50740 | 0.30000 | **1.18999** |

**Delay(ns) to X falling :**

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_or2_2 | A->X (FF) | 0.01860 | 0.00100 | **0.12039** | 0.32940 | 0.12960 | **0.39561** | 2.50740 | 0.60000 | **1.19737** |
| | B->X (FF) | 0.01860 | 0.00100 | **0.11389** | 0.32940 | 0.12960 | **0.40337** | 2.50740 | 0.60000 | **1.22987** |
| sg13g2_or2_1 | A->X (FF) | 0.01860 | 0.00100 | **0.09260** | 0.32940 | 0.06480 | **0.34114** | 2.50740 | 0.30000 | **1.08608** |
| | B->X (FF) | 0.01860 | 0.00100 | **0.08579** | 0.32940 | 0.06480 | **0.34291** | 2.50740 | 0.30000 | **1.09926** |

# Power Information

**Internal switching power(pJ) to X rising :**

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_or2_2 | A | 0.01860 | 0.00100 | **0.00993** | 0.32940 | 0.12960 | **0.01009** | 2.50740 | 0.60000 | **0.01518** |
| | B | 0.01860 | 0.00100 | **0.00978** | 0.32940 | 0.12960 | **0.01003** | 2.50740 | 0.60000 | **0.01367** |
| sg13g2_or2_1 | A | 0.01860 | 0.00100 | **0.00607** | 0.32940 | 0.06480 | **0.00611** | 2.50740 | 0.30000 | **0.01092** |
| | B | 0.01860 | 0.00100 | **0.00589** | 0.32940 | 0.06480 | **0.00600** | 2.50740 | 0.30000 | **0.01189** |

**Internal switching power(pJ) to X falling :**

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_or2_2 | A | 0.01860 | 0.00100 | **0.01136** | 0.32940 | 0.12960 | **0.01125** | 2.50740 | 0.60000 | **0.01380** |
| | B | 0.01860 | 0.00100 | **0.00992** | 0.32940 | 0.12960 | **0.00997** | 2.50740 | 0.60000 | **0.01455** |
| sg13g2_or2_1 | A | 0.01860 | 0.00100 | **0.00747** | 0.32940 | 0.06480 | **0.00762** | 2.50740 | 0.30000 | **0.01241** |
| | B | 0.01860 | 0.00100 | **0.00599** | 0.32940 | 0.06480 | **0.00631** | 2.50740 | 0.30000 | **0.01187** |

# OR3x

*sg13g2_stdcell_typ_1p20V_25C Cell Library: Process*
*sg13g2_stdcell_typ_1p20V_25C, Voltage 1.20, Temp 25.00*

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## Truth Table

| INPUT | | | OUTPUT |
|---|---|---|---|
| A | B | C | X |
| 0 | 0 | 0 | 0 |
| 0 | x | 1 | 1 |
| x | 1 | x | 1 |
| 1 | x | x | 1 |

## Footprint

| Cell Name | Area |
|---|---|
| sg13g2_or3_2 | 14.51520 |
| sg13g2_or3_1 | 12.70080 |

## Pin Capacitance Information

| Cell Name | Pin Cap(pf) | | | Max Cap(pf) |
|---|---|---|---|---|
| | A | B | C | X |
| sg13g2_or3_2 | 0.00259 | 0.00253 | 0.00242 | 0.60000 |
| sg13g2_or3_1 | 0.00259 | 0.00254 | 0.00242 | 0.30000 |

# Leakage Information

| Cell Name | Leakage(pW) | | |
|---|---|---|---|
| | Min. | Avg | Max. |
| **sg13g2_or3_2** | 137.31700 | 170.38900 | 269.50000 |
| **sg13g2_or3_1** | 93.74350 | 121.95700 | 187.05500 |

# Delay Information

**Delay(ns) to X rising :**

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_or3_2 | A->X (RR) | 0.01860 | 0.00100 | **0.07246** | 0.32940 | 0.12960 | **0.39372** | 2.50740 | 0.60000 | **1.39332** |
| | B->X (RR) | 0.01860 | 0.00100 | **0.06939** | 0.32940 | 0.12960 | **0.38413** | 2.50740 | 0.60000 | **1.35569** |
| | C->X (RR) | 0.01860 | 0.00100 | **0.06428** | 0.32940 | 0.12960 | **0.37208** | 2.50740 | 0.60000 | **1.31757** |
| sg13g2_or3_1 | A->X (RR) | 0.01860 | 0.00100 | **0.06238** | 0.32940 | 0.06480 | **0.36389** | 2.50740 | 0.30000 | **1.31471** |
| | B->X (RR) | 0.01860 | 0.00100 | **0.05955** | 0.32940 | 0.06480 | **0.35226** | 2.50740 | 0.30000 | **1.26950** |
| | C->X (RR) | 0.01860 | 0.00100 | **0.05434** | 0.32940 | 0.06480 | **0.33742** | 2.50740 | 0.30000 | **1.22434** |

**Delay(ns) to X falling :**

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_or3_2 | A->X (FF) | 0.01860 | 0.00100 | **0.16693** | 0.32940 | 0.12960 | **0.44625** | 2.50740 | 0.60000 | **1.21913** |
| | B->X (FF) | 0.01860 | 0.00100 | **0.16140** | 0.32940 | 0.12960 | **0.45168** | 2.50740 | 0.60000 | **1.27637** |
| | C->X (FF) | 0.01860 | 0.00100 | **0.14738** | 0.32940 | 0.12960 | **0.44712** | 2.50740 | 0.60000 | **1.28707** |
| sg13g2_or3_1 | A->X (FF) | 0.01860 | 0.00100 | **0.13254** | 0.32940 | 0.06480 | **0.38711** | 2.50740 | 0.30000 | **1.11671** |
| | B->X (FF) | 0.01860 | 0.00100 | **0.12705** | 0.32940 | 0.06480 | **0.38985** | 2.50740 | 0.30000 | **1.15777** |
| | C->X (FF) | 0.01860 | 0.00100 | **0.11259** | 0.32940 | 0.06480 | **0.38143** | 2.50740 | 0.30000 | **1.14998** |

# Power Information

**Internal switching power(pJ) to X rising :**

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_or3_2 | A | 0.01860 | 0.00100 | **0.01026** | 0.32940 | 0.12960 | **0.01049** | 2.50740 | 0.60000 | **0.01632** |
| | B | 0.01860 | 0.00100 | **0.01001** | 0.32940 | 0.12960 | **0.01021** | 2.50740 | 0.60000 | **0.01490** |
| | C | 0.01860 | 0.00100 | **0.00987** | 0.32940 | 0.12960 | **0.01002** | 2.50740 | 0.60000 | **0.01477** |
| sg13g2_or3_1 | A | 0.01860 | 0.00100 | **0.00640** | 0.32940 | 0.06480 | **0.00644** | 2.50740 | 0.30000 | **0.01203** |
| | B | 0.01860 | 0.00100 | **0.00615** | 0.32940 | 0.06480 | **0.00609** | 2.50740 | 0.30000 | **0.01105** |
| | C | 0.01860 | 0.00100 | **0.00598** | 0.32940 | 0.06480 | **0.00590** | 2.50740 | 0.30000 | **0.01115** |

**Internal switching power(pJ) to X falling :**

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_or3_2 | A | 0.01860 | 0.00100 | **0.01475** | 0.32940 | 0.12960 | **0.01432** | 2.50740 | 0.60000 | **0.01620** |
| | B | 0.01860 | 0.00100 | **0.01311** | 0.32940 | 0.12960 | **0.01249** | 2.50740 | 0.60000 | **0.01628** |
| | C | 0.01860 | 0.00100 | **0.01133** | 0.32940 | 0.12960 | **0.01089** | 2.50740 | 0.60000 | **0.01466** |
| sg13g2_or3_1 | A | 0.01860 | 0.00100 | **0.01060** | 0.32940 | 0.06480 | **0.01059** | 2.50740 | 0.30000 | **0.01466** |
| | B | 0.01860 | 0.00100 | **0.00896** | 0.32940 | 0.06480 | **0.00893** | 2.50740 | 0.30000 | **0.01317** |
| | C | 0.01860 | 0.00100 | **0.00716** | 0.32940 | 0.06480 | **0.00744** | 2.50740 | 0.30000 | **0.01228** |

# OR4x

*sg13g2_stdcell_typ_1p20V_25C Cell Library: Process*
*sg13g2_stdcell_typ_1p20V_25C, Voltage 1.20, Temp 25.00*

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## Truth Table

| INPUT | | | | OUTPUT |
|---|---|---|---|---|
| A | B | C | D | X |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | x | 1 | 1 |
| 0 | x | 1 | x | 1 |
| x | 1 | x | x | 1 |
| 1 | x | x | x | 1 |

## Footprint

| Cell Name | Area |
|---|---|
| **sg13g2_or4_2** | 16.32960 |
| **sg13g2_or4_1** | 14.51520 |

## Pin Capacitance Information

| Cell Name | Pin Cap(pf) | | | | Max Cap(pf) |
|---|---|---|---|---|---|
| | A | B | C | D | X |
| **sg13g2_or4_2** | 0.00259 | 0.00255 | 0.00215 | 0.00219 | 0.60000 |
| **sg13g2_or4_1** | 0.00259 | 0.00255 | 0.00216 | 0.00219 | 0.30000 |

# Leakage Information

| Cell Name | Leakage(pW) | | |
|---|---|---|---|
| | Min. | Avg | Max. |
| **sg13g2_or4_2** | 139.52100 | 170.05300 | 304.38000 |
| **sg13g2_or4_1** | 96.07360 | 124.17000 | 221.97400 |

# Delay Information

**Delay(ns) to X rising :**

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_or4_2 | A->X (RR) | 0.01860 | 0.00100 | **0.07536** | 0.32940 | 0.12960 | **0.40237** | 2.50740 | 0.60000 | **1.42031** |
| | B->X (RR) | 0.01860 | 0.00100 | **0.07408** | 0.32940 | 0.12960 | **0.39655** | 2.50740 | 0.60000 | **1.39031** |
| | C->X (RR) | 0.01860 | 0.00100 | **0.07046** | 0.32940 | 0.12960 | **0.38675** | 2.50740 | 0.60000 | **1.35314** |
| | D->X (RR) | 0.01860 | 0.00100 | **0.06507** | 0.32940 | 0.12960 | **0.37397** | 2.50740 | 0.60000 | **1.31553** |
| sg13g2_or4_1 | A->X (RR) | 0.01860 | 0.00100 | **0.06506** | 0.32940 | 0.06480 | **0.37526** | 2.50740 | 0.30000 | **1.34523** |
| | B->X (RR) | 0.01860 | 0.00100 | **0.06424** | 0.32940 | 0.06480 | **0.36735** | 2.50740 | 0.30000 | **1.30997** |
| | C->X (RR) | 0.01860 | 0.00100 | **0.06089** | 0.32940 | 0.06480 | **0.35580** | 2.50740 | 0.30000 | **1.26846** |
| | D->X (RR) | 0.01860 | 0.00100 | **0.05539** | 0.32940 | 0.06480 | **0.34091** | 2.50740 | 0.30000 | **1.22236** |

**Delay(ns) to X falling :**

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_or4_2 | A->X (FF) | 0.01860 | 0.00100 | **0.22986** | 0.32940 | 0.12960 | **0.52634** | 2.50740 | 0.60000 | **1.29228** |
| | B->X (FF) | 0.01860 | 0.00100 | **0.22446** | 0.32940 | 0.12960 | **0.52607** | 2.50740 | 0.60000 | **1.35067** |
| | C->X (FF) | 0.01860 | 0.00100 | **0.21060** | 0.32940 | 0.12960 | **0.51857** | 2.50740 | 0.60000 | **1.38953** |
| | D->X (FF) | 0.01860 | 0.00100 | **0.18682** | 0.32940 | 0.12960 | **0.50460** | 2.50740 | 0.60000 | **1.38771** |
| sg13g2_or4_1 | A->X (FF) | 0.01860 | 0.00100 | **0.18444** | 0.32940 | 0.06480 | **0.45317** | 2.50740 | 0.30000 | **1.18413** |
| | B->X (FF) | 0.01860 | 0.00100 | **0.17904** | 0.32940 | 0.06480 | **0.45194** | 2.50740 | 0.30000 | **1.22158** |
| | C->X (FF) | 0.01860 | 0.00100 | **0.16504** | 0.32940 | 0.06480 | **0.44447** | 2.50740 | 0.30000 | **1.24961** |
| | D->X (FF) | 0.01860 | 0.00100 | **0.14075** | 0.32940 | 0.06480 | **0.42571** | 2.50740 | 0.30000 | **1.23544** |

# Power Information

**Internal switching power(pJ) to X rising :**

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_or4_2 | A | 0.01860 | 0.00100 | **0.01105** | 0.32940 | 0.12960 | **0.01094** | 2.50740 | 0.60000 | **0.01572** |
| | B | 0.01860 | 0.00100 | **0.01070** | 0.32940 | 0.12960 | **0.01092** | 2.50740 | 0.60000 | **0.01606** |
| | C | 0.01860 | 0.00100 | **0.00940** | 0.32940 | 0.12960 | **0.00960** | 2.50740 | 0.60000 | **0.01436** |
| | D | 0.01860 | 0.00100 | **0.00902** | 0.32940 | 0.12960 | **0.00906** | 2.50740 | 0.60000 | **0.01353** |
| sg13g2_or4_1 | A | 0.01860 | 0.00100 | **0.00718** | 0.32940 | 0.06480 | **0.00714** | 2.50740 | 0.30000 | **0.01246** |
| | B | 0.01860 | 0.00100 | **0.00685** | 0.32940 | 0.06480 | **0.00679** | 2.50740 | 0.30000 | **0.01183** |
| | C | 0.01860 | 0.00100 | **0.00554** | 0.32940 | 0.06480 | **0.00546** | 2.50740 | 0.30000 | **0.00992** |
| | D | 0.01860 | 0.00100 | **0.00513** | 0.32940 | 0.06480 | **0.00505** | 2.50740 | 0.30000 | **0.00978** |

**Internal switching power(pJ) to X falling :**

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_or4_2 | A | 0.01860 | 0.00100 | **0.01519** | 0.32940 | 0.12960 | **0.01461** | 2.50740 | 0.60000 | **0.01637** |
| | B | 0.01860 | 0.00100 | **0.01534** | 0.32940 | 0.12960 | **0.01466** | 2.50740 | 0.60000 | **0.01802** |
| | C | 0.01860 | 0.00100 | **0.01420** | 0.32940 | 0.12960 | **0.01305** | 2.50740 | 0.60000 | **0.01671** |
| | D | 0.01860 | 0.00100 | **0.01179** | 0.32940 | 0.12960 | **0.01138** | 2.50740 | 0.60000 | **0.01559** |
| sg13g2_or4_1 | A | 0.01860 | 0.00100 | **0.01060** | 0.32940 | 0.06480 | **0.01054** | 2.50740 | 0.30000 | **0.01336** |
| | B | 0.01860 | 0.00100 | **0.01075** | 0.32940 | 0.06480 | **0.01055** | 2.50740 | 0.30000 | **0.01340** |
| | C | 0.01860 | 0.00100 | **0.00964** | 0.32940 | 0.06480 | **0.00965** | 2.50740 | 0.30000 | **0.01388** |
| | D | 0.01860 | 0.00100 | **0.00719** | 0.32940 | 0.06480 | **0.00735** | 2.50740 | 0.30000 | **0.01165** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_or4_2** | 0.01860 | **-0.00033** | 0.32940 | **-0.00033** | 2.50740 | **-0.00033** |
| **sg13g2_or4_1** | 0.01860 | **-0.00033** | 0.32940 | **-0.00033** | 2.50740 | **-0.00034** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_or4_2** | 0.01860 | **0.00202** | 0.32940 | **0.00206** | 2.50740 | **0.00203** |
| **sg13g2_or4_1** | 0.01860 | **0.00202** | 0.32940 | **0.00206** | 2.50740 | **0.00203** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_or4_2** | **(!B * C) + (!B * !C * D)** | 0.01860 | **-0.00033** | 0.32940 | **-0.00033** | 2.50740 | **-0.00033** |
| **sg13g2_or4_1** | **(!B * C) + (!B * !C * D)** | 0.01860 | **-0.00033** | 0.32940 | **-0.00033** | 2.50740 | **-0.00034** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_or4_2** | **(!B * C) + (!B * !C * D)** | 0.01860 | **0.00202** | 0.32940 | **0.00206** | 2.50740 | **0.00203** |
| **sg13g2_or4_1** | **(!B * C) + (!B * !C * D)** | 0.01860 | **0.00202** | 0.32940 | **0.00206** | 2.50740 | **0.00203** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_or4_2** | 0.01860 | **-0.00024** | 0.32940 | **-0.00025** | 2.50740 | **-0.00025** |
| **sg13g2_or4_1** | 0.01860 | **-0.00024** | 0.32940 | **-0.00025** | 2.50740 | **-0.00025** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_or4_2** | 0.01860 | **0.00024** | 0.32940 | **0.00025** | 2.50740 | **0.00025** |
| **sg13g2_or4_1** | 0.01860 | **0.00024** | 0.32940 | **0.00025** | 2.50740 | **0.00025** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_or4_2** | **(!A * C) + (!A * !C * D)** | 0.01860 | **-0.00024** | 0.32940 | **-0.00025** | 2.50740 | **-0.00025** |
| **sg13g2_or4_1** | **(!A * C) + (!A * !C * D)** | 0.01860 | **-0.00024** | 0.32940 | **-0.00025** | 2.50740 | **-0.00025** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_or4_2** | **(!A * C) + (!A * !C * D)** | 0.01860 | **0.00024** | 0.32940 | **0.00025** | 2.50740 | **0.00025** |
| **sg13g2_or4_1** | **(!A * C) + (!A * !C * D)** | 0.01860 | **0.00024** | 0.32940 | **0.00025** | 2.50740 | **0.00025** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_or4_2** | 0.01860 | **0.00070** | 0.32940 | **0.00072** | 2.50740 | **0.00073** |
| **sg13g2_or4_1** | 0.01860 | **0.00071** | 0.32940 | **0.00072** | 2.50740 | **0.00073** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_or4_2** | 0.01860 | **-0.00030** | 0.32940 | **-0.00030** | 2.50740 | **-0.00030** |
| **sg13g2_or4_1** | 0.01860 | **-0.00030** | 0.32940 | **-0.00030** | 2.50740 | **-0.00030** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_or4_2** | **(A * !D) + (!A * B * !D)** | 0.01860 | **0.00070** | 0.32940 | **0.00072** | 2.50740 | **0.00073** |
| **sg13g2_or4_1** | **(A * !D) + (!A * B * !D)** | 0.01860 | **0.00071** | 0.32940 | **0.00072** | 2.50740 | **0.00073** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_or4_2** | **(A * !D) + (!A * B * !D)** | 0.01860 | **-0.00030** | 0.32940 | **-0.00030** | 2.50740 | **-0.00030** |
| **sg13g2_or4_1** | **(A * !D) + (!A * B * !D)** | 0.01860 | **-0.00030** | 0.32940 | **-0.00030** | 2.50740 | **-0.00030** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_or4_2** | 0.01860 | **0.00086** | 0.32940 | **0.00088** | 2.50740 | **0.00088** |
| **sg13g2_or4_1** | 0.01860 | **0.00087** | 0.32940 | **0.00088** | 2.50740 | **0.00088** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_or4_2** | 0.01860 | **0.00035** | 0.32940 | **0.00033** | 2.50740 | **0.00036** |
| **sg13g2_or4_1** | 0.01860 | **0.00034** | 0.32940 | **0.00033** | 2.50740 | **0.00035** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_or4_2** | **(A * !C) + (!A * B * !C)** | 0.01860 | **0.00086** | 0.32940 | **0.00088** | 2.50740 | **0.00088** |
| **sg13g2_or4_1** | **(A * !C) + (!A * B * !C)** | 0.01860 | **0.00087** | 0.32940 | **0.00088** | 2.50740 | **0.00088** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_or4_2** | **(A * !C) + (!A * B * !C)** | 0.01860 | **0.00035** | 0.32940 | **0.00033** | 2.50740 | **0.00036** |
| **sg13g2_or4_1** | **(A * !C) + (!A * B * !C)** | 0.01860 | **0.00034** | 0.32940 | **0.00033** | 2.50740 | **0.00035** |

# SDFRRS

*sg13g2_stdcell_typ_1p20V_25C Cell Library: Process*
*sg13g2_stdcell_typ_1p20V_25C, Voltage 1.20, Temp 25.00*

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## Truth Table

| INPUT | | | | | | OUTPUT | |
|---|---|---|---|---|---|---|---|
| D | SCD | SCE | RESET_B | SET_B | CLK | Q | Q_N |
| 0 | 0 | x | 1 | 1 | R | 0 | 1 |
| 0 | 1 | 0 | 1 | 1 | R | 0 | 1 |
| x | 1 | 1 | 1 | 1 | R | 1 | 0 |
| 1 | x | 0 | 1 | 1 | R | 1 | 0 |
| 1 | 0 | 1 | 1 | 1 | R | 0 | 1 |
| x | x | x | 0 | 0 | x | 0 | 0 |
| x | x | x | 0 | 1 | x | 0 | 1 |
| x | x | x | 1 | 0 | x | 1 | 0 |
| x | x | x | 1 | 1 | x | IQ | IQN |

## Footprint

| Cell Name | Area |
|---|---|
| sg13g2_sdfbbp_1 | 63.50400 |

## Pin Capacitance Information

| Cell Name | Pin Cap(pf) | | | | | | Max Cap(pf) | |
|---|---|---|---|---|---|---|---|---|
| | D | SCD | SCE | RESET_B | SET_B | CLK | Q | Q_N |
| **sg13g2_sdfbbp_1** | 0.00198 | 0.00198 | 0.00358 | 0.00174 | 0.00526 | 0.00303 | 0.30000 | 0.30000 |

# Leakage Information

| Cell Name | Leakage(pW) | | |
|---|---|---|---|
| | Min. | Avg | Max. |
| **sg13g2_sdfbbp_1** | 681.92500 | 827.38900 | 928.96500 |

# Delay Information

### Delay(ns) to Q rising :

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_sdfbbp_1 | CLK->Q (RR) | 0.01860 | 0.00100 | **0.30138** | 0.32940 | 0.06480 | **0.58290** | 2.50740 | 0.30000 | **1.47124** |
| | SET_B->Q (FR) | 0.01860 | 0.00100 | **0.12226** | 0.32940 | 0.06480 | **0.42033** | 2.50740 | 0.30000 | **1.33791** |

### Delay(ns) to Q falling :

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_sdfbbp_1 | CLK->Q (RF) | 0.01860 | 0.00100 | **0.24783** | 0.32940 | 0.06480 | **0.49809** | 2.50740 | 0.30000 | **1.27020** |
| | RESET_B->Q (FF) | 0.01860 | 0.00100 | **0.20605** | 0.32940 | 0.06480 | **0.46918** | 2.50740 | 0.30000 | **1.26320** |

### Delay(ns) to Q rising (conditional):

| Cell Name | Timing Arc(Dir) | When | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_sdfbbp_1 | CLK->Q (RR) | SCE | 0.01860 | 0.00100 | **0.30138** | 0.32940 | 0.06480 | **0.58290** | 2.50740 | 0.30000 | **1.47124** |

### Delay(ns) to Q falling (conditional):

| Cell Name | Timing Arc(Dir) | When | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_sdfbbp_1 | CLK->Q (RF) | SCE | 0.01860 | 0.00100 | **0.24783** | 0.32940 | 0.06480 | **0.49809** | 2.50740 | 0.30000 | **1.27020** |

### Delay(ns) to Q_N rising :

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_sdfbbp_1 | CLK->Q_N (RR) | 0.01860 | 0.00100 | **0.20332** | 0.32940 | 0.06480 | **0.50719** | 2.50740 | 0.30000 | **1.41955** |
| | RESET_B->Q_N (FR) | 0.01860 | 0.00100 | **0.16045** | 0.32940 | 0.06480 | **0.48552** | 2.50740 | 0.30000 | **1.41872** |

### Delay(ns) to Q_N falling :

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_sdfbbp_1 | CLK->Q_N (RF) | 0.01860 | 0.00100 | **0.24992** | 0.32940 | 0.06480 | **0.54083** | 2.50740 | 0.30000 | **1.29977** |
| | SET_B->Q_N (FF) | 0.01860 | 0.00100 | **0.08097** | 0.32940 | 0.06480 | **0.37277** | 2.50740 | 0.30000 | **1.19425** |

## Delay(ns) to Q_N rising (conditional):

| Cell Name | Timing Arc(Dir) | When | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_sdfbbp_1 | CLK->Q_N (RR) | SCE | 0.01860 | 0.00100 | **0.20332** | 0.32940 | 0.06480 | **0.50719** | 2.50740 | 0.30000 | **1.41955** |

## Delay(ns) to Q_N falling (conditional):

| Cell Name | Timing Arc(Dir) | When | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_sdfbbp_1 | CLK->Q_N (RF) | SCE | 0.01860 | 0.00100 | **0.24992** | 0.32940 | 0.06480 | **0.54083** | 2.50740 | 0.30000 | **1.29977** |

# Constraint Information

### Constraints(ns) for D rising :

| Cell Name | Timing Check | Ref Pin(trans) | Constraint(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Input Slew(ns) | Ref Slew(ns) | Min | Input Slew(ns) | Ref Slew(ns) | Mid | Input Slew(ns) | Ref Slew(ns) | Max |
| sg13g2_sdfbbp_1 | hold | CLK (R) | 0.01860 | 0.01860 | **-0.08803** | 1.26300 | 1.26300 | **-0.26174** | 2.50740 | 2.50740 | **-0.35714** |
| | setup | CLK (R) | 0.01860 | 0.01860 | **0.13693** | 1.26300 | 1.26300 | **0.29142** | 2.50740 | 2.50740 | **0.38370** |

### Constraints(ns) for D falling :

| Cell Name | Timing Check | Ref Pin(trans) | Constraint(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Input Slew(ns) | Ref Slew(ns) | Min | Input Slew(ns) | Ref Slew(ns) | Mid | Input Slew(ns) | Ref Slew(ns) | Max |
| sg13g2_sdfbbp_1 | hold | CLK (R) | 0.01860 | 0.01860 | **-0.10025** | 1.26300 | 1.26300 | **-0.17000** | 2.50740 | 2.50740 | **-0.20661** |
| | setup | CLK (R) | 0.01860 | 0.01860 | **0.18583** | 1.26300 | 1.26300 | **0.27254** | 2.50740 | 2.50740 | **0.34238** |

### Constraints(ns) for SCD rising :

| Cell Name | Timing Check | Ref Pin(trans) | Constraint(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Input Slew(ns) | Ref Slew(ns) | Min | Input Slew(ns) | Ref Slew(ns) | Mid | Input Slew(ns) | Ref Slew(ns) | Max |
| sg13g2_sdfbbp_1 | hold | CLK (R) | 0.01860 | 0.01860 | **-0.11492** | 1.26300 | 1.26300 | **-0.31841** | 2.50740 | 2.50740 | **-0.43683** |
| | setup | CLK (R) | 0.01860 | 0.01860 | **0.16138** | 1.26300 | 1.26300 | **0.34539** | 2.50740 | 2.50740 | **0.46339** |

### Constraints(ns) for SCD falling :

| Cell Name | Timing Check | Ref Pin(trans) | Constraint(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Input Slew(ns) | Ref Slew(ns) | Min | Input Slew(ns) | Ref Slew(ns) | Mid | Input Slew(ns) | Ref Slew(ns) | Max |
| sg13g2_sdfbbp_1 | hold | CLK (R) | 0.01860 | 0.01860 | **-0.13204** | 1.26300 | 1.26300 | **-0.19428** | 2.50740 | 2.50740 | **-0.24203** |
| | setup | CLK (R) | 0.01860 | 0.01860 | **0.22007** | 1.26300 | 1.26300 | **0.29682** | 2.50740 | 2.50740 | **0.37189** |

### Constraints(ns) for SCE rising :

| Cell Name | Timing Check | Ref Pin(trans) | Constraint(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Input Slew(ns) | Ref Slew(ns) | Min | Input Slew(ns) | Ref Slew(ns) | Mid | Input Slew(ns) | Ref Slew(ns) | Max |
| sg13g2_sdfbbp_1 | hold | CLK (R) | 0.01860 | 0.01860 | **-0.09047** | 1.26300 | 1.26300 | **-0.27523** | 2.50740 | 2.50740 | **-0.37484** |
| | setup | CLK (R) | 0.01860 | 0.01860 | **0.14427** | 1.26300 | 1.26300 | **0.32380** | 2.50740 | 2.50740 | **0.43093** |

### Constraints(ns) for SCE falling :

| Cell Name | Timing Check | Ref Pin(trans) | Constraint(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Input Slew(ns) | Ref Slew(ns) | Min | Input Slew(ns) | Ref Slew(ns) | Mid | Input Slew(ns) | Ref Slew(ns) | Max |
| sg13g2_sdfbbp_1 | hold | CLK (R) | 0.01860 | 0.01860 | **-0.10025** | 1.26300 | 1.26300 | **-0.13222** | 2.50740 | 2.50740 | **-0.16234** |
| | setup | CLK (R) | 0.01860 | 0.01860 | **0.18583** | 1.26300 | 1.26300 | **0.23746** | 2.50740 | 2.50740 | **0.29811** |

### Constraints(ns) for RESET_B rising :

| Cell Name | Timing Check | Ref Pin(trans) | Constraint(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Input Slew(ns) | Ref Slew(ns) | Min | Input Slew(ns) | Ref Slew(ns) | Mid | Input Slew(ns) | Ref Slew(ns) | Max |
| sg13g2_sdfbbp_1 | recovery | CLK (R) | 0.01860 | 0.01860 | **0.08069** | 1.26300 | 1.26300 | **0.14571** | 2.50740 | 2.50740 | **0.18004** |
| | removal | CLK (R) | 0.01860 | 0.01860 | **-0.04401** | 1.26300 | 1.26300 | **-0.11063** | 2.50740 | 2.50740 | **-0.13872** |

### Min Pulse Width (ns) for RESET_B:

| Cell Name | High | Low |
|---|---|---|
| **sg13g2_sdfbbp_1** | - | 3.3435 |

### Constraints(ns) for SET_B rising :

| Cell Name | Timing Check | Ref Pin(trans) | Constraint(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Input Slew(ns) | Ref Slew(ns) | Min | Input Slew(ns) | Ref Slew(ns) | Mid | Input Slew(ns) | Ref Slew(ns) | Max |
| sg13g2_sdfbbp_1 | recovery | CLK (R) | 0.01860 | 0.01860 | **0.03912** | 1.26300 | 1.26300 | **0.22127** | 2.50740 | 2.50740 | **0.56965** |
| | removal | CLK (R) | 0.01860 | 0.01860 | **0.03668** | 1.26300 | 1.26300 | **0.10794** | 2.50740 | 2.50740 | **0.12101** |
| | hold | RESET_B (R) | 0.01860 | 0.01860 | **-0.07825** | 1.26300 | 1.26300 | **-0.21317** | 2.50740 | 2.50740 | **-0.28630** |
| | setup | RESET_B (R) | 0.01860 | 0.01860 | **0.10025** | 1.26300 | 1.26300 | **0.25904** | 2.50740 | 2.50740 | **0.36009** |

### Min Pulse Width (ns) for SET_B:

| Cell Name | High | Low |
|---|---|---|
| **sg13g2_sdfbbp_1** | - | 3.3435 |

### Min Pulse Width (ns) for CLK:

| Cell Name | High | Low |
|---|---|---|
| **sg13g2_sdfbbp_1** | 3.3435 | 3.3435 |

# Power Information

### Internal switching power(pJ) to Q rising :

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_sdfbbp_1 | CLK | 0.01860 | 0.00100 | **0.01646** | 0.32940 | 0.06480 | **0.01694** | 2.50740 | 0.30000 | **0.02236** |
| | SET_B | 0.01860 | 0.00100 | **0.03104** | 0.32940 | 0.06480 | **0.07700** | 2.50740 | 0.30000 | **0.25914** |

### Internal switching power(pJ) to Q falling :

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_sdfbbp_1 | CLK | 0.01860 | 0.00100 | **0.01626** | 0.32940 | 0.06480 | **0.01643** | 2.50740 | 0.30000 | **0.02077** |
| | RESET_B | 0.01860 | 0.00100 | **0.03506** | 0.32940 | 0.06480 | **0.08103** | 2.50740 | 0.30000 | **0.25577** |

### Internal switching power(pJ) to Q rising (conditional):

| Cell Name | Input | When | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_sdfbbp_1 | CLK | SCE | 0.01860 | 0.00100 | **0.01646** | 0.32940 | 0.06480 | **0.01694** | 2.50740 | 0.30000 | **0.02236** |

### Internal switching power(pJ) to Q falling (conditional):

| Cell Name | Input | When | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_sdfbbp_1 | CLK | SCE | 0.01860 | 0.00100 | **0.01626** | 0.32940 | 0.06480 | **0.01643** | 2.50740 | 0.30000 | **0.02077** |

### Internal switching power(pJ) to Q_N rising :

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_sdfbbp_1 | CLK | 0.01860 | 0.00100 | **0.01642** | 0.32940 | 0.06480 | **0.01676** | 2.50740 | 0.30000 | **0.02271** |
| | RESET_B | 0.01860 | 0.00100 | **0.03507** | 0.32940 | 0.06480 | **0.08132** | 2.50740 | 0.30000 | **0.25655** |

### Internal switching power(pJ) to Q_N falling :

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_sdfbbp_1 | CLK | 0.01860 | 0.00100 | **0.01647** | 0.32940 | 0.06480 | **0.01678** | 2.50740 | 0.30000 | **0.02096** |
| | SET_B | 0.01860 | 0.00100 | **0.03103** | 0.32940 | 0.06480 | **0.07661** | 2.50740 | 0.30000 | **0.25606** |

### Internal switching power(pJ) to Q_N rising (conditional):

| Cell Name | Input | When | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_sdfbbp_1 | CLK | SCE | 0.01860 | 0.00100 | **0.01642** | 0.32940 | 0.06480 | **0.01676** | 2.50740 | 0.30000 | **0.02271** |

**Internal switching power(pJ) to Q_N falling (conditional):**

| Cell Name | Input | When | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_sdfbbp_1 | CLK | SCE | 0.01860 | 0.00100 | **0.01647** | 0.32940 | 0.06480 | **0.01678** | 2.50740 | 0.30000 | **0.02096** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_sdfbbp_1 | 0.01860 | **0.00476** | 0.32940 | **0.00467** | 2.50740 | **0.00780** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_sdfbbp_1 | 0.01860 | **0.00469** | 0.32940 | **0.00465** | 2.50740 | **0.00777** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_sdfbbp_1 | (!CLK * RESET_B * !SCE * SET_B) | 0.01860 | **0.01138** | 0.32940 | **0.01116** | 2.50740 | **0.01473** |
| | (!CLK * RESET_B * !SCE * !SET_B) | 0.01860 | **0.00476** | 0.32940 | **0.00467** | 2.50740 | **0.00780** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_sdfbbp_1 | (!CLK * RESET_B * !SCE * SET_B) | 0.01860 | **0.01134** | 0.32940 | **0.01114** | 2.50740 | **0.01475** |
| | (!CLK * RESET_B * !SCE * !SET_B) | 0.01860 | **0.00469** | 0.32940 | **0.00465** | 2.50740 | **0.00777** |

**Passive power(pJ) for SCD rising :**

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_sdfbbp_1 | 0.01860 | **0.00623** | 0.32940 | **0.00615** | 2.50740 | **0.00842** |

**Passive power(pJ) for SCD falling :**

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_sdfbbp_1 | 0.01860 | **0.00715** | 0.32940 | **0.00705** | 2.50740 | **0.00946** |

**Passive power(pJ) for SCD rising (conditional):**

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_sdfbbp_1 | (!CLK * RESET_B * SCE * SET_B) | 0.01860 | **0.01285** | 0.32940 | **0.01265** | 2.50740 | **0.01532** |
| | (!CLK * RESET_B * SCE * !SET_B) | 0.01860 | **0.00623** | 0.32940 | **0.00615** | 2.50740 | **0.00842** |

**Passive power(pJ) for SCD falling (conditional):**

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_sdfbbp_1 | (!CLK * RESET_B * SCE * SET_B) | 0.01860 | **0.01587** | 0.32940 | **0.01533** | 2.50740 | **0.01810** |
| | (!CLK * RESET_B * SCE * !SET_B) | 0.01860 | **0.00715** | 0.32940 | **0.00705** | 2.50740 | **0.00946** |

**Passive power(pJ) for SCE rising :**

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_sdfbbp_1 | 0.01860 | **0.01320** | 0.32940 | **0.01321** | 2.50740 | **0.02142** |

**Passive power(pJ) for SCE falling :**

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_sdfbbp_1 | 0.01860 | **0.01477** | 0.32940 | **0.01484** | 2.50740 | **0.01911** |

**Passive power(pJ) for SCE rising (conditional):**

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_sdfbbp_1 | (!CLK * D * RESET_B * !SCD * SET_B) | 0.01860 | **0.01437** | 0.32940 | **0.01440** | 2.50740 | **0.01885** |
| | (!CLK * D * RESET_B * !SCD * !SET_B) | 0.01860 | **0.01977** | 0.32940 | **0.01905** | 2.50740 | **0.02341** |
| | (!CLK * !D * RESET_B * SCD * SET_B) | 0.01860 | **0.01320** | 0.32940 | **0.01321** | 2.50740 | **0.02142** |
| | (!CLK * !D * RESET_B * SCD * !SET_B) | 0.01860 | **0.00660** | 0.32940 | **0.00674** | 2.50740 | **0.01448** |

**Passive power(pJ) for SCE falling (conditional):**

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_sdfbbp_1 | (!CLK * D * RESET_B * !SCD * SET_B) | 0.01860 | **0.01477** | 0.32940 | **0.01484** | 2.50740 | **0.01911** |
| | (!CLK * D * RESET_B * !SCD * !SET_B) | 0.01860 | **0.01702** | 0.32940 | **0.02412** | 2.50740 | **0.02845** |
| | (!CLK * !D * RESET_B * SCD * SET_B) | 0.01860 | **0.00338** | 0.32940 | **0.02357** | 2.50740 | **0.03358** |
| | (!CLK * !D * RESET_B * SCD * !SET_B) | 0.01860 | **0.00689** | 0.32940 | **0.00704** | 2.50740 | **0.01413** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_sdfbbp_1 | 0.01860 | **0.01187** | 0.32940 | **0.01188** | 2.50740 | **0.02040** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_sdfbbp_1 | 0.01860 | **0.01476** | 0.32940 | **0.01498** | 2.50740 | **0.02401** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_sdfbbp_1 | (RESET_B * SCD * SCE * SET_B * Q * !Q_N) | 0.01860 | **0.01180** | 0.32940 | **0.01187** | 2.50740 | **0.02035** |
| | (RESET_B * !SET_B * Q * !Q_N) | 0.01860 | **0.01560** | 0.32940 | **0.01562** | 2.50740 | **0.02405** |
| | (RESET_B * !SCD * SCE * SET_B * !Q * Q_N) | 0.01860 | **0.01187** | 0.32940 | **0.01188** | 2.50740 | **0.02040** |
| | (D * RESET_B * !SCE * SET_B * Q * !Q_N) | 0.01860 | **0.01180** | 0.32940 | **0.01187** | 2.50740 | **0.02034** |
| | (!RESET_B * !Q * Q_N) | 0.01860 | **0.01129** | 0.32940 | **0.01131** | 2.50740 | **0.01984** |
| | (!D * RESET_B * !SCE * SET_B * !Q * Q_N) | 0.01860 | **0.01187** | 0.32940 | **0.01188** | 2.50740 | **0.02040** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_sdfbbp_1 | (RESET_B * SCD * SCE * SET_B * Q * !Q_N) | 0.01860 | **0.01130** | 0.32940 | **0.01140** | 2.50740 | **0.01996** |
| | (RESET_B * SCD * SCE * SET_B * !Q * Q_N) | 0.01860 | **0.02009** | 0.32940 | **0.02000** | 2.50740 | **0.02874** |
| | (RESET_B * !SET_B * Q * !Q_N) | 0.01860 | **0.01476** | 0.32940 | **0.01498** | 2.50740 | **0.02401** |
| | (RESET_B * !SCD * SCE * SET_B * Q * !Q_N) | 0.01860 | **0.02149** | 0.32940 | **0.02160** | 2.50740 | **0.03077** |
| | (RESET_B * !SCD * SCE * SET_B * !Q * Q_N) | 0.01860 | **0.01151** | 0.32940 | **0.01171** | 2.50740 | **0.02014** |
| | (D * RESET_B * !SCE * SET_B * Q * !Q_N) | 0.01860 | **0.01130** | 0.32940 | **0.01140** | 2.50740 | **0.01996** |
| | (!RESET_B * !Q * Q_N) | 0.01860 | **0.01014** | 0.32940 | **0.01036** | 2.50740 | **0.01878** |
| | (!D * RESET_B * !SCE * SET_B * !Q * Q_N) | 0.01860 | **0.01148** | 0.32940 | **0.01168** | 2.50740 | **0.02010** |

# SGCLK

*sg13g2_stdcell_typ_1p20V_25C Cell Library: Process*
*sg13g2_stdcell_typ_1p20V_25C, Voltage 1.20, Temp 25.00*

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## Truth Table

| INPUT | | | OUTPUT |
|---|---|---|---|
| GATE | SCE | CLK | GCLK |
| x | x | 0 | 0 |
| x | x | 1 | GCLK |

## Footprint

| Cell Name | Area |
|---|---|
| sg13g2_slgcp_1 | 30.84480 |

## Pin Capacitance Information

| Cell Name | Pin Cap(pf) | | | Max Cap(pf) |
|---|---|---|---|---|
| | GATE | SCE | CLK | GCLK |
| sg13g2_slgcp_1 | 0.00202 | 0.00241 | 0.00504 | 0.30000 |

## Leakage Information

| Cell Name | Leakage(pW) | | |
|---|---|---|---|
| | Min. | Avg | Max. |
| sg13g2_slgcp_1 | 344.76500 | 415.99700 | 460.32300 |

# Delay Information

### Delay(ns) to GCLK rising :

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| **sg13g2_slgcp_1** | **CLK->GCLK (RR)** | 0.01860 | 0.00100 | **0.07486** | 0.32940 | 0.06480 | **0.35101** | 2.50740 | 0.30000 | **1.23573** |

### Delay(ns) to GCLK falling :

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| **sg13g2_slgcp_1** | **CLK->GCLK (FF)** | 0.01860 | 0.00100 | **0.06110** | 0.32940 | 0.06480 | **0.31451** | 2.50740 | 0.30000 | **1.05765** |

# Constraint Information

### Constraints(ns) for GATE rising :

| Cell Name | Timing Check | Ref Pin(trans) | Constraint(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Input Slew(ns) | Ref Slew(ns) | Min | Input Slew(ns) | Ref Slew(ns) | Mid | Input Slew(ns) | Ref Slew(ns) | Max |
| sg13g2_slgcp_1 | hold | CLK (R) | 0.01860 | 0.01860 | **-0.04057** | 1.26300 | 1.26300 | **-0.19698** | 2.50740 | 2.50740 | **-0.27909** |
| | setup | CLK (R) | 0.01860 | 0.01860 | **0.06155** | 1.26300 | 1.26300 | **0.28333** | 2.50740 | 2.50740 | **0.41461** |

### Constraints(ns) for GATE falling :

| Cell Name | Timing Check | Ref Pin(trans) | Constraint(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Input Slew(ns) | Ref Slew(ns) | Min | Input Slew(ns) | Ref Slew(ns) | Mid | Input Slew(ns) | Ref Slew(ns) | Max |
| sg13g2_slgcp_1 | hold | CLK (R) | 0.01860 | 0.01860 | **-0.06966** | 1.26300 | 1.26300 | **-0.16730** | 2.50740 | 2.50740 | **-0.23367** |
| | setup | CLK (R) | 0.01860 | 0.01860 | **0.11141** | 1.26300 | 1.26300 | **0.21857** | 2.50740 | 2.50740 | **0.35385** |

### Constraints(ns) for SCE rising :

| Cell Name | Timing Check | Ref Pin(trans) | Constraint(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Input Slew(ns) | Ref Slew(ns) | Min | Input Slew(ns) | Ref Slew(ns) | Mid | Input Slew(ns) | Ref Slew(ns) | Max |
| sg13g2_slgcp_1 | hold | CLK (R) | 0.01860 | 0.01860 | **-0.04314** | 1.26300 | 1.26300 | **-0.22127** | 2.50740 | 2.50740 | **-0.31461** |
| | setup | CLK (R) | 0.01860 | 0.01860 | **0.00200** | 1.26300 | 1.26300 | **0.00200** | 2.50740 | 2.50740 | **0.00200** |

### Constraints(ns) for SCE falling :

| Cell Name | Timing Check | Ref Pin(trans) | Constraint(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Input Slew(ns) | Ref Slew(ns) | Min | Input Slew(ns) | Ref Slew(ns) | Mid | Input Slew(ns) | Ref Slew(ns) | Max |
| sg13g2_slgcp_1 | hold | CLK (R) | 0.01860 | 0.01860 | **-0.07182** | 1.26300 | 1.26300 | **-0.14571** | 2.50740 | 2.50740 | **-0.20041** |
| | setup | CLK (R) | 0.01860 | 0.01860 | **0.11769** | 1.26300 | 1.26300 | **0.19428** | 2.50740 | 2.50740 | **0.28235** |

### Min Pulse Width (ns) for CLK:

| Cell Name | High | Low |
|---|---|---|
| **sg13g2_slgcp_1** | 3.3435 | 3.3435 |

# Power Information

**Internal switching power(pJ) to GCLK rising :**

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_slgcp_1 | CLK | 0.01860 | 0.00100 | **0.00860** | 0.32940 | 0.06480 | **0.00870** | 2.50740 | 0.30000 | **0.01376** |

**Internal switching power(pJ) to GCLK falling :**

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_slgcp_1 | CLK | 0.01860 | 0.00100 | **0.00554** | 0.32940 | 0.06480 | **0.00595** | 2.50740 | 0.30000 | **0.01260** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_slgcp_1 | 0.01860 | **0.01884** | 0.32940 | **0.01971** | 2.50740 | **0.02528** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_slgcp_1 | 0.01860 | **0.01019** | 0.32940 | **0.03031** | 2.50740 | **0.03614** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_slgcp_1 | !CLK | 0.01860 | **0.01884** | 0.32940 | **0.01971** | 2.50740 | **0.02528** |

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

| Cell Name | When | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| sg13g2_slgcp_1 | !CLK | 0.01860 | **0.01019** | 0.32940 | **0.03031** | 2.50740 | **0.03614** |

**Passive power(pJ) for SCE rising :**

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_slgcp_1** | 0.01860 | **0.01097** | 0.32940 | **0.01092** | 2.50740 | **0.01646** |

**Passive power(pJ) for SCE falling :**

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_slgcp_1** | 0.01860 | **0.01197** | 0.32940 | **0.02966** | 2.50740 | **0.03436** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_slgcp_1** | 0.01860 | **0.00772** | 0.32940 | **0.00769** | 2.50740 | **0.01531** |

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

| Cell Name | Power(pJ) | | | | | |
|---|---|---|---|---|---|---|
| | Slew(ns) | Min | Slew(ns) | Mid | Slew(ns) | Max |
| **sg13g2_slgcp_1** | 0.01860 | **0.00760** | 0.32940 | **0.00776** | 2.50740 | **0.01532** |

# TIE0

*sg13g2_stdcell_typ_1p20V_25C Cell Library: Process*
*sg13g2_stdcell_typ_1p20V_25C, Voltage 1.20, Temp 25.00*

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## Footprint

| Cell Name | Area |
|---|---|
| **sg13g2_tielo** | 7.25760 |

## Pin Capacitance Information

| Cell Name | Max Cap(pf) |
|---|---|
| | **L_LO** |
| **sg13g2_tielo** | - |

## Leakage Information

| Cell Name | Leakage(pW) | | |
|---|---|---|---|
| | **Min.** | **Avg** | **Max.** |
| **sg13g2_tielo** | 57.84800 | 57.84800 | 57.84800 |

# TIE1

*sg13g2_stdcell_typ_1p20V_25C Cell Library: Process*
*sg13g2_stdcell_typ_1p20V_25C, Voltage 1.20, Temp 25.00*

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## Footprint

| Cell Name | Area |
|---|---|
| **sg13g2_tiehi** | 7.25760 |

## Pin Capacitance Information

| Cell Name | Max Cap(pf) |
|---|---|
| | **L_HI** |
| **sg13g2_tiehi** | - |

## Leakage Information

| Cell Name | Leakage(pW) | | |
|---|---|---|---|
| | **Min.** | **Avg** | **Max.** |
| **sg13g2_tiehi** | 58.06610 | 58.06610 | 58.06610 |

# XNOR2_1

*sg13g2_stdcell_typ_1p20V_25C Cell Library: Process sg13g2_stdcell_typ_1p20V_25C, Voltage 1.20, Temp 25.00*

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## Truth Table

| INPUT | | OUTPUT |
|---|---|---|
| A | B | Y |
| 0 | 0 | 1 |
| 0 | 1 | 0 |
| 1 | 0 | 0 |
| 1 | 1 | 1 |

## Footprint

| Cell Name | Area |
|---|---|
| sg13g2_xnor2_1 | 14.51520 |

## Pin Capacitance Information

| Cell Name | Pin Cap(pf) | | Max Cap(pf) |
|---|---|---|---|
| | A | B | Y |
| sg13g2_xnor2_1 | 0.00561 | 0.00504 | 0.30000 |

## Leakage Information

| Cell Name | Leakage(pW) | | |
|---|---|---|---|
| | Min. | Avg | Max. |
| **sg13g2_xnor2_1** | 120.30200 | 194.77500 | 225.80900 |

# Delay Information

**Delay(ns) to Y rising :**

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_xnor2_1 | A->Y (RR) | 0.01860 | 0.00100 | **0.07213** | 0.32940 | 0.06480 | **0.34809** | 2.50740 | 0.30000 | **1.22971** |
| | A->Y (FR) | 0.01860 | 0.00100 | **0.05345** | 0.32940 | 0.06480 | **0.53568** | 2.50740 | 0.30000 | **2.65765** |
| | B->Y (RR) | 0.01860 | 0.00100 | **0.06656** | 0.32940 | 0.06480 | **0.34205** | 2.50740 | 0.30000 | **1.22029** |
| | B->Y (FR) | 0.01860 | 0.00100 | **0.04686** | 0.32940 | 0.06480 | **0.54622** | 2.50740 | 0.30000 | **2.81827** |

**Delay(ns) to Y falling :**

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_xnor2_1 | A->Y (FF) | 0.01860 | 0.00100 | **0.07060** | 0.32940 | 0.06480 | **0.43665** | 2.50740 | 0.30000 | **1.59756** |
| | A->Y (RF) | 0.01860 | 0.00100 | **0.04641** | 0.32940 | 0.06480 | **0.44074** | 2.50740 | 0.30000 | **2.30017** |
| | B->Y (FF) | 0.01860 | 0.00100 | **0.07138** | 0.32940 | 0.06480 | **0.42457** | 2.50740 | 0.30000 | **1.57671** |
| | B->Y (RF) | 0.01860 | 0.00100 | **0.03937** | 0.32940 | 0.06480 | **0.43207** | 2.50740 | 0.30000 | **2.28575** |

# Power Information

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

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_xnor2_1 | A | 0.01860 | 0.00100 | **0.00784** | 0.32940 | 0.06480 | **0.00791** | 2.50740 | 0.30000 | **0.01280** |
| | B | 0.01860 | 0.00100 | **0.00781** | 0.32940 | 0.06480 | **0.00766** | 2.50740 | 0.30000 | **0.01341** |

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

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_xnor2_1 | A | 0.01860 | 0.00100 | **0.00693** | 0.32940 | 0.06480 | **0.00726** | 2.50740 | 0.30000 | **0.01251** |
| | B | 0.01860 | 0.00100 | **0.00748** | 0.32940 | 0.06480 | **0.00652** | 2.50740 | 0.30000 | **0.01232** |

# XOR2_1

*sg13g2_stdcell_typ_1p20V_25C Cell Library: Process*
*sg13g2_stdcell_typ_1p20V_25C, Voltage 1.20, Temp 25.00*

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## Truth Table

| INPUT | | OUTPUT |
|---|---|---|
| A | B | X |
| 0 | 0 | 0 |
| 0 | 1 | 1 |
| 1 | 0 | 1 |
| 1 | 1 | 0 |

## Footprint

| Cell Name | Area |
|---|---|
| sg13g2_xor2_1 | 14.51520 |

## Pin Capacitance Information

| Cell Name | Pin Cap(pf) | | Max Cap(pf) |
|---|---|---|---|
| | A | B | X |
| sg13g2_xor2_1 | 0.00580 | 0.00518 | 0.30000 |

## Leakage Information

| Cell Name | Leakage(pW) | | |
|---|---|---|---|
| | Min. | Avg | Max. |
| **sg13g2_xor2_1** | 174.79300 | 184.81500 | 194.60200 |

# Delay Information

**Delay(ns) to X rising :**

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_xor2_1 | A->X (RR) | 0.01860 | 0.00100 | **0.06992** | 0.32940 | 0.06480 | **0.54545** | 2.50740 | 0.30000 | **2.14971** |
| | A->X (FR) | 0.01860 | 0.00100 | **0.05834** | 0.32940 | 0.06480 | **0.54201** | 2.50740 | 0.30000 | **2.67187** |
| | B->X (RR) | 0.01860 | 0.00100 | **0.07351** | 0.32940 | 0.06480 | **0.53132** | 2.50740 | 0.30000 | **2.10227** |
| | B->X (FR) | 0.01860 | 0.00100 | **0.05011** | 0.32940 | 0.06480 | **0.53263** | 2.50740 | 0.30000 | **2.65907** |

**Delay(ns) to X falling :**

| Cell Name | Timing Arc(Dir) | Delay(ns) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_xor2_1 | A->X (FF) | 0.01860 | 0.00100 | **0.08780** | 0.32940 | 0.06480 | **0.32967** | 2.50740 | 0.30000 | **1.04798** |
| | A->X (RF) | 0.01860 | 0.00100 | **0.04300** | 0.32940 | 0.06480 | **0.43647** | 2.50740 | 0.30000 | **2.28993** |
| | B->X (FF) | 0.01860 | 0.00100 | **0.08102** | 0.32940 | 0.06480 | **0.32910** | 2.50740 | 0.30000 | **1.05337** |
| | B->X (RF) | 0.01860 | 0.00100 | **0.03752** | 0.32940 | 0.06480 | **0.44237** | 2.50740 | 0.30000 | **2.39932** |

# Power Information

**Internal switching power(pJ) to X rising :**

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_xor2_1 | A | 0.01860 | 0.00100 | **0.00693** | 0.32940 | 0.06480 | **0.00710** | 2.50740 | 0.30000 | **0.01257** |
| | B | 0.01860 | 0.00100 | **0.00748** | 0.32940 | 0.06480 | **0.00646** | 2.50740 | 0.30000 | **0.01197** |

**Internal switching power(pJ) to X falling :**

| Cell Name | Input | Power(pJ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Slew(ns) | Load(pf) | Min | Slew(ns) | Load(pf) | Mid | Slew(ns) | Load(pf) | Max |
| sg13g2_xor2_1 | A | 0.01860 | 0.00100 | **0.00842** | 0.32940 | 0.06480 | **0.00847** | 2.50740 | 0.30000 | **0.01483** |
| | B | 0.01860 | 0.00100 | **0.00767** | 0.32940 | 0.06480 | **0.00773** | 2.50740 | 0.30000 | **0.01463** |