

## Power on Reset

### SPECIFICATION

#### 1 FEATURES

- TSMC018 SiGe BiCMOS 0.18  $\mu\text{m}$
- Low current consumption
- Small layout area
- Portable to other technologies (upon request)

#### 2 APPLICATION

- Power on reset

#### 3 OVERVIEW

The power on reset consists of a Schmitt trigger and simple logic for forced reset input, which is forced asynchronous reset. Output port is  $\overline{\text{Reset}}$ , that means it is low to set flip-flop in particular state.

The block is fabricated in TSMC018 SiGe BiCMOS 0.18  $\mu\text{m}$ .

#### 4 STRUCTURE

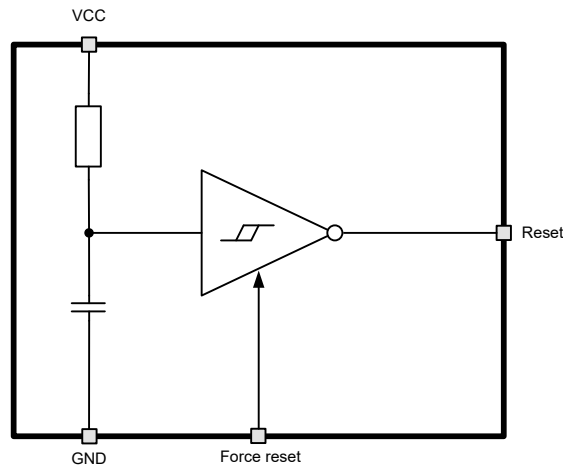


Figure 1: Power on Reset structure.

## 5 PIN DESCRIPTION

Name	Direction	Description
ResetPad	I	Forced asynchronous reset. Active high.
ResetN	O	Output reset. Active - low, high level in normal mode.
VCC	IO	Supply voltage
GND	IO	Ground

## 6 LAYOUT DESCRIPTION

Power on Reset dimensions are given in the table 1.

Table 1: Block dimensions.

Dimension	Value	Unit
Height	80	$\mu\text{m}$
Width	110	$\mu\text{m}$

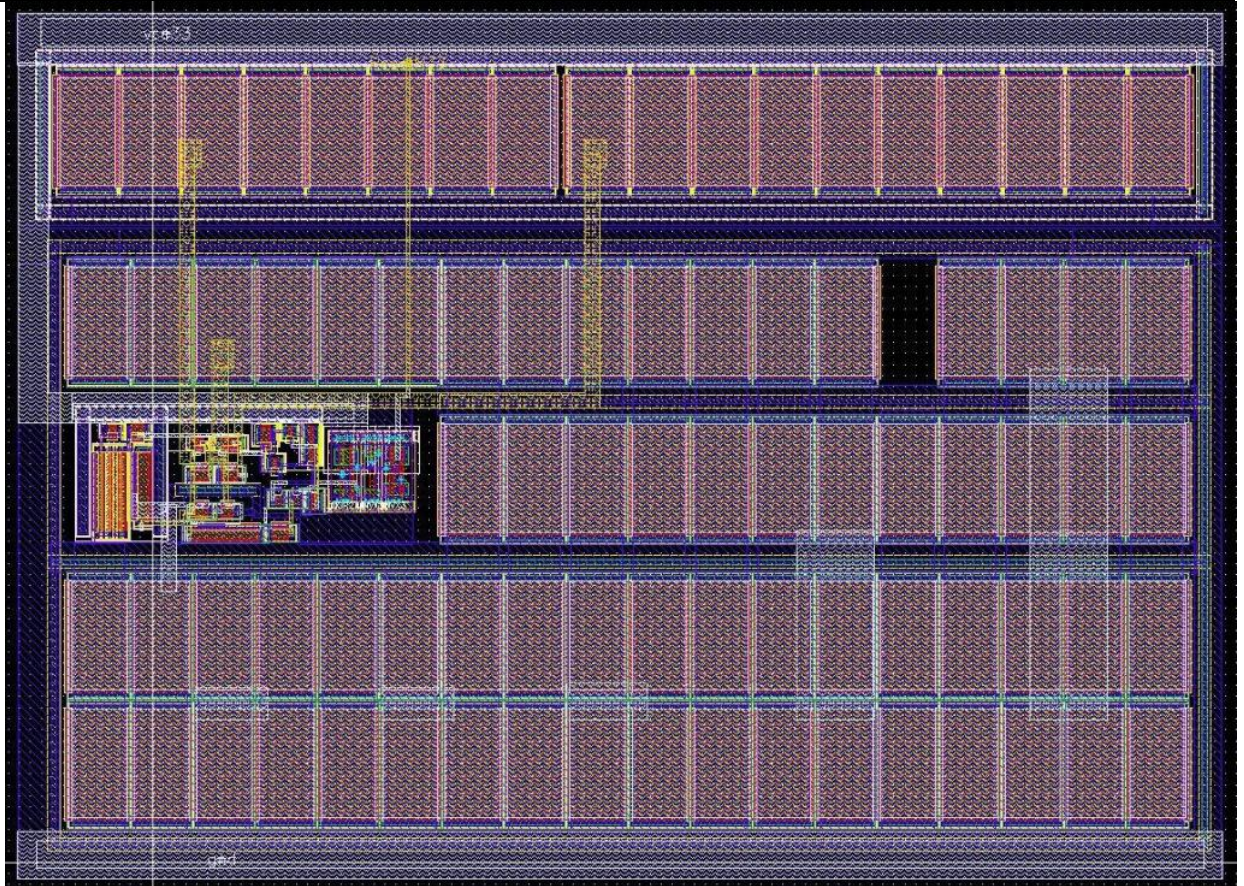


Figure 2: Power on Reset layout view.

## 7 OPERATING CHARACTERISTICS

### 7.1 TECHNICAL CHARACTERISTICS

Technology \_\_\_\_\_ TSMC018 SiGe BiCMOS  
 Status \_\_\_\_\_ silicon proven  
 Area \_\_\_\_\_ 0.01 mm<sup>2</sup>

### 7.2 ELECTRICAL CHARACTERISTICS

The values of electrical characteristics are specified for  $V_{CC} = 3.0 \div 3.6$  V и  $T = -40 \div +85^{\circ}\text{C}$ . Typical values are at  $V_{CC} = 3.3$  V,  $T = +27^{\circ}\text{C}$ , unless otherwise specified.

Parameter	Symbol	Condition	Value			Unit
			min	typ	max	
Supply voltage	$V_{CC}$	-	3.0	3.3	3.6	V
Operating temperature range	T	-	-40	+27	+85	°C
Reset threshold voltage	$V_{TH}$	-	2.5	2.52	2.74	V
Vcc to reset delay	$t_{pd}$	-	26	50	89	μs
Reset output voltage low	$V_{OL}$				0.46	V
Vcc suply current	$I_{CC}$	-	-	-	0.5	nA
Input logic-level high	$V_{IH}$	Digital inputs	$0.9V_{CC}$	-	$1.1V_{CC}$	V
Input logic-level low	$V_{IL}$		-0.2	-	0.2	V

## 8 DELIVERABLES

IP contents:

- Schematic or NetList
- Layout or blackbox
- Extracted view (optional)
- GDSII
- DRC, LVS, antenna report
- Test bench with saved configurations (optional)
- Documentation