TOWERJAZZ
The Global Specialty Foundry Leader

SiGe Platform

0.35µm, 0.18µm, 0.13µm Nodes

TowerJazz offers a high performance SiGe process optimized to enable the world's lowest power devices for today's high-frequency wireless communications and high-speed networking products. Our industry-leading manufacturing process reaches switching speeds of greater than 200GHz. Our SiGe technology also enables Front End Modules (FEMs) reducing die cost up to 50% over existing III-V solutions in many cellular application protocols. SiGe is an ideal solution for RF transceivers, tuners, millimeter wave (including optical networking and radar applications), and high precision analog building blocks.

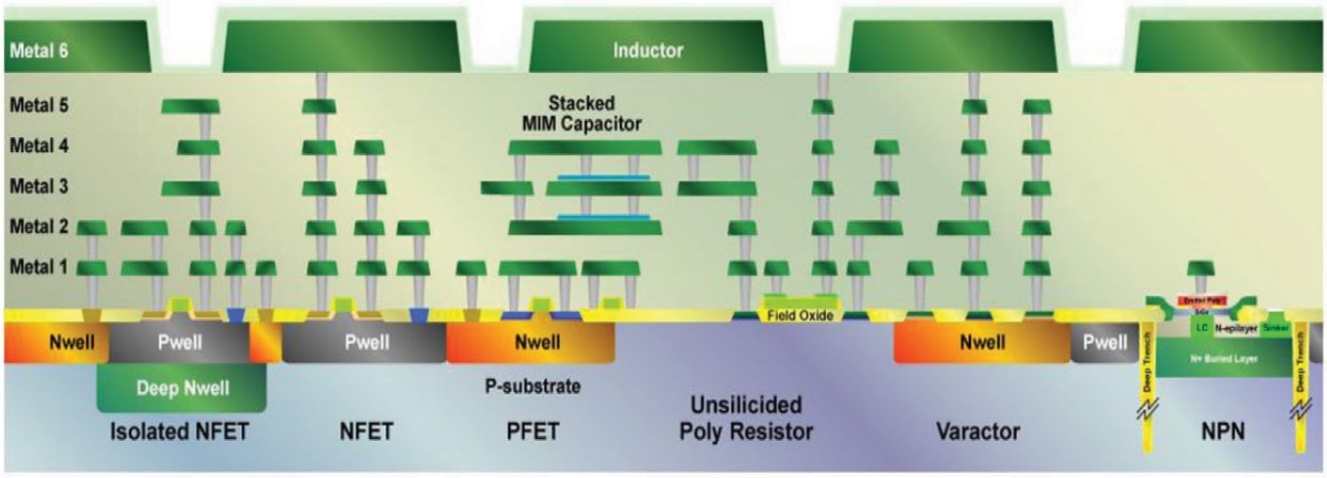
Our SiGe Platform Features:

- High performance, low power, cost effective solution for both networking and wireless applications
- Ultra low noise and high linearity
- 0.35µ, 0.18µ and 0.13µ nodes
- Single and dual gate CMOS FETs provide high levels of mixed signal and logic integration
- SiGe bipolar (NPN) transistors available to optimize power and speed (Ft up to 250GHz)
- Complimentary BiCMOS
- High-speed vertical PNP transistors (up to 23GHz available)
- High density MIM Caps (up to 5.6fF µm2)
- Varactors, poly and metal resistors, High-Q inductors, deep trench and triple-well isolation
- Up to 6 Levels of Metal
- Large Standard Cell Libraries
- I/O Libraries
- Memory Generators
- Synopsys and Cadence ASIC Flows

SiGe Technology

Feature	0.35µm	0.18µm	0.13µm
Location	Fab 3	Fab 3	Fab 2 and Fab 3
CMOS FET	Single Gate 3.3V/5.0V	Single/Dual Gate 1.8V/3.3V	Dual Gate 1.2V/3.3V
Ft Range	23GHz – 61GHz	38GHz – 240GHz	37GHz – 200GHz
MIM Cap	1fF, 2fF and 4fF	1fF, 2fF, 2.8fF, 4fF and 5.6fF	2.8fF and 5.6fF
Poly Resistor	95 and 1.1K	235 and 1K	310 and 1K
Metal Resistor	–	24	–
Metal Levels	3 and 4	3 to 6	6

Schematic of Key Features in a SiGe BiCMOS Wafer



Customer Service and Support

- Online Customer Portal
- File Exchange for design kits and online documentation
- Online Tape-Out System
- Online Help Ticket System
- Manufacturing status, logistics and inventory management
- Dedicated Sales and Engineering Support

Analog Mixed-Signal Design Kit Features

- Cadence® Virtuoso and Agilent ADS Design Kits
- Inductor tool box for scalable simulation and layout
- Support for Mentor® Calibre and Cadence® Assura™
- RF-centric layout Pcell options and models
- Support for Spectre, ADS (&RFDE), and HSPICE simulators
- ESD design library
- Transmission Line Elements

ASIC Library Views and Features

- Standard Cell Libraries
- I/O Libraries
- Synopsys and Cadence ASIC Flows
- Memory Generators

Supported Models

- **MOSFETs**: Scalable BSIM/PSP models, RF extension models, mismatch, statistical and noise models
- **NPNs**: HiCUM and extended GP RF models, mismatch, statistical and noise models
- **Inductors**: Scalable RF models which allow physical (turns, width, spacing) or electrical (L, Q, f_{peak}) inputs, and statistical models
- **MOS Varactor**: Scalable RF models and statistical models
- **MIM Caps**: RF models, mismatch and statistical models
- **Resistors**: Mismatch, statistical and noise models