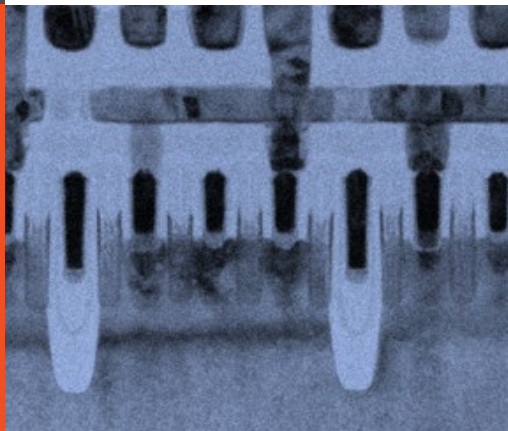




GLOBALFOUNDRIES®



7LP

7nm FinFET Technology

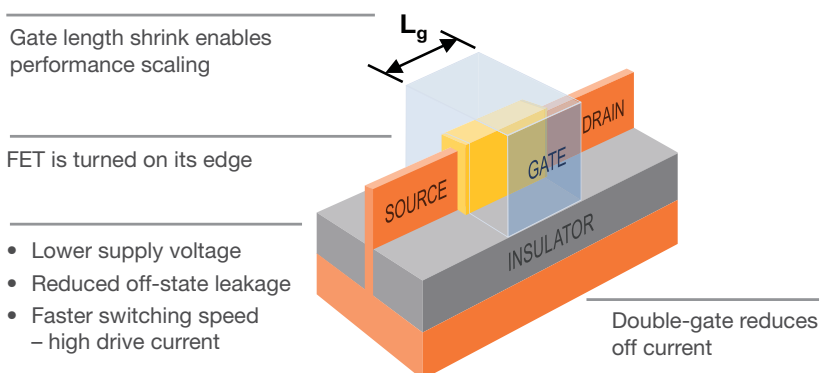
Highlights

- 7nm FinFET technology
 - + 3rd generation FinFET process technology platform
 - + Manufactured in state-of-the-art facilities in Saratoga County, NY
- Ideal for high-performance, power-efficient SoC applications
 - + Cloud / Data Center servers
 - + CPU and GPU for VR
 - + High-end mobile processors
 - + Wired and wireless networking
 - + Automotive ADAS
 - + AI - DNN/CNN
- Comprehensive design ecosystem
 - + Full foundation and complex IP libraries
 - + PDK and reference flows supported by major EDA and IP partners
 - + Robust DFM solutions
- Complete services and supply chain support
 - + Regularly scheduled MPWs
 - + Advanced packaging and test solutions, including 2.5D and 3D products

The Right Technology for the Right Application™

GLOBALFOUNDRIES 7LP 7nm FinFET process technology platform is ideal for high-performance, power-efficient SoCs in demanding, high-volume applications.

3D FinFET transistor technology provides world-class performance, power, area and cost advantages from 7nm scaling. 7LP technology can provide more than 40% higher device performance and more than 60% lower total power compared to 14nm technologies.

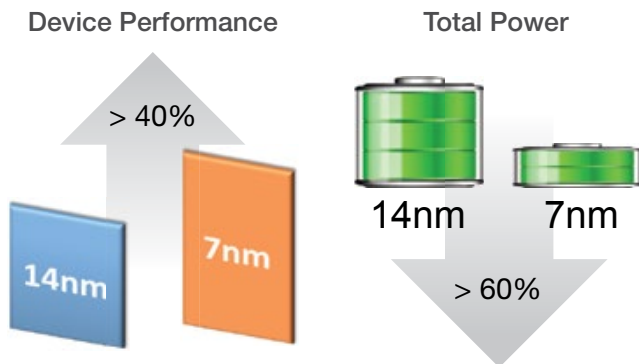


Technology Overview

- Twin-well CMOS bulk FinFET
- 5 Core device Vt's
- Two gate dielectrics: thin (SG) and medium I/O (EG)
- Full suite of passive devices
- Optional MIM capacitor, eFuse
- VDD: 0.75V nominal or 0.85V overdrive
- Standard temperature range: -40°C to 125°C
- Optical lithography based process with EUV compatibility
- Up to 17 layers of metallization

Performance, Power, Cost Advantage from 7nm Area Scaling

- >40% performance improvement at iso power (vs. 14nm)
- >60% power reduction at iso frequency (vs. 14nm)
- Up to 30% lower die cost (vs. 14nm)



Application-optimized Platform Extensions

- High Performance** → 5GHz operation
Server, Data Center, ASICs
- 6T** → >17M gates/mm²
for maximum scaling
- Automotive** → Grade 2 (in planning)
In-vehicle compute/networking
- EUV** → For cycle time and process simplification

IP Overview

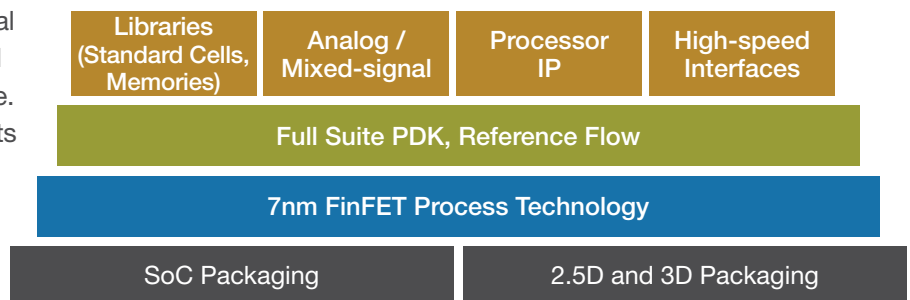
The comprehensive 7LP FinFET Platform IP portfolio includes a wide range of silicon-proven high performance, power-optimized solutions for a broad set of applications.

Foundation IP		
Standard Cell 9T	Standard Cell 6T	
GPIO / ESD	PLL	Temp & Voltage Sensor
ROM Compiler	SRAM Compiler / TCAM compiler	
Interface IP		
DDR4/5	LPDDR4/5	PCIe G1.1/2/3/4
MIPI D-PHY/M-PHY	SATA I/II/III	USB2/3.x
DP/HDMI/MHL 2.x	SERDES (6G-112G)	
HBM2.0	Video DAC	24b Audio ADC
Memory		
High density memories	Electrical Fuse	OTP
Single-port/Pseudo Two-port Dense SRAM		
Processors		Analog / mixed-signal

Contact GF for IP availability.

GLOBALSOLUTIONS® Design and Manufacturing Ecosystem

GLOBALSOLUTIONS is the sum of our internal resources and ecosystem partners, combined to efficiently enable the fastest time-to-volume. This ecosystem includes partners in all aspects of design enablement and turnkey services, OPC and mask operations, and advanced capabilities in assembly solutions.



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