



Data center optical drivers and TIAs using SiGe 9HP & 8XP

Enable low-power, high-frequency optical data links

Current and emerging performance-driven data center applications require low-power, low-noise and high-bandwidth transimpedance amplifier (TIA) and driver performance.

The high-performance silicon germanium BiCMOS (SiGe HP) portfolio from GlobalFoundries® (GF®) is designed to deliver the speed, performance and bandwidth that chips in next-generation optical communications hardware require. The silicon-proven solutions enable customers to integrate extensive digital and RF functionality and exploit silicon economies of scale.

9HP and 8XP at a glance†

Platform	Key Features
90 and 130 nm SiGe BiCMOS	<ul style="list-style-type: none">• Superior performance on a proven, economical silicon technology base which fosters the integration of digital and RF functions and enable operation at high junction temperatures• End-to-end design enablement which accelerates time to market• Industry-leading process design kits and ultra-accurate device models

SiGe 9HP is the highest f_{max}
SiGe BiCMOS foundry process
in volume production today.

Industry-leading, RF-optimized
PDKs from SiGe pioneers.


Maximize performance:

Advanced heterojunction bipolar transistors provide superior low-noise and high-frequency performance (370 GHz and 250 GHz f_{max} using SiGe 9HP and SiGe 8XP, respectively). The advanced copper metallization feature offers five times the current density at 100°C, or up to 25°C higher operating temperature at the same current density*


Take advantage of expert-developed process design kits:

GF PDKs provide RF-specific tool support and industry-leading model-to-hardware correlation accuracy. The kits leverage the decades-long/extensive experience of GF experts—scientists and engineers who pioneered the development and high-volume production of SiGe.


Leverage high-volume manufacturing:

GF's high-volume manufacturing offers supply assurance and enables advanced processing and controls for optical applications. SiGe 9HP and SiGe 8XP—a reliable automotive grade 1 product—are fully qualified and in high-volume production on GF's 200 mm manufacturing processes.


Accelerate time to market:

SiGe HP solutions are complemented by end-to-end design enablement, prototyping services, superior factory capabilities and RFwave™ ecosystem solutions for customers to meet design and performance goals, easily inject differentiation and get to market faster.

LEARN MORE

SiGe HP solutions for data center optical communications from GF®

9HP	8XP
Superior RF performance, featuring 310/370 GHz f_t/f_{max} with up to 50% more integration density than SiGe 8XP.	Outstanding RF performance solution, featuring 250/340 GHz f_t/f_{max} , enabling performance/value trade-offs.

GF knows SiGe. Learn how high-performance SiGe solutions from GF moves more data faster, farther and more cost efficiently at gf.com/contact-us

Contact Us


* Compared to the base technology.

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