

# SILVACO

**Production-Ready Offerings  
for Production-Ready SoCs**

**PRO IP Product Selection Guide**

**Spring 2026**

# Extensive Selection of PRO IP

Your largest risk is time to market. Silvaco Production Ready Offerings provide proven solutions that are available immediately for you to use in your SoC design. Whether it is MIPI C-PHY/D-PHY high-speed transport at a foundry specific process, an ultra-low leakage SP-SRAM memory compiler, a high-density standard cell library, or a industry proven automotive network protocol controller that has shipped over one billion units, Silvaco PRO IP has a solution for your application.

## Silvaco PRO IP Offerings



### Why Use Silvaco PRO IP?

Designing complex IP in-house requires significant investment in engineering, verification, and foundry qualification. Silvaco PRO IP provides production-ready building blocks, allowing your team to focus on the features that set your product apart.

### Accelerate Your Time to Market

Every month of delay erodes your competitive position and delays revenue. Silvaco PRO IP is available immediately, with complete Liberty, LEF, and GDSII deliverables that integrate directly into your design flow. Instead of spending twelve to eighteen months developing a MIPI PHY or memory compiler from scratch, your team can integrate a proven solution and move directly to system-level validation.

### Reduce Design Risk with Silicon-Proven IP

An IP block that passes simulation but fails in silicon can derail an entire program. Every Silvaco PRO IP product has been fabricated, tested, and validated in production silicon across multiple foundries and process nodes. Our automotive networking controllers alone have shipped in more than one billion units. When you integrate PRO IP, you are building on a foundation already proven in the field.

## Lower Your Total Cost of Ownership

The upfront cost of an IP license is only a fraction of the true cost of ownership for an in-house design. When you account for engineering salaries, EDA tool licenses, foundry characterization, silicon re-spins, and ongoing maintenance across process variants, internal development often exceeds licensing costs by a wide margin. PRO IP gives you immediate access to qualified IP that has already absorbed those costs.

## Focus Your Engineering on What Matters Most

A MIPI PHY, a memory compiler, or a CAN controller is essential to your SoC, but it is unlikely to be the reason your customers choose your chip. By using Silvaco PRO IP for these foundational components, your team can focus on the proprietary algorithms and application-specific optimizations that create real competitive advantage.

## Applications

### Automotive Electronics and Networking

Advanced driver assistance systems rely on high-speed camera links and in-cabin display interfaces that must operate reliably under harsh operating conditions. Silvaco MIPI C-PHY and D-PHY solutions provide the bandwidth required for multi-camera ADAS modules while meeting the thermal and noise requirements of automotive environments.

For vehicle networking, Silvaco's FlexCAN, FlexRay, and LINFlex controllers form the backbone of distributed and zonal architectures. These controllers are ISO 11898-1 compliant and support ISO 26262 functional safety workflows, making them suitable for ASIL-B applications such as steer-by-wire, brake-by-wire, and advanced chassis control systems. With MIPI D-PHY IP now integrated into ASIL-B automotive radar processors, Silvaco offers a connected solution spanning sensor input to network transport.



### Key Capabilities

- MIPI C-PHY/D-PHY for ADAS camera modules, surround view, and in-cabin displays
- FlexCAN, FlexRay, and LINFlex controllers for distributed and zonal vehicle networks
- ISO 26262 functional safety support for ASIL B rated applications
- I3C sensor aggregation for accelerometers, gyroscopes, and radar front ends

### Industrial Automation and IoT

Industrial systems require IP that operates across extended temperature ranges and over long product lifecycles. Silvaco's foundation IP and memory compilers are available on established process nodes from 180nm to 40nm, providing the stability and long-term availability industrial customers require.

For factory automation, process control, and robotics applications, Silvaco's automotive networking controllers provide fault tolerance and deterministic communication in industrial environments. CAN and LIN protocol support enables reliable data exchange among sensors, actuators, and control units in electrically noisy settings.

### Key Capabilities

- Industrial networking protocol controllers with fault-tolerant communication
- Foundation IP and memory compilers for established process nodes (180nm to 40nm)
- I3C sensor connectivity for industrial monitoring and predictive maintenance
- Standard cell libraries optimized for low leakage in always-on industrial edge devices



# Applications

## Consumer Electronics and Mobile

Smartphones, wearables, tablets, and AR/VR headsets require high-speed display and camera interfaces that minimize power consumption without compromising performance. Silvaco's MIPI C-PHY/D-PHY Combo PHY solutions support data rates up to 4.5 Gbps per lane across advanced FinFET nodes as small as 5nm, enabling next-generation display resolutions and multi-camera configurations in compact form factors.

The proprietary D-PHY RX+ topology reduces silicon area by 35% and leakage power by 50% compared with a full D-PHY Universal configuration, while still supporting full-speed production testing. This makes it particularly well suited for battery-powered devices, where every milliwatt matters. Silvaco's memory compilers further support consumer SoC designs with ultra-low-power SRAM options optimized for mobile application processors.



### Key Capabilities

- MIPI C-PHY/D-PHY Combo for smartphone display and camera link (5nm to 65nm)
- D-PHY RX+ with 35% area reduction and 50% lower leakage for battery-powered devices
- I3C connectivity for accelerometer, gyroscope, and magnetometer sensor hubs
- Ultra-low-power SP-SRAM and register file compilers for mobile application processors

## Medical Devices and Healthcare

Medical imaging systems, surgical instruments, and implantable devices present unique design challenges: strict power budgets, regulatory requirements, and the need for proven, reliable silicon. Silvaco's MIPI C-PHY and D-PHY IP supports the high-bandwidth image transfer required for endoscopy, ultrasound, and diagnostic imaging equipment, while its compact footprint helps meet the size constraints of portable medical devices.

For implantable and wearable medical devices, Silvaco's low-power memory compilers and standard cell libraries on mature process nodes deliver minimal leakage and long-term manufacturability, meeting these applications' demands. Fault-tolerant network controllers support the communication needs of connected surgical appliances and hospital-grade monitoring equipment.

### Key Capabilities

- MIPI C-PHY and D-PHY for medical imaging systems and diagnostic equipment
- Fault-tolerant network controllers for surgical appliances and connected devices
- Specialized low-power memories for implantable and long-life medical devices
- Silicon-proven IP on mature nodes for regulatory qualification and long-term supply



# MIPI PHY Solutions

The D-PHY, C-PHY, and the M-PHY are three different MIPI PHYs, specifically targeted at lower-power application such as mobile, IoT, wearables, and automotive. They operate over a very wide range of data-rates and support multiple power modes so mobile suppliers can deliver fast application response while preserving battery life. Their serial architectures with both a source synchronous separate clock and an embedded clock provide designers with choices from simplicity to high performance.

C	Commercial
I	Industrial
A	Automotive

## C-PHY/D-PHY Combo

Foundry	Node (nm)	Process	Product Description   Interface  Lanes   Speed	Grade	Part Number
TSMC	5	N5	C-PHY/D-PHY Combo DSI TX+ (3T/4L, 4.5Gsp/s/4.5Gbps)	C, I	20X262
TSMC	5	N5	C-PHY/D-PHY Combo CSI RX+ (3T/4L, 4.5Gsp/s/4.5Gbps)	C, I	20X263
TSMC	5	N5A	C-PHY/D-PHY Combo DSI TX+ (3T/4L, 4.5Gsp/s/4.5Gbps)	A	20X262A
TSMC	5	N5A	C-PHY/D-PHY Combo CSI RX+ (3T/4L, 4.5Gsp/s/4.5Gbps)	A	20X263A
TSMC	6	N6	C-PHY/D-PHY Combo CSI-2 RX+ (3T/4L, 6.0Gsp/s/4.5Gbps)	C, I	20X287
TSMC	7	N7	C-PHY/D-PHY combo CSI-2 RX (3T/4L, 4.5Gsp/s/4.5Gbps)	C, I	20X293
TSMC	12	FFC	C-PHY/D-PHY Combo CSI-2 TX (3T/4L, 4.5Gsp/s/4.5Gbps)	C, I	20X283
TSMC	12	FFC	C-PHY/D-PHY Combo CSI-2 RX (3T/4L, 4.5Gsp/s/4.5Gbps)	C, I	20X284
TSMC	16	FFC	C-PHY/D-PHY Combo CSI-2 TX+ (3T/4L, 4.5Gsp/s/4.5Gbps)	C, I	20X327
TSMC	16	FFC	C-PHY/D-PHY Combo DSI RX+ (3T/4L, 4.5Gsp/s/6.5Gbps)	C, I	20X341
TSMC	16	FFC	C-PHY/D-PHY Combo Universal (3T/4L, 8.0Gsp/s/6.5Gbps)	C, I	20X350
TSMC	22	ULP	C-PHY/D-PHY Combo DSI RX (3T/4L, 2.5Gsp/s/2.5Gbps)	C, I	20X281
TSMC	22	ULL	C-PHY/D-PHY Combo CSI-2 TX (3T/4L, 2.5Gsp/s/2.5Gbps)	C, I	20X360
TSMC	28	HPC+	C-PHY/D-PHY Combo CSI-2 TX (3T/4L, 4.5Gsp/s/4.5Gbps)	C, I	20X298
ST	28	FDSOI	C-PHY/D-PHY Combo CSI-2 TX+ (3T/4L, 3.5Gsp/s/2.5Gbps)	C, I	20X325
ST	40	LP	C-PHY/D-PHY Combo CSI-2 TX+ (3T/4L, 3.5Gsp/s/2.5Gbps)	C, I	20X352
ST	40	LP	C-PHY/D-PHY Combo CSI-2 TX+ (2T/2L, 3.5Gsp/s/2.5Gbps)	C, I	20X310
TSMC	40	ULP	C-PHY/D-PHY Combo CSI-2 TX (2T/2L, 1.5Gsp/s/1.5Gbps)	C, I	20X314
TSMC	40	ULP	C-PHY/D-PHY Combo CSI-2 TX+ (1T/1L, 2.5Gsp/s/2.5Gbps)	C, I	20X319
TSMC	40	ULP	C-PHY/D-PHY Combo CSI-2 TX+ (2T/2L, 2.5Gsp/s/2.5Gbps)	C, I	20X343
TSMC	65	LP	C-PHY/D-PHY Combo CSI-2 TX+ (1L/1T, 1.5Gsp/s/1.5Gbps)	C, I	20X219

## C-PHY

Foundry	Node (nm)	Process	Product Description   Interface  Lanes   Speed	Grade	Part Number
TSMC	22	ULL	C-PHY DSI TX (3T, 2.5Gsp/s)	C, I	20X345
TSMC	22	ULL	C-PHY DSI RX (3T, 2.5Gsp/s)	C, I	20X346
TSMC	40	ULP	C-PHY CSI-2 TX+ (1T, 2.5Gsp/s)	C, I	20X237

## D-PHY

Foundry	Node (nm)	Process	Product Description   Interface  Lanes   Speed	Grade	Part Number
TSMC	7	N7	D-PHY DSI TX (4L, 4.5Gbps)	C, I	20X294
TSMC	16	FFC	D-PHY CSI-2 RX (4L, 1.5Gbps)	C, I	20X317
TSMC	16	FFC	D-PHY CSI-2 RX (4L, 1.5Gbps)	A	20X317A
GF	22	FDX	D-PHY CSI-2 TX (4L, 2.5Gbps)	C, I	20X271
GF	22	FDX	D-PHY CSI-2 RX (4L, 2.5Gbps)	C, I	20X272
GF	22	FDX	D-PHY CSI-2 RX (2L, 2.5Gbps)	C, I	20X273
GF	22	FDX	D-PHY CSI-2 TX (2L, 2.5Gbps)	C, I	20X275
GF	22	FDX	D-PHY DSI RX (4L, 2.5Gbps)	C, I	20X337
GF	22	FDX	D-PHY CSI-2 TX (4L, 2.5Gbps)	A	20X323A
GF	22	FDX+	D-PHY DSI TX+ (2L, 2.5Gbps)	C, I	20X356
GF	22	FDX+	D-PHY CSI-2 RX (2L, 2.5Gbps)	C, I	20X357
GF	22	FDX+	D-PHY DSI-2 RX (2L, 2.5Gbps)	C, I	20X358

# MIPI PHY Solutions

## D-PHY

Foundry	Node (nm)	Process	Product Description   Interface   Lanes   Speed	Grade	Part Number
GF	22	FDX+	D-PHY DSI TX+ (2L, 2.5Gbps)	A	20X356A
GF	22	FDX+	D-PHY CSI-2 RX (2L, 2.5Gbps)	A	20X357A
TSMC	22	ULL	D-PHY CSI-2 TX (1L, 1.5Gbps)	C, I	20X278
TSMC	22	ULL	D-PHY CSI-2 TX+ (4L, 2.5Gbps)	C, I	20X312
TSMC	22	ULL	D-PHY Universal (4L, 2.5Gbps)	C, I	20X362
TSMC	22	ULL	D-PHY CSI-2 TX+ (4L, 2.5Gbps)	A	20X312A
TSMC	22	ULP	D-PHY Universal (4L, 2.5Gbps)	C, I	20X223
TSMC	22	ULP	D-PHY Universal (2L, 2.5Gbps)	C, I	20X224
TSMC	22	ULP	D-PHY Universal (1L, 2.5Gbps)	C, I	20X225
TSMC	22	ULP	D-PHY Universal (4L, 2.5Gbps)	C, I	20X223
UMC	22	ULL/ULP	D-PHY DSI RX (4L, 2.5Gbps)	C, I	20X334
Samsung	28	FDSOI	D-PHY DSI TX+ (4L, 1.5Gbps)	C, I	20X239
Samsung	28	FDSOI	D-PHY CSI-2 RX (2L, 2.5Gbps)	C, I	20X240
TSMC	28	HPC+	D-PHY CSI-2 TX+ (4L, 2.5Gbps)	A	20X231A
TSMC	28	HPC+	D-PHY CSI-2 RX+ (2L, 1.5Gbps)	A	20X265A
TSMC	28	HPC+	D-PHY CSI-2 TX+ (4L, 2.5Gbps)	C, I	20X231
TSMC	28	HPC+	D-PHY Universal (4L, 2.5Gbps)	C, I	20X250
TSMC	28	HPC+	D-PHY CSI-2 RX+ (2L, 1.5Gbps)	C, I	20X265
TSMC	28	HPC+	D-PHY DSI TX (4L, 2.5Gbps)	A	20X302A
TSMC	28	HPC+	D-PHY CSI-2 RX (4L, 2.5Gbps)	A	20X303A
TSMC	28	HPC+	D-PHY CSI-2 TX (2L, 2.5Gbps)	A	20X305A
TSMC	28	HPC+	D-PHY CSI-2 RX (4L, 2.5Gbps)	A	20X303A
TSMC	28	HPC+	D-PHY DSI TX (4L, 2.5Gbps)	C, I	20X302
TSMC	28	HPC+	D-PHY CSI-2 RX (4L, 2.5Gbps)	C, I	20X303
TSMC	28	HPC+	D-PHY CSI-2 TX (2L, 2.5Gbps)	C, I	20X305
TSMC	28	HPC+	D-PHY CSI-2 RX (4L, 2.5Gbps)	C, I	20X303
TSMC	28	HPC+	D-PHY CSI-2 TX (2L, 2.5Gbps)	C, I	20X305
TSMC	28	HPC+	D-PHY Universal (4L, 2.5Gbps)	C, I	20X250
TSMC	28	HPC+	D-PHY CSI-2 TX (2L, 2.5Gbps)	A	20X305A
TSMC	28	HPC+	D-PHY Universal (4L, 2.5Gbps)	A	20X333A
TSMC	40	LP	D-PHY Universal (4L, 2.5Gbps)	C, I	20X221
TSMC	40	LP	D-PHY CSI-2 TX (4L, 2.5Gbps)	C, I	20X300
TSMC	40	ULP	D-PHY CSI-2 TX+ (1L, 1.5Gbps)	C, I	20X248
TSMC	40	ULP	D-PHY CSI-2 TX+ (4L, 1.5Gbps)	C, I	20X256
TSMC	55	ULP	D-PHY DSI TX (4L, 1.0Gbps)	C, I	20X254
TSMC	65	GP	D-PHY Universal (4L, 2.5Gbps)	C, I	20X244
Tower	65	ISC	D-PHY CSI-2 TX (4L, 1.2Gbps)	C, I	20X260
Tower	65	ISC	D-PHY CSI-2 TX (4L, 1.2Gbps)	C, I	20X260
TSMC	65	LP	D-PHY CSI-2 TX (2L, 2.5Gbps)	C, I	20X289
TSMC	90	LP	D-PHY CSI-2 TX (4L, 2.5Gbps)	C, I	20X233
TSMC	90	LP	D-PHY CSI-2 TX+ (4L, 2.5Gbps)	C, I	20X269
TSMC	90	LP	D-PHY CSI-2 TX+ (4L, 2.5Gbps)	C, I	20X269



# MIPI PHY Solutions

## LVDS/D-PHY

Foundry	Node (nm)	Process	Product Description   Interface   Lanes   Speed	Grade	Part Number
GF	22	FDX+	LVDS/D-PHY DSI TX+ combo (4CH/4L, 1039.5Mbps/2.5Gbps)	C, I	20X371
GF	22	FDX+	LVDS/D-PHY DSI TX+ combo (4CH/4L, 1039.5Mbps/2.5Gbps)	A	20X371A
TSMC	28	HPC+	LVDS/D-PHY CSI-2 RX Combo (4CH/4L, 600Mbps/1.5Gbps)	C, I	20X285
Tower	65	BSB	LVDS/D-PHY CSI-2 TX Combo (4CH/4L, 600Mbps/1.2Gbps)	C, I	20X316

## LVDS

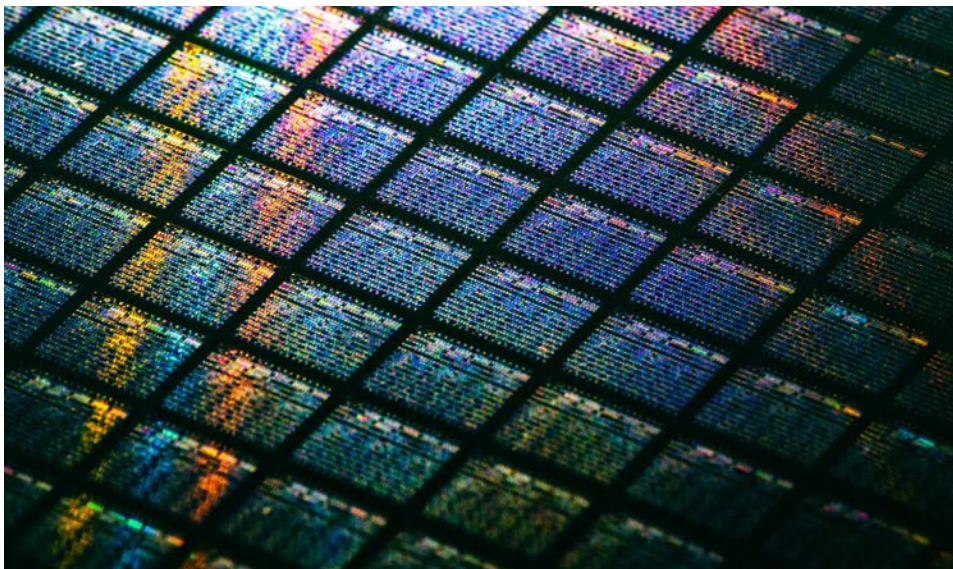
Foundry	Node (nm)	Process	Product Description   Interface   Lanes   Speed	Grade	Part Number
TSMC	40	LP	LVDS TX (4CH, 1000Mbps)	C, I	20X330
TSMC	40	LP	LVDS RX (4CH, 1000Mbps)	C, I	20X331
TSMC	40	LP	LVDS TX (4CH, 1000Mbps)	A	20X330A
TSMC	40	LP	LVDS RX (4CH, 1000Mbps)	A	20X331A
UMC	40	ULP	LVDS TX+ (4CH, 700Mbps)	C, I	20X215
UMC	40	ULP	LVDS TX+ (4CH, 700Mbps)	A	20X215A

## Standard Cell

Custom standard cell libraries deliver optimized performance, power, and area tailored to specific process nodes and application needs. Designed for advanced and mature technologies, they enable higher frequency, lower leakage, and improved yield. With configurable architectures, multiple VT options, and foundry-qualified views, custom libraries accelerate SoC differentiation while reducing risk across automotive, industrial, and high-reliability designs and long-term manufacturability globally.

† Custom PVT characterization available upon request

Foundry	Node (nm)	Process	Voltage (V <sub>N</sub> )	Track Height	Libraries†			Transistor VTs						Gate Length (nm)	Part Number
					CORE	PMK	ECO	RVT	LVT	HVT	UHVT	ULVT	ELVT		
GF	28	SLP	0.9	8T	✓	✓	✓	✓	✓	✓			✓	30, 34, 38	70350
TSMC	40	LP	1.1	7T	✓			✓	✓	✓				35, 40	70351
GF	55	LPx	0.9	7T	✓	✓	✓	✓	✓	✓				60	70353
GF	55	LPx	3.3	10T	✓			✓						500	70354
UMC	55	LPeFLASH	0.9	7T	✓			✓	✓	✓				60	70355
TSMC	65	LP	1.2	12T	✓			✓	✓	✓				65	70356
TSMC	110	LP	1.2	7T	✓	✓	✓	✓						110	70357
GF	130	LP	1.2	7T	✓			✓	✓					110	70359
TSMC	180	LP	1.8	7T	✓	✓	✓	✓						180	70360
GF	180	Bi-CMOS	3.3	7T	✓			✓						500	70361



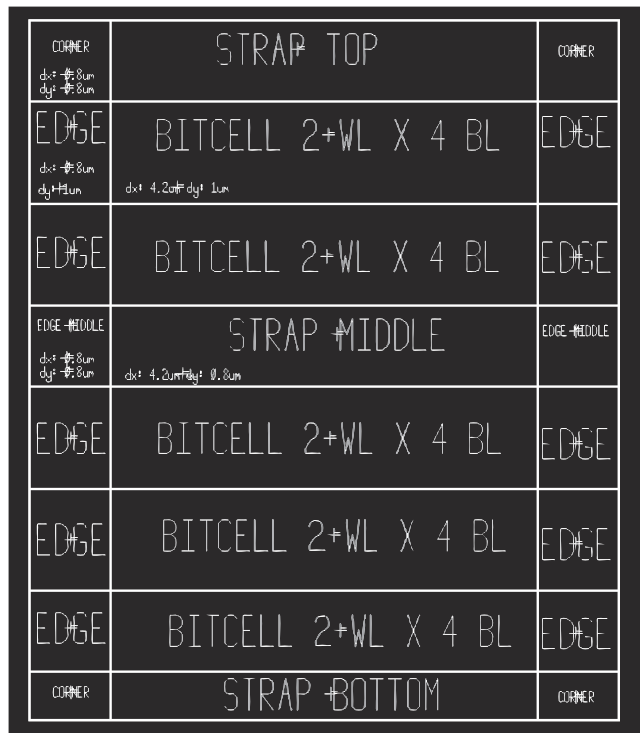
### Applications:

- Low-Power SoCs: Mobile, IoT, and Wearables
- High-Density → Increased GDPW → Reduced Program Cost
- Reduced Cost per Function
- Reduced Interconnect Length
- Increased Power Efficiency
- Foundry Enablement

# Advanced Memory Compilers

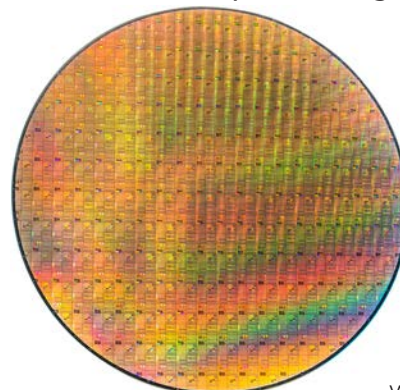
Silvaco's advanced memory compiler portfolio delivers silicon-proven SP-SRAM, DP-SRAM, ROM, and register file IP across leading foundry nodes. Each compiler generates fully characterized, DRC/LVS-clean instances and provides comprehensive Liberty, LEF, and GDSII deliverables. Optimized for area, power, and performance, our memory IP enables rapid, configuration-driven design integration for automotive, consumer, industrial, and IoT applications.

Foundry	Node (nm)	Process	Memory Type	Retention	Size (bits)	Mux	Voltage		Part Number
							Single Supply		
							Periph	Array	
GF	22	FDX	1 Port Register File	No	128-40k	8	0.8		61250
GF	22	FDX+	Single-Port SRAM	No	256-1,024k	4, 8, 16	0.8		61251
TSMC	40	uLP	Dual-Port SRAM	Yes	64-288k	4	0.9	1.1	61252
TSMC	40	ULP eFlash	Dual-Port SRAM	Yes	64-288k	4	0.9	1.1	61253
TSMC	40	LP	Single-Port SRAM	No	256-576k	4	1.1		61254
TSMC	40	ULP eFlash	Via ROM	N/A	1k-1,152k	8 to 128	1.1		61255
TSMC	55	ULP eFlash	1 Port Register File	Yes	64-32k	2, 4	1.2		61256
TSMC	55	HV	2 Port Register File	No	1k-640k	4	1.2		61257
TSMC	55	ULP eFlash	2 Port Register File	No	128-64k	4	1.2		61258
TSMC	55	LP eFlash	Dual-Port SRAM	No	256-32k	8	1.2		61259
TSMC	55	ULP eFlash	Dual-Port SRAM	No	128-64k	4	1.2		61260
TSMC	55	HV	Single-Port SRAM	No	512-320k	8, 16	1.2		61261
TSMC	55	ULP eFlash	Via ROM	N/A	512-512k	8 to 128	1.2		61262
GF	55	LPx	Single-Port SRAM	Yes	320k	4, 8, 16	1.2		61263
TSMC	90	LP eFlash	Dual-Port SRAM	Yes	256-80k	8	1.2		61264
TSMC	110	HV	1 Port Register File	No	128-20k	4, 8	1.5		61265
UMC	110	eFlash	Single-Port SRAM	Yes	256-320k	4, 8, 16	1.5		61266
TSMC	130	BCD	Single-Port SRAM	No	128-64k	4, 8, 16	1.5		61267
TSMC	130	BCD Plus	Single-Port SRAM	No	128-64k	4, 8, 16	1.5		61268



## Applications:

- Edge computing
- IoT, low power, low-leakage, and low energy
- Industrial automation, process control, and robotics
- Custom SoC designs
- Display drivers and DDICs
- Security and cryptographic processors
- Audio and voice processing ASICs



# Silicon Proven Synthesizable Soft IP Solutions

Silvaco delivers production-proven soft IP for AMBA, I3C, and automotive networking, enabling rapid, low-risk SoC integration. Our AMBA interconnect and peripherals scale from MCU to complex SoCs. I3C controller IP supports high-performance sensor and system management with robust verification. Automotive network controllers, including CAN and CAN-FD, are optimized for safety-critical designs, offering configurability, portability, and seamless integration into automotive-grade development flows. Backed by Silvaco's global support and flexible licensing for differentiated automotive and embedded platforms.

## Automotive Networking Protocol Controllers

Part Number	Product	Description	Product Grade	Gate Count
70052	LINFlexD Controller	LIN 1.3, 2.0, 2.1 and 2.2, IPS / APB interface	C, I, A	22k - 23k
70017	FlexCAN Controller	CAN 2.0B, Full-CAN with CAN-FD, IPS / APB interface	C, I, A	25k - 61k
70034	MultiCAN Controller	CAN 2.0B, Full-CAN, Twin CAN, TTCAN, IPS / APB Interface	C, I, A	34k - 87k
70018	FlexRay Controller	FlexRay 2.1, AMBA AHB	C, I, A	76k - 141k

### Applications:

- Fault-Tolerant communication link for steer and brake by wire systems
- Automotive (ISO 11898-1) compliant network for distributed and zonal architectures
- Traditional and flexible data-rate CAN for network traffic optimization
- Low-cost automotive single-wire interface ideal for buttons, switches, and actuators



## AMBA IP Cores and Subsystems

The AMBA ecosystem underpins modern SoC design, delivering open, standardized interfaces that enable scalable, interoperable systems. Covering AXI, AHB, APB, and emerging extensions, AMBA connects processors, accelerators, memories, and peripherals from MCU to complex platforms. With industry adoption, rich IP availability, and mature tooling, AMBA accelerates integration, reduces risk, and supports innovation across automotive, mobile, infrastructure, and embedded markets worldwide.

AXI Products		
Product	Description	Part Number
AXI QSPI Controller	AXI-4, XIP support, DMA, Quad/Dual mode, full/half duplex operation	70105
AXI / SPI Slave Bridge	Read/write access to AXI subsystem registers and memories	70146
AXI 5-Master SRAM Controller	Low Latency with zero or one cycle access to 64-bit SRAM	70151
AXI External Memory Controller	AXI-4, AHB, 8/16/32 and 64-bit external modes up to 4 external devices	70187

AHB Products		
Product	Description	Part Number
AHB Octal / Quad SPI Controller	AHB, 4/8/32-bit operation, full/half duplex, dual/quad modes	70161
AHB Arbiter	AHB 2.0, up to four masters using round-robin mechanism	70110
AHB DES / Triple DES	AHB 2.0, AHB DES/TDES mode, DMA master, elliptical curve	70121
AHB AES with DMA	AHB 2.0, 1/4-channel, single/programmable burst, linked-list support	70122
AHB Single/Quad DMA Controller	AHB 2.0, 1/4-channel, single/programmable burst, linked-list support	70119
SPI Slave to AHB-Lite Master	Read/write access to AHB-Lite sub-system	70113
AHB-Lite Slave to SPI Master	Supports 4 slaves and all SPI modes	70147
AHB External Bus Interface	Supports 8-bit, 16-bit, 32-bit access	70116
AHB TFT LCD Controller	Supports 24-bit, 16-bit, 8-bit color LCD panels	70120
AHB SRAM Controller	AHB-Lite, Zero wait state 8-bit, 16-bit, 32-bit access to SRAM	70117
AHB Quad SPI Controller with Execute in Place (XIP)	AHB 4 to 32 bit serial transmit and receive, full/half duplex	70115
AHB Single Channel DMA Controller	AHB 2.0, single channel, single/programmable burst, linked-list support	70118
AHB Parallel Flash Controller	AHB bus to Parallel SuperFlash device supports 8/16/32-bit external modes, 8/16/32-bit AHB access	70150

# AMBA IP Cores and Subsystems

APB Products		
Product	Description	Part Number
APB GPIO	APB 2.0, scalable up to 32 I/Os, interrupt support, software configurable	70127
APB Real Time Clock	APB 2.0, clock/calendar BCD format with interrupt support	70128
APB Interrupt Controller	APB 2.0, up to 32 independent channels	70123
APB Pulse Width Modulator	APB 2.0, prescaler/non-prescaler mode, 4-bit prescaler	70129
APB Timer	APB 2.0, 32-bit counter/timer, 10-bit prescaler, RTOS time base	70124
APB UART	APB 2.0, programmable baud rates, DMA interface, interrupt support	70126
APB Windowed Watchdog Timer	APB 2.0, 32-bit counter/timer, 12-bit prescaler, interrupt support, DFT support, windowing	70125
APB SPI Controller	APB 2.0, single lane SPI, Master or Slave	70132
I2C Master/Slave Controller	I2C V2.1, APB 2.0, SMEMBus 2.0, ACCESS.Bus	70026

AMBA Bus Fabric & Bridges		
Product	Description	Part Number
AHB Multi Fabric	AHB-Lite, Support up to 8 masters and 12 slaves	70107
AXI Multi Fabric	AXI 4, Support up to 4 masters and 8 slaves	70101
AXI / AHB Bridge	AXI 4, AHB Lite, 2-clock domains with FIFO support	70102
AHB / AXI Bridge	AXI 4, AHB Lite, 2-clock domains with FIFO support	70145
AHB / APB Bridge	APB 3.0, 2.0, low latency, low gate count	70111
AHB Bus Channel + Decoder	AHB-Lite, supports up to 16 slaves	70108
APB Bus Channel + Decoder	APB 3.0, 2.0, supports up to 16 slaves	70109
AHB-Lite to AHB-Lite Asynchronous Bridge	Bridge asynchronous AHB-Lite domains for any clock frequency ratio	70148
APB to AHB-Lite Asynchronous Bridge	Bridge asynchronous APB and AHB-Lite domains for any clock frequency ratio	70149
AXI / APB Bridge	AXI 4 Lite, APB 2.0, APB 3.0	70103

AMBA Subsystems		
Product	Description	Part Number
AHB Low-power	AHB 2.0, APB 3.0, power management, boot code, basic kernel support	70140
AHB Performance ARM-M0	AHB-Lite, APB 2.0, PMU, RTOS/kernel support, DMA	70141
AHB Performance ARM-M3	AHB-Lite, APB 2.0, PMU, RTOS/kernel support, DMA	70142
AHB Secure M3	AHB 2.0, APB 3.0, Secure AHB Fabric, SRAM and ROM Parameterized MPUs, PMU, RTOS/Kernel support, DMA	70158
AXI Performance	AXI 4, AHB-Lite, APB 2.0 multi-layer fabric, QSPI RTOS/Linux support	70143

## Applications:

- SoC integration and IP reuse
- High-performance computing and mobile processors
- Low-power embedded and IoT designs
- Scalable multi-core and heterogeneous architectures



# Why Trust Silvaco?

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When you integrate third-party IP into your SoC, you are betting on your supplier's ability to deliver working silicon on schedule. Silvaco's Production Ready Offerings are designed to reduce that risk. Every PRO IP product is silicon-proven, fully characterized, and backed by a global team with decades of experience in semiconductor IP development and support.

## Silicon-Proven at Scale

Silvaco's MIPI PHY IP is in production at many of the world's largest semiconductor and system companies and is deployed in mission-critical applications across mobile, automotive, IoT, and consumer electronics. Our automotive networking controllers alone have shipped more than one billion units worldwide. This is not IP that works only in simulation; it is IP that works in the field, at volume, in products your customers depend on every day.

## Broad Foundry Coverage

Silvaco PRO IP is available across a wide range of foundries and process nodes, giving you the flexibility to choose the manufacturing partner and technology that best fit your application. Our portfolio spans TSMC, Samsung, GlobalFoundries, UMC, Tower, and STMicroelectronics, with process-node coverage from 180nm planar to 5nm FinFET. Whether you are designing a cost-sensitive IoT sensor on a mature node or a high-performance mobile processor on an advanced process, Silvaco offers qualified IP ready for your design.

## Quality You Can Verify

Silvaco holds ISO 9001 certification for its complete suite of TCAD, EDA, and IP products, reflecting a company-wide commitment to quality management, customer satisfaction, and continuous improvement. For automotive customers, our MIPI PHY IP supports ISO 26262 functional safety workflows and is ASIL-B compliant for integration into safety-critical radar and sensor processing systems.

Every PRO IP delivery includes fully characterized, DRC/LVS-clean instances and comprehensive Liberty, LEF, and GDSII deliverables. Our memory compilers generate configuration-driven output optimized for area, power, and performance, with foundry-qualified views that accelerate your path to tapeout.

## A Complete IP Platform

Silvaco is not a single-product IP vendor. Our PRO IP portfolio covers the essential building blocks of modern SoC design: high-speed MIPI PHY and LVDS interfaces for connectivity, advanced memory compilers for on-chip storage, high-density standard-cell libraries for logic implementation, AMBA interconnect and peripherals for system integration, and automotive networking controllers for in-vehicle communication. By sourcing these components from a single, qualified supplier, you simplify vendor management, reduce integration risk, and ensure a consistent level of support across your entire design.

## Global Support and Flexible Licensing

Silvaco's engineering and support teams operate globally, giving you direct access to the designers who built the IP you are integrating. Our licensing model is flexible enough to accommodate everything from early-stage evaluation to high-volume production, so you can scale your engagement as your program matures. From initial IP selection through tapeout and beyond, Silvaco is committed to your success.

## Ready to get started?

Contact Silvaco to discuss your design requirements, request an evaluation, or learn more about how PRO IP can accelerate your next SoC.

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for Production-Ready SoCs**

