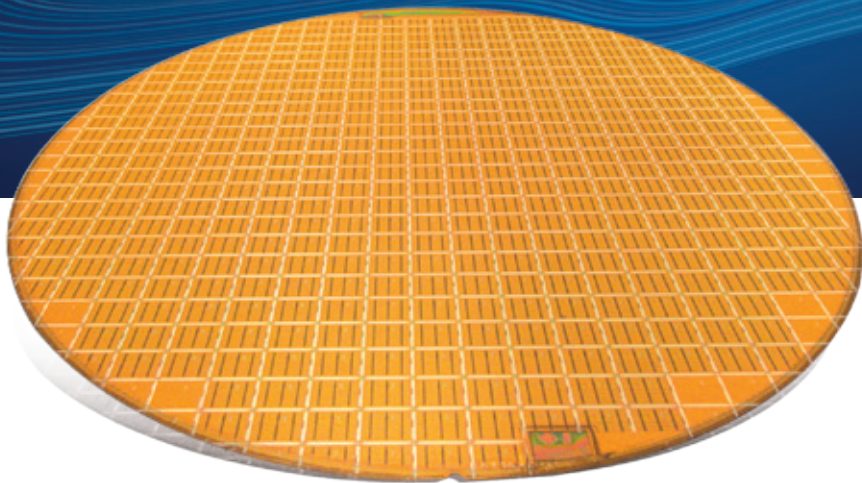


CYPRESS FOUNDRY SOLUTIONS

THE SPECIALTY TECHNOLOGY FOUNDRY



In today's dynamic global business environment it is not good enough to have great next-generation product ideas. To enjoy a distinct competitive advantage, you need to be able to respond quickly to volatile marketplace demands while overcoming the challenges of designing and manufacturing advanced semiconductor devices.

Why settle for a foundry supplier that forces you to conform to cookie-cutter processes and gives poor service in exchange? Why not choose a foundry partner that can empower you with manufacturing flexibility and ready capacity that can help you to outpace your competition and get to market first with the best solution.

Why not choose Cypress Foundry Solutions?

CYPRESS FOUNDRY SOLUTIONS



Cypress Foundry Solutions leverages Cypress Semiconductor Corp.'s Bloomington, Minnesota manufacturing facility



Cypress Foundry Solutions is a specialty facility leveraging the Minnesota fab of Cypress Semiconductor, a worldwide supplier of memory, programmable and mixed-signal integrated circuit solutions. The Cypress Minnesota fab is a world-class manufacturing site with an established baseline of high performance semiconductor processes.

ABOUT THE SITE

- Bloomington, Minnesota
- 5 minutes from Minneapolis-St. Paul International Airport
- 14.7 acres
- 325k sq. ft. building
- 80k sq. ft. Class 1 cleanroom + SMIF
- 60k sq. ft. office
- Cypress-operated fab since 1991

CYPRESS SERVICE OFFERINGS

- U.S.-based silicon wafer processing fab
- Full-flow wafer manufacturing and test/sort
- Short flow or unit operation specialty wafer processing
- Engineering support for process transfer and/or development

CUSTOMER SUPPORT

- First-class customer service
- Design kits and STD cells available
- Broad portfolio of design IP available for licensing
- Process or design porting
- Process tweaking or customization
- Yield troubleshooting and enhancement
- Specialty customer needs supported
- Low volume and small lot support
- Multiple layers per mask support for cost reduction



Full fleet of wafer sort tools



65 nm node metal etch with LAM 2300 Versys

KEY FEATURES

- Competitive pricing from an efficiently run production fab
- Quality systems drive operations in our automotive-certified fab
- Broad capability of high-performance 0.35 μm to 90 nm processes
- Fast turnaround is achieved with our focus on execution

CYPRESS SPECIALTY FOUNDRY ADVANTAGES

- World-class yield and quality
- Production-proven existing process baseline
- Talented staff experienced in process development and transfer
- Capacity available for foundry through full business cycle
- Flex fab strategy enables offload of mainstream manufacturing to Cypress's foundry partners
- Rapid prototyping silicon delivered with <0.8 days/mask layer
- Extensive process transfer experience for low to medium volume production life extension
- Production volume ramp is accelerated and more predictable because production capacity is available and qualified (i.e., the same equipment and processes used to produce prototypes)

PROCESS BASELINE

DESIGN RULE (nm)	90	130	180	250	350
# Layers Metal	3-5	3-6	3-4	3-4	2-3
SAC contact	Y	Y	Y	Y	Y
Low-power SRAM	Y	Y	Y	Y	
Isolation	STI	STI	STI	sr-LOCOS	sr-LOCOS
Gate	W-clad Poly	Poly	Poly	Poly	Poly
SONOS NVM		Y*			Y*
NPN + CMOS				Y*	
Capacitor		Y*		Y*	Y*
Precision Resistor		Y*		Y*	
Inductor		Y*			
OTP		Y*			
Polyimide	Y*	Y*	Y*	Y*	Y*
Dual-Damascene Interconnect	Y*				
SOI		Y*			

* Available as an option

CERTIFICATIONS



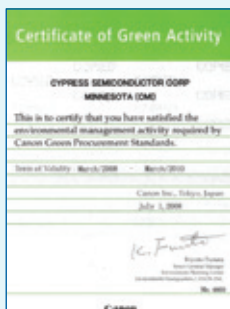
TS 16949



ISO 14001



Sony Green



Canon Green

QUALITY SYSTEMS

Cypress Foundry Solutions offers a fully-developed, automotive-certified quality system including:

- Document control/on-line electronic specs, record retention
- Statistical process control (SPC)
- Advanced process control (APC)
- Fault detection and classification (FDC)
- Lot traceability system
- Incoming inspection
- Supplier management
- Robust design and development process
- Process change review/equipment procurement review
- Process change notification
- Formal handling of customer complaint and return
- On-line and local training
- Internal audit program
- FMEA - failure mode and effects analysis
- Material review board
- Calibration system
- Preventative maintenance system



65 nm capable ASML XT:1250

65 nm-CAPABLE TOOL SET

Cypress can offer a wide variety of tools and associated processes from its flagship wafer fab.

MASK	
193 nm litho	ASML XT:1250 + Sokudo RF3, /1100 +200W
248 nm litho	ASML /850, /750, /300
365 nm litho	ASML /400, /250, /100
CD-SEM	AMAT VeraSem, Verity
Registration	KLAT Archer AIM, 5300, 5200
Stabilization	Fusion 200 PCU
Polyimide	8.5 µm photo-imageable
Reticle handling	DMS with automated particle/pellicle damage detection and blow-off

ETCH	
Oxide/nitride etch	AMAT Centura + SuperE, EMAX, MxP
Poly/silicon etch	AMAT DPS II, LAM 9400 4400 SE2 TCP
Metal etch	LAM 2300 Versys, LAM 9600
Wet cleans	Akron Gama wet benches Semitool SST w/EKC265, SEZ DaVinci, SEZ 223 backside cleans
Ash/dry strip	Novellus/Gasonics PEP 3010, Novellus Iridia, Mattson Aspen

FILMS	
PECVD	Novellus C1 nitride, oxide, BPSG C2 TEOS HDP for trench and PSG
LPCVD	Aviza VTR Poly, nitride AVP BTBAS 560C nitride, ONO
Atmospheric	VTR for oxide, alloy, passivation, AVP for selective oxidation
Wet cleans	DNS FC821 immersion bench FSI mercury spray processor
Metrology	KLAT ASETF5X, Quantox, Optiprobe

METALS - IMPLANT - RTA - CMP	
Metals	AMAT Endura Al, TiW, COTI, TiN (ESC & IMP), W/WN Novellus C2 Altus W PNL
IMPLANT	Axcelis 8200, 8250: 10-250keV, ESC/e-shower, 0-60deg tilt Axcelis GSD Ultra: 2-180keV, high dose, 0-11deg tilt
RTA	AG8108 & 8800i 675C-1100C, AMAT Centura RTP Spike Annealer
CMP	Westech472 for oxide, W plug W dual damascene
CMP Cleans	LAM/Ontrak DSS-200 scrubber

DEFECT & METROLOGY	
Bare wafer	KLAT SP1 55 to 80 nm+
Brightfield	KLAT 2365 60 nm+, 2139 100 nm+
Darkfield	KLAT AIT, AIT XP + fusion
Voltage contrast	KLAT eS25
SEM review	KLAT eV300-ADC & EDX
Data analysis	Synopsys Odyssey
Metrology	DI 9000M AFM, QS-2200 FTIR, CV, film stress, 4-point probe

SORT & FAILURE ANALYSIS	
Memory test	Verigy 3308/4108, Advantest 5365
Logic test	Credence DUO, LT, Verigy 93000
Fuse/repair	GSI M325 laser
Clock test, burn-in	Cypress OSC50, LCT
Visual QA	Camtek Falcon 200
Imaging	FEI DualBeam 835 FIB/SEM w/EDX Hitachi S-4800 w/TE detector
TEM	Hitachi TEM 300 kV W/EDX
Nanoprobe	Zyvex-100 + Hitachi S4500
Other imaging	Phemos OBIRCH, acoustic microscope
Sample prep	Microcleave, TEM sample prep, deprocessor, precision polisher

GETTING STARTED

Don't settle for one-size-fits-all foundry solutions.

You need a foundry partner that is willing to work with you beyond the traditional foundry model, creating customized solutions that will help you create new opportunities and broaden your portfolio.

Cypress Foundry Solutions can help.

To learn more about Cypress Foundry Solutions, visit: www.cypress.com/go/foundry

CONTACT US

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ABOUT CYPRESS

Cypress delivers high-performance, mixed-signal, programmable solutions that provide customers with rapid time-to-market and exceptional system value. Cypress offerings include the PSoC Programmable System-on-Chip, USB controllers, general-purpose programmable clocks, and memories. Cypress also offers wired and wireless connectivity solutions ranging from its CyFi low-power RF solution, to West Bridge and EZ-USB FX2LP controllers that enhance connectivity and performance in multimedia handsets. Cypress serves numerous markets, including consumer, computation, data communications, automotive and industrial. Cypress trades on the NYSE under the ticker symbol CY. Visit Cypress online at **www.cypress.com**.

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