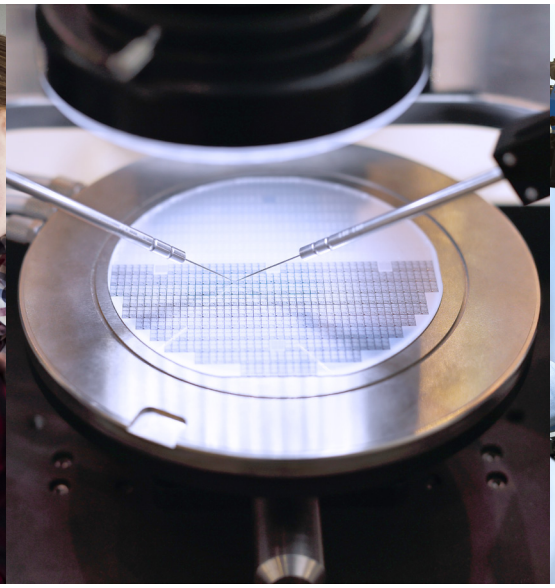
Microsemi ASIC Solutions

Leading-Edge Analog Mixed-Signal ASICs



Microsemi
Power Matters.™

Leading-Edge Analog Mixed-Signal ASICs

Microsemi offers custom integrated circuit designs of analog mixed-signal solutions for leading aerospace, avionics, defense, industrial, and automotive companies, and is a leading application-specific integrated circuit (ASIC) manufacturer of analog embedded systems. Our custom solutions include IC chips requiring high voltages, radiation tolerance, a focus on safety standards, and tolerance to harsh environments. Our fabless model ensures maximum flexibility in process selections, allowing for optimized designs and cost-effective solutions. Our experienced teams are dedicated to our customers' success by working in collaboration with them throughout all stages of design and production.

Reliable, Proven Application-Specific Integrated Circuit Development and Manufacturing

- Fully custom ASIC design flow
- Full supply services, from specification to production
- Custom specific standard product (CSSP)
- System integration and packaging optimization

Benefits to Customers

- IP investment protection
- Board space optimization
- Power optimization
- Overall application cost reduction
- Reliability improvement
- Obsolescence management
- Product differentiation from standard products

Experienced Team

- System architects
- Analog, digital, firmware, layout, packaging, test and product engineers
- Program managers

Safety, Quality, and Reliability

- Safety-critical applications: Automotive IS0 26262, Avionics DO-254
- Radiation tolerance: TID, SEL/SEU, ELDRS, prompt dose, neutron
- High-reliability, stringent-temperature: –55 °C to 225 °C
- Standards/certifications/classifications: AS9100, ISO 9001, MIL-PRF-38535, QML-V, QML-Q, ITAR, EAR

Packaging Solutions

- Flip Chip Multi-Layer Stack Up
- Bump Die and WLCSP
- Plastic Encapsulated
- Multi Chip Module (MCM)
- Hermetic High Reliability

Aerospace

Defense

Industrial

Automotive

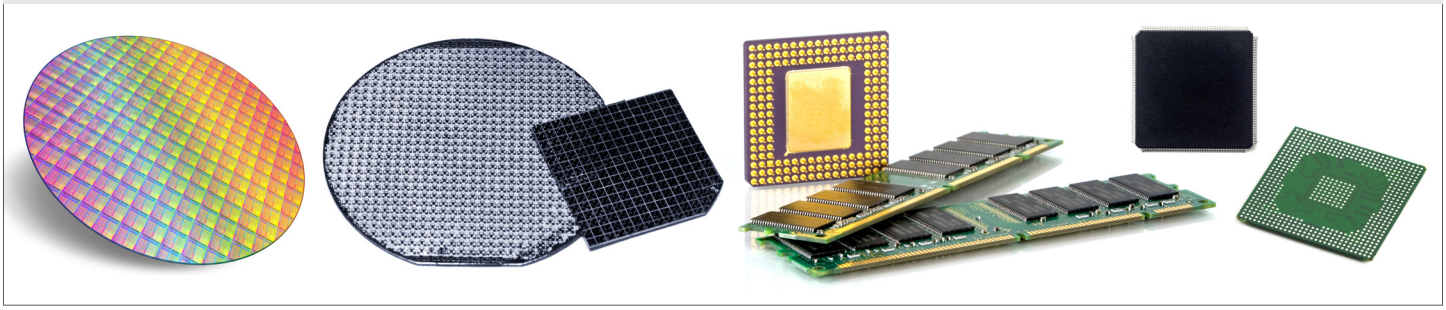
Leading-Edge Analog Mixed-Signal ASICs

Process	1 µm DI 0.6 µm BiCMOS Rad-tolerant	1 µm SOI Extreme Temp.	0.35 µm HVCMOS AEC-Q100, Grade 0	180nm HVCMOS AECQ100, Grade 0	130nm BCD AECQ100, Grade 0	55/65nm (on roadmap)
Max. Voltage	200 V	90 V	45 V	40 V	85 V	12 V
Temperature Range	–55 °C to 125 °C	–55 °C to 225 °C	–40 °C to 175 °C	–40 °C to 175 °C	–40 °C to 150 °C	–40 °C to 125 °C
Gate Density Gates/mm²	2.5K	2.5K	28K	125K	220K	1M
Metal Layers	3	3	4	6	8	8
Memory Type	ROM, RAM, DPRAM, OTP	ROM, RAM, DPRAM, OTP	ROM, RAM, DPRAM, OTP, EEPROM	ROM, RAM, DPRAM, OTP, NVRAM	ROM, RAM, SRAM, OTP, MTP, FLASH	ROM, RAM, SRAM, OTP, FLASH

Existing/Available IP

Signal Conditioning and Converters	PGA, AFE, demodulators, peak detectors ADCs SAR, Sigma-Delta HV analog muxes, analog filters
Digital Integration and Signal Processing	Digital filters Compiled memories Processors: 32-bit RISC and peripherals DSP functions
Interfaces and Protections	SPI, I2C, JTAG, SENT, PWM, PSI5 ESD protection cells up to 4kV Reverse battery protections
Drivers and Actuation	High-voltage drivers Line protectors and current limiters Motor drivers and pre-drivers
Power Management	Switching regulators, linear regulators E-Fuse protection devices Charge pumps, thermal protection
Clock Management	RC, VCO oscillators, PLLs LC tank exciter, sleep-mode timer

Packaging



To stay up to date about Microsemi's ASIC solution products, email sales.support@microsemi.com or visit our Design Services Website: https://www.microsemi.com/product-directory/services/1043-mixed-signal-asic-design-services

Microsemi is continually adding new products to its industry-leading portfolio.

For the most recent updates to our product line and for detailed information and specifications, please call, email, or visit our website.

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Microsemi Corporation (Nasdaq: MSCC) offers a comprehensive portfolio of semiconductor and system solutions for aerospace & defense, communications, data center and industrial markets. Products include high-performance and radiation-hardened analog mixed-signal integrated circuits, FPGAs, SoCs and ASICs; power management products; timing and synchronization devices and precise time solutions, setting the world's standard for time; voice processing devices; RF solutions; discrete components; enterprise storage and communication solutions, security technologies and scalable anti-tamper products; Ethernet solutions; Power-over-Ethernet ICs and midspans; as well as custom design capabilities and services. Microsemi is headquartered in Aliso Viejo, California and has approximately 4,800 employees globally. Learn more at www.microsemi.com.

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