

Microsemi[®]

a  **MICROCHIP** company

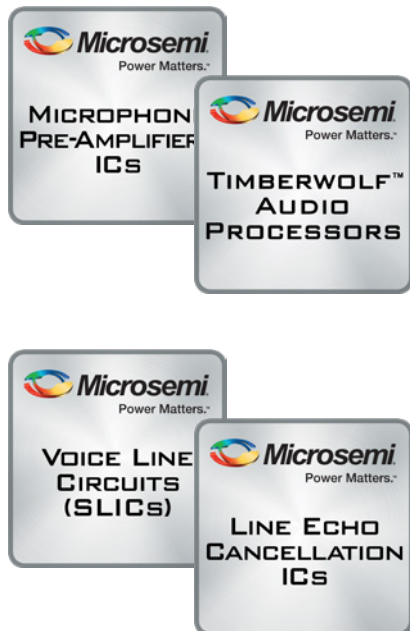
P R O D U C T L I N E U P

Introduction

Microsemi is a leading designer, manufacturer and marketer of high-performance analog and mixed-signal semiconductor solutions differentiated by power, security, reliability and performance. We offer a comprehensive portfolio of semiconductor and system solutions for aerospace & defense, communications, data center and industrial markets. Our products include high-performance and radiation-hardened analog mixed-signal integrated circuits, field FPGAs, system on chip solutions, ASICs, power management products, timing and synchronization devices, precise time solutions, voice processing devices, RF solutions, discrete components, enterprise storage and communication solutions, Ethernet solutions, Power-over-Ethernet (PoE) ICs and midspans, as well as custom design capabilities and services.

Microsemi Product Lineup

Audio & Voice

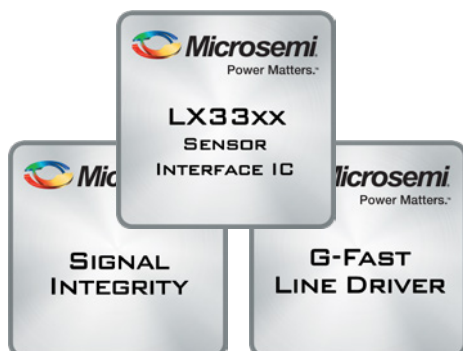


- **Audio Processing**
 - Automotive Audio Processors
 - USB Audio Processors
 - Design Resources
 - IP Phone Audio Processors
 - IP Camera Audio Processors
 - Connected Home Audio Processors
- **Voice Line Circuits (SLICs)**
 - miSLIC Series – High Performance Line Circuits
 - ZL880 - Enhanced Dual Channel Wideband FXS Line Interfaces
 - VE792 - Next Generation Carrier Chipset (NGCC)
 - VE880 - Single and Dual Channel FXS and FXO Line Interfaces
 - VE890 - Integrated FXS/FXO Line Interface
 - VE580 - General Purpose Subscriber Line Interface Circuits (SLICs) and Codecs
 - VE790 - High Performance Programmable Chipset with Line Test
- VE950 - General Purpose Ringing SLIC
- VE770 - Dual Channel SLIC/Codecs with Dual-tone multi-frequency (DTMF)
- VE750 - Line Card Access Switches
- MeLT792 - Metallic Line Test Chipset (MeLT)
- Integrated Fixed Companding Codecs
- Multi-Featured Programmable Phone Codecs
- **Line Echo Cancellation**
- **Telephony**
 - Caller ID
 - Digital Subscriber Network Interface Circuit
 - DTMF (Dual Tone Multiple Frequency)-Receivers
 - DTMF (Dual Tone Multiple Frequency)-Transceivers
 - Integrated Digital Phones
- **Electret Condenser Microphone (ECM) Analog Pre-amplifiers**



Circuit Protection

- **Smart Circuit Breakers**
- **Silicon Controlled Rectifier (SCR)**
- **Smart E-Fuse Devices**
- **EKG/ECG Monitor Protection**
- **Implantable Medical Protection**
- **Transient Voltage Suppressors (TVS)**
 - Standard Unidirectional and Bidirectional TVS
 - Low Capacitance TVS
 - Low Capacitance TVS Array
 - TVS Array



Drivers, Interfaces, & PCIe Switches

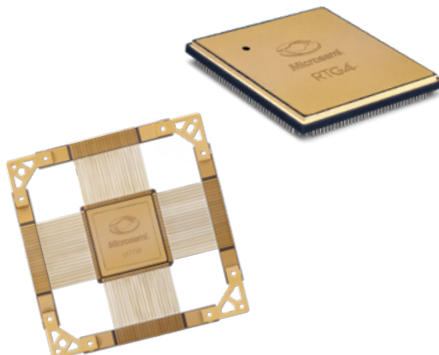
- **Darlington Transistor Array**
- **Forward Error Correction (FEC) Cores**
- **Line Drivers**
 - xDSL Line Drivers
 - PLC Line Drivers
 - G.Fast Line Drivers
 - Optical Modulator Drivers
- **Sensor Interface**
- **Signal Conditioners**
- **Digital Crosspoint Switches**
- **PCIe Switches**

Microsemi Product Lineup



Ethernet & PoE Solutions

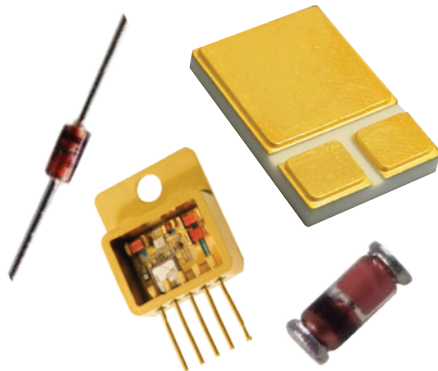
- **Ethernet Software & IP**
 - Gigabit Ethernet PHY Cores
 - Gigabit Ethernet Switch Cores
 - Ethernet Software
- **Ethernet PHYs**
 - 10G Ethernet PHYs
 - 1G Ethernet PHYs
 - Fast Ethernet PHYs
- **Ethernet Switches**
- **PoE PSEs**
- **PoE PDs**
- **PoE Midspans**
 - 15W 802.3af PoE Midspan Injectors
 - 30W 802.3at PoEPlus Midspans
 - 60W PoE++ Midspans
 - 90W PoE++ Midspans
 - Industrial PoE Midspan/Injectors
 - Outdoor 30W PoE Midspan/Switches
 - Outdoor 60W PoE Midspan/Switches
 - Outdoor 90W PoE Midspan/Switches
- **Signal Conditioners**
- **Digital Crosspoint Switches**



FPGA & SoC

- **FPGAs**
 - PolarFire
 - IGLOO2
 - IGLOO
 - ProASIC3
 - Fusion
 - ProASICPLUS
- **SoC FPGAs**
 - SmartFusion2
 - SmartFusion
- **Rad-Tolerant FPGAs**
 - RTG4
 - RTAX-S/SL
 - RTAX-DSP
 - RT ProASIC3
 - RTSX-SU
- **Antifuse FPGAs**
 - Axcelerator
 - SX-A
 - eX
 - MX
- **Mi-V Embedded Ecosystem**
 - Design Tools
 - RISC-V CPUs
 - Operating Systems
 - Boards and Solutions
- **Libero Design Software**
- **Intellectual Property**
 - IP Search
 - Direct Cores
 - Companion Cores
 - IP Cores in Libero
- **Development Kits & Boards**
 - PolarFire Kits
 - Future Avalanche Board
 - SmartFusion2
 - IGLOO2
 - RTG4
 - SmartFusion
 - IGLOO
 - ProASIC3
 - Fusion
 - IP
- **Programming & Debug**
 - FlashPro
 - Secure Production Programming
 - Silicon Sculptor
 - DirectC
 - STAPL Player
 - SmartDebug
 - On Chip Debug
 - Identify ME
 - Silicon Explorer II
- **Technology Solutions**
 - High Speed Serial Interface
 - DSP
 - Memory
 - Packaging

Microsemi Product Lineup



High-Reliability

- **Military-grade Devices**
 - High-Reliability Diodes
 - High-Reliability Modules
 - High-Reliability Power Management
 - High Reliability Supervisory Circuits and Voltage References
 - High-Reliability Transistors
 - High-Reliability Operational Amplifiers
 - High-Reliability Intelligent Power Solutions
 - High-Reliability Ruggedized Oscillators
 - MIL-PRF-55310 QPL Clock Oscillators
- **Space-grade Devices**
 - Rad-Hard Transistors
 - Space-grade Power Management
 - Rad-Tolerant Diode Array
 - Space System Managers
 - Rad-Tolerant Ruggedized Oscillators
 - Rad-Tolerant FPGAs
- **Relays**



Optical Networking

- **FTTH/PON**
 - PAS6301 EPON ONU
 - PAS5211 GPON OLT
 - PAS740x GPON ONT SoC
 - PAS65xx EPON ONU
- **Optical Ethernet Framers & Mappers**
- **Optical SONET/SDH**
- **OTN**
 - Carrier Ethernet/OTN PHYs
 - OTN Timing ICs
 - Multi-Service OTN Processors
 - OTN Mobile Fronthaul
- **WinPath Network Processors**
- **Switches (Crosspoint and TDM/TSI)**
- **T1/E1 & T3/E3 Interfaces**
 - T1/E1 & T3/E3 Framers
 - MT8952B HDLC Controller
 - Single Chip Transceivers
- **Optical Modulator Drivers**
 - OA3HVQDSL
 - OA3SSQL



Power Discretes & Modules

- **Silicon Carbide (SiC)**
 - SiC Modules
 - SiC Rectifiers
 - SiC MOSFET
- **Rectifier Diodes**
 - Standard Rectifier (trr more than 500 ns)
 - Fast Rectifier (100-500 ns)
 - Ultra-Fast Rectifier (trr less than 100 ns)
 - Si Schottky Rectifier Diodes
- **Voltage & Current Regulation and Small Signal Diodes and Diode Arrays**
 - Zener Diodes
 - Current Regulator Diodes
 - Signal or Computer Diodes
 - Diode Arrays
 - Solar Array Diodes
- **IGBTs**
 - IGBT Punch-Thru with and without Anti-Parallel Diode
 - IGBT Non Punch-Thru with and without Anti-Parallel Diode
 - IGBT Field Stop with and without Anti-Parallel Diode
- **MOSFETs**
 - Linear MOSFETs
 - FREDFETs
 - N-Channel MOSFETs
 - P-Channel MOSFETs
- **Power Modules**
 - IGBT Modules
 - IGBT/MOSFET Modules
 - MOSFET Modules
 - Rectifier Modules
- **JFETs**
 - N-Channel JFET Transistor
 - P-Channel JFET Transistor
- **BJT (BiPolar Junction Transistor)**
 - BJT Modules (Power Integrated Circuit, PIC)
 - Darlington Transistors
 - Darlington Transistor Array
 - NPN PNP Complimentary Transistor
 - NPN Transistor
 - PNP Transistor

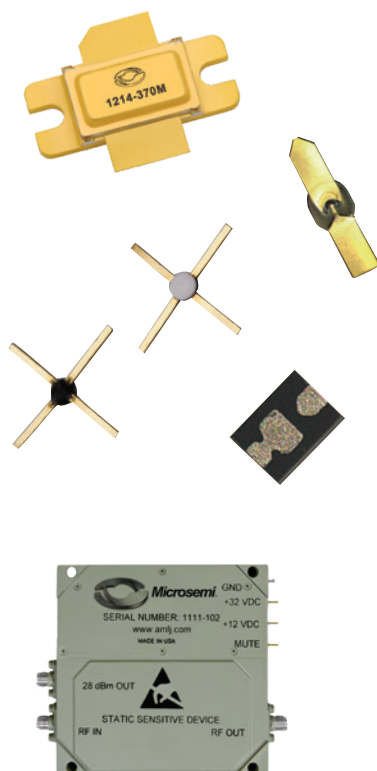
Microsemi Product Lineup



Power Management

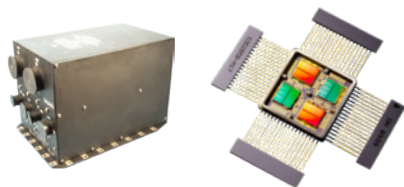
- **Drivers, High-Side**
- **Linear Regulators**
 - Fixed/Adjustable LDO Voltage Regulators
 - Fixed/Adjustable ULDO Voltage Regulators
 - Positive LDOs
 - Negative Voltage Regulators (non-LDO)
 - Positive Voltage Regulators (non-LDO)
- **FET Drivers, Low-Side**
- **LED Drivers**
- **Motor and Fan Controllers**
- **Resonant Mode (LLC) Controllers**
- **Solar Bypass Devices**
- **Smart E-Fuse Devices**
- **Switching Regulators**
 - Hysteretic Step-Down (Buck) Regulators
 - Buck-Boost Controllers
 - Hysteretic Step-Down (Buck) Controllers
 - Power Factor Correction (PFC) Controllers
 - DC-DC Power Modules
 - SEPIC Controllers
 - Flyback, Forward and Isolated
 - Step-Down Buck Controllers
 - Step-Down Buck Regulators
 - Step-Up (Boost) Controllers
 - Step-Up (Boost) Regulators
 - Rad-Hard Non-Isolated Switching Regulators
 - Rad-Tolerant Isolated Switching Regulators
 - Rad-Hard Isolated DC to DC Converters
- **Space-grade Power Management**
- **Reverse Power Feed (RPF)**
 - RPF Powered Device (PD) for Distribution Point Units (DPUs)
 - RPF Power Sourcing Equipment (PSE) for Customer Premises Equipments (CPEs)

RF, Microwave & Millimeter Wave



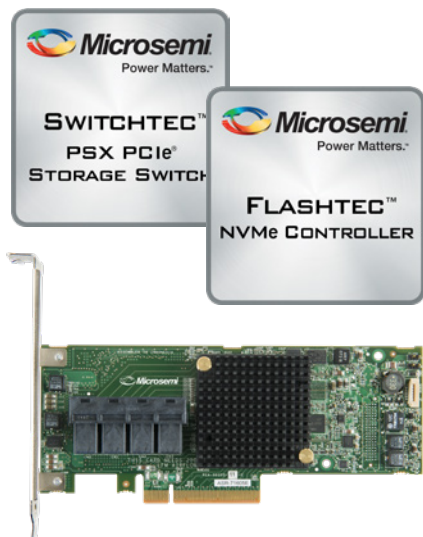
- **RF/Microwave Modules & Assemblies**
 - RF/Microwave Horn Antennas
 - RF/Microwave Isolators
 - RF/Microwave Waveguide Detector Assemblies
 - RF/Microwave Waveguide Modulator Assemblies
 - RF/Microwave Waveguide Transceiver Assemblies
 - X-Band Motion Detector Assemblies
 - RF/Microwave PIN Switch Driver Modules
 - RF/Microwave Comb Generator Modules
 - RF/Microwave Limiter Modules
 - RF/Microwave Switch Modules
 - RF/Microwave Oscillator Modules
- **RF/Microwave Power Transistor Products**
 - RF/Microwave Si BJT Power Devices & Pallets
 - RF/Microwave GaN on SiC Power Devices, Pallets and Modules
 - RF VDMOS Power Devices
- **WLAN RFICs**
 - WLAN Linear Amplifiers (LNA)
 - WLAN Front End Modules (FEM)
 - WLAN Power Amplifiers (PA)
- **RF/Microwave Silicon and GaAs Diodes**
 - Silicon & GaAs GUNN Diodes, Sensors and Sources
 - Silicon & GaAs PIN Diodes
 - Silicon & GaAs Schottky Diodes
 - Silicon & GaAs Varactor Diodes
 - Silicon Avalanche Diodes (Noise Diodes)
 - Silicon Passive Devices
- **RF, Microwave, mmW MMIC Amplifier & Control Products**
 - MMIC Wideband LNA & Power Amplifiers
 - Connectorized MMIC Amplifier Modules
 - MMIC Wideband Attenuators
 - MMIC Prescalers and Frequency Detectors
 - MMIC Switches
- **Sub-GHz Radio Transceivers**
 - ZL70550
- **RF/Microwave Filters**
 - Dispersive Filters
 - Delay Lines
 - Correlators
 - RF/Microwave SAW Modules
 - Bandpass Filters
- **Implantable Medical Transceivers**
 - ZL70103

Microsemi Product Lineup



Services

- ASIC Design Services
- FPGA & SoC Services
- Module & Hybrid Design Services
- Package Miniaturization Services
- Rugged Power Supply Design Services
- Timing & Synchronization Services



Storage Solutions

- **SAS/SATA Storage ICs**
 - SAS Expanders
 - RAID Controllers
 - IOC Controllers
- **Microsemi Adaptec Storage Boards**
 - Microsemi Adaptec Host Bus Adapters
 - Microsemi Adaptec SAS Expander Cards
 - Microsemi Adaptec Storage Innovations
 - Microsemi Adaptec SAS/SATA RAID Adapters
- **Flashtec NVMe Controllers**
- **Flashtec NVRAM Drives**
- **Switchtec PCIe Gen3 Switches**
- **Controller Based Encryption**
 - MaxCrypto Controller Based Encryption
 - StorClad Controller Based Encryption
- **Smart Storage Platform**
 - 12 Gbps SmartRAID 3100 Series RAID Adapters
 - 12 Gbps HBA 1100 Series Adapters
 - 12 Gbps SmartROC 3100 Controllers
 - 12 Gbps SmartIOC 2100 Controllers
 - 12 Gbps SmartHBA 2100 Series Adapters

Timing & Synchronization



- **Clock Management**
 - Clock Synthesis
 - Clock Fan-out Buffers
 - Frequency Conversion
 - Jitter Attenuation
 - Numerically Controlled Oscillator
- **Network Synchronization ICs**
 - IEEE 1588 PLLs and Software
 - Synchronous Ethernet (SyncE)
 - OTN Timing
 - GPS Timing
 - SDH/SONET Timing
 - PDH (T1/E1) Timing
- **Synchronization Systems**
 - 1U Distribution Amplifiers
 - Time Scale Systems
 - Management & Monitoring
 - Carrier Grade NTP & PTP IEEE 1588 Grand Masters
 - Synchronization Services
 - Modular Synchronization Systems
 - Enterprise Network Time Servers
 - GPS Instruments
- **Embedded Atomic Clocks**
 - Miniature Atomic Clock (MAC)
 - XPRO
 - Low Noise CSAC (LN-CSAC)
 - High-reliability Embedded Atomic Clocks
 - Chip Scale Atomic Clock (CSAC)
 - SA.22c
- **System Clocks & Frequency References**
 - Cesium Frequency References
 - Telecom Primary Reference Sources
 - Active Hydrogen Maser
 - Phase Noise and Allen Deviation Testers
 - 8040C and 8040CLN
- **Timing Accessories**
 - GPS Lightning Arrestor
 - GPS Antenna UP/Down Converter Kits
 - bc635PCle (IRIG)
 - bc635PCI-V2 (IRIG)
 - PCI-SG 2U (IRIG)
 - bc637PCle (GPS)
 - bc637PCI-V2 (GPS)
- **Precision Crystal & SAW Oscillators**
 - 1000C
 - OCXO
 - OCXO-DOCXO Source Modules
 - Precision Crystals
 - RF/Microwave SAW Oscillators
 - TCXO
 - VCXO
 - XO
 - XTAL
 - EMXO
- **GPS Disciplined Oscillators (GPSDO)**
 - Disciplined Oscillator Modules
 - GPS-3xx0



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