Fairchild is enabling improved access and storage in the exploding data center market.
Fairchild’s power management solutions drive efficiency while simplifying system design, reducing board space, improving system reliability and accelerating time to market. Our industry leading integrated technologies and unique packaging solutions address system cooling and optimized power density.

### Gate Drivers

Low-side (LS) drivers are building blocks for applications driving power MOSFETs in a clamped inductive load – driving MOSFETs, in secondary synchronous rectifier, and pulse/gate drive transformers.

The IGBT/MOSFET drive optocoupler series provides isolation for safety regulations, while driving the transistor from rail to rail achieving high common mode rejection and power supply rejection specifications.

### PFC Controllers

Fairchild offers crucial cost and energy saving solutions by delivering a diverse range of medium- and high-power systems.

**Featured Products**
- FAN9673, FAN9611, FAN6982

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**Power Factor Correction**

**Isolated DC-DC**

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**System Fitness Benefits**
- >92% efficiency and greater reliability from extended valley switching, high PF, low THD and green-mode performance
- Interleaved technology offers EMI reduction, higher effective frequency without increasing switching losses, and longer component life time from lower stresses
High-Voltage MOSFETs
SuperFET® II super-junction MOSFETs provide robust body diode performance for designs requiring high-power density, system efficiency and reliability.

Featured Products
- FCMT199N60 SuperFET II MOSFET
- Fast-Switching SuperFET II Family
- Easy-to-Drive SuperFET II Family
- Fast-Recovery SuperFET II Family

System Fitness Benefits
- Increased system reliability in soft switching topologies
- Higher efficiency in light-load conditions
- Lower conduction loss and driving loss

Mid- and Low-Voltage MOSFETs
PowerTrench® MOSFET technology enables high-power density for high efficiency solutions providing the lowest RDS\textsubscript{ON} available, improved FOM and lower power dissipation.

Featured Products
- FDMS, FDxx Family

System Fitness Benefits
- Superior switching performance and low switching noise
- Lower switch node ringing: no external snubber required in synchronous buck configuration
- Low power dissipation to meet challenging efficiency standards

Point-of-Load (POL) Regulators
TinyBuck® POL regulators with integrated PWM controller, driver and MOSFETs optimize performance and energy savings.

Featured Products
- FAN23xx, FAN53xx Family

System Fitness Benefits
- 2% greater full-load efficiency
- Highest light-load efficiency
- Longer battery life
- Reduced size layout

Power Stage
The Smart Power Stage (SPS) modules integrate PowerTrench MOSFET plus driver providing ≥ 95% efficiency in 30% less space.

Featured Products
- FDMF58xx Family

System Fitness Benefits
- 3% more efficient, 30% smaller than other modules
- Maximum power density
- Greater energy savings

Optocouplers
Our 3.3 V/5 V high-speed logic gate optocouplers support isolated communications between systems without conducting ground loops or hazardous voltages.

Featured Products
- FOD8160, FOD8012

System Fitness Benefits
- Output voltage swing close to supply rail with use of P-channel MOSFETs
- Excellent noise immunity resulting from Optoplanar® coplanar packaging
- Industrial fieldbus communications - DeviceNet, CAN, RS485, RS232
- Microprocessor system interface - SPI, I\textsubscript{2}C

Offline and Isolated DC-DC Controllers
Fairchild’s full line of specialized LLC resonant half bridge controllers and SR controllers provide crucial energy savings to address the needs of medium- and high-power supply designs.

Featured Products
- FAN7631, FAN6208

System Fitness Benefits
- Meet high efficiency requirements with Zero-Voltage-Switching (ZVS)
- Variable frequency control with 50% duty cycle
- Secondary-side timing detection with timing estimator
Power Management Solutions

Energy
The world demand for energy will increase as much as 35 to 40% by 2030. Electronics, and semiconductors, will play a major role in conserving the energy we use every day; in making renewable energy sources such as solar and wind more affordable; in minimizing fuel consumption in motor vehicles; and in reducing the emissions that adversely affect air quality and climate change. *Fairchild powers major industrial products with cool efficiency.*

Mobility
Almost half the global population use mobile devices. Wireless infrastructure and mobile access are now an economic necessity. The demand for information anywhere, any time is part of the user experience. And it is the semiconductor content that helps to power the features that make mobile devices indispensable. *Fairchild ships more than 4 billion units per year.*

Cloud
There seems to be no limit to the data people want to access — but not store — with their smartphones, tablets, portable medical devices and business equipment. Data centers and cloud computing are the answer. And reducing power consumption, which represents 70% of data center expense, is the challenge. Energy efficient semiconductors can meet that challenge. *Fairchild enables improved access and storage in the exploding data center market.*

ABOUT FAIRCHILD SEMICONDUCTOR
Fairchild has a rich history as a pioneer in the semiconductor industry, and that pioneering spirit endures today. In an era where diversity can dilute focus and hamper innovation, we specialize in the development and manufacturing of a complete portfolio of low- to high-power solutions for the mobile, industrial, cloud, automotive, lighting, and computing industries. Fairchild is one of the most reliable partners in the industry, offering the shortest time from concept to silicon, expert FAEs for customer support, and a flexible, multi-source supply chain. Our vision is clear — anticipate the power efficiencies demanded by tomorrow’s electronic products and deliver an amazing design experience.