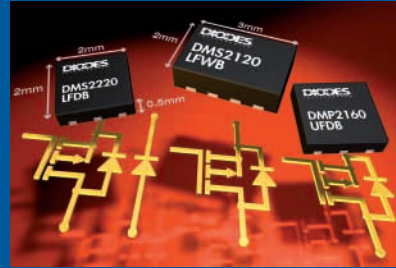


## DISCRETE PRODUCTS



### MOSFETS

- Broad range of N, P and complementary MOSFETs with  $V_{DS}$  up to 450V
- IntellifET range of self-protected MOSFETs packaged in a variety of leadless and surface mount packages
- RoHS and Halogen free materials to meet latest industry environmental requirements
- AECQ101 qualification to meet the high reliability demands of the automotive industry



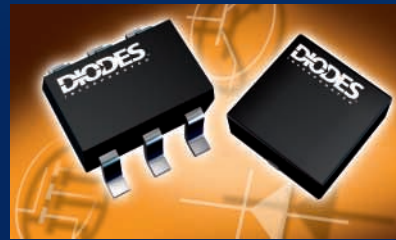
### SBR® (SUPER BARRIER RECTIFIER)

- Unique patented process that provides performance benefits over Schottky Diodes
- $V_{RRM}$  up to 400V
- $I_F$  up to 60A
- Low  $V_f$  combined with high thermal stability and reliability
- Broad range of package options from tiny leadless packages to large through hole packages



### BIPOLAR TRANSISTORS

- Market leading technologies
- Very low  $V_{CE(SAT)}$  for improved efficiency in saturated switching applications
- Excellent gain hold up at high peak currents for improved driving of MOSFETs
- Special function parts including Synchronous Controllers, Gate Drivers and High Voltage Regulators



### FUNCTION SPECIFIC ARRAYS

- Relay Drivers
- Voltage Regulators
- Load Switches
- ASMCC's (Application Specific Multi-Chip Circuits)



### PROTECTION DEVICES

- Transient Voltage Suppressors - 24 to 3,000W
- Thyristor Surge Protection Devices - up to 100A
- Low Capacitance ESD Suppressors - up to 30kV
- Data Bus Transient Suppressors - up to 4 I/O lines



### DIODES

- Switching Diodes - single, dual, triple, quad, dual-dual
- Zener Diodes - tolerances down to +/-2.0%
- Low Leakage Diodes -  $I_R < 5nA$
- Schottky Diodes

SBR is a registered trademark of Diodes Incorporated.

## APPLICATIONS

Discrete, Analog and Logic products from Diodes Incorporated provide our customers with systems solutions and enable next generation consumer, computer and communication product designs.

Diodes Incorporated focuses on high-growth end-markets including:

- PC and notebooks
- Mobile phones
- LED TV and monitors
- Automotive
- Lighting
- Audio

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# PRODUCT OVERVIEW

BRINGING YOU NEXT GENERATION DEVICES...





## INTRODUCTION

Diodes Incorporated is a leading global provider of Discrete, Analog and Logic semiconductors.

Its global footprint includes sales offices in five countries and manufacturing locations in China, Europe and the USA.

A focus on product innovation, cost reduction, acquisitions and customer service has made Diodes Incorporated an industry leader.

Combining leading silicon and packaging technologies, Diodes provides a broad portfolio of discrete semiconductors comprising Bipolar Transistors, MOSFETs, Schottky diodes, SBR®, switching diodes and functional specific arrays to enable our customers' next generation designs.

The Diodes' Analog IC portfolio consists of Power Management ICs, Standard Linear and Logic, Lighting, Audio Amplifiers, Sensors, Direct Broadcast by Satellite and Applications-Specific Standard Products.

## PRODUCT RANGES

### DISCRETE PRODUCTS

As an expert in the management of power, Diodes Incorporated provides product designers with a broad range of discrete semiconductor components that are renowned for their quality, high performance and optimized packaging.

With its leading edge bipolar technology, Diodes has long set the benchmark for bipolar transistor performance with very low saturation voltages and high power density components.

### ANALOG AND LOGIC PRODUCTS

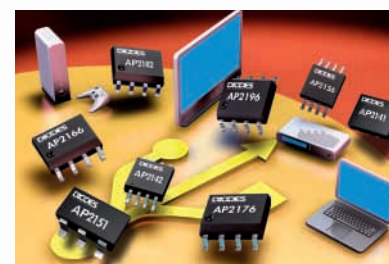
The best Analog ICs provide circuit designers with the most advantageous combination of efficiency, functionality and package size.

Diodes is able to offer a portfolio of devices that meet the requirements of a wide range of electronic applications by addressing these competing design criteria to produce elegant and practical solutions.

As an expert in Analog electronics, Diodes works closely with customers and partners to define the precise needs of a particular application and to identify the most appropriate integrated solution.

[www.diodes.com](http://www.diodes.com)

## ANALOG AND LOGIC PRODUCTS



### DC-DC SWITCHING REGULATORS

- Step Down (Buck), Step Up (Boost) and Inverting devices
- Operation from a wide variety of power sources: batteries, distributed rails, AC-DC supplies etc
- Controllers with external power FETs
- Converters with full integration
- Highest efficiency with smallest footprint
- Fixed and adjustable output voltage down to 0.8V

### LINEAR AND LOW DROPOUT VOLTAGE REGULATORS

- Wide selection of output voltages
- Tight tolerance over commercial and industrial temperature ranges
- Low quiescent current
- Low dropout voltage
- Industry standard packages and pin-outs
- Single and dual channel

### LOAD AND USB SWITCHES

- Supports USB and HDMI ports
- 0.2 to 2.5A output current range in single and dual channels
- Active high and low enable with reverse-current, over-current and over-temperature protection
- UL recognized and IEC 60950-1 CB Scheme certified
- Industry standard pin out and packages and increased power density DFN2020-6
- Low  $R_{ds(on)}$  Load switches for 5V and 3.3V rails; improving efficiency in portable systems

### SENSORS

- Unipolar and Omnipolar Hall effect switches
- Bipolar Hall effect latches with single and complementary outputs
- Wide range of products with input voltages from 1.6V to 28V
- Wide operating ambient temperature ranges -40 to 85/125°C
- Highly integrated small, low power solutions

### FAN AND MOTOR CONTROL

- Highly integrated smart fan drivers - includes Hall effect sensors
- Integrated drive switch capable of average current up to 500mA
- Advance fan and motor pre-drivers for higher power applications
- Solutions for input voltage from 1.8V to 28V
- Operating ambient temperature -40 to 110°C
- Solutions for cooling fans, motors and micro-vibrating motors

### LED DRIVERS

- Simple, versatile, efficient solutions
- High power density TSOT23-5 high brightness LED drivers
- Low voltage LED drivers maximize run runtime from 1 and 2 cells
- Small solution size LCD backlighting LED drivers
- Offline LED drivers for retrofit lamps and other high voltage LED lamps
- Cost effective Linear LED Driver solutions



### AC-DC CONTROLLERS/ SWITCHERS AND SECONDARY SIDE FEEDBACK CONTROL

- Primary Side Regulation (PSR) Controllers and Switchers
- PWM Secondary Side Regulation Controllers
- Constant-Voltage/Constant-Current secondary side feedback devices
- PSR Accelerators with fast dynamic response for charger adapters
- Industry standard 2.5V, 1.24V and 0.6V shunt regulators



### OP-AMPS AND COMPARATORS

- Industry standard general purpose op-amps and comparators: AS3xx series
- Industry standard low voltage general purpose op-amps and comparators: LMV3, AZV8 and AZV3 series
- Single, dual and quad configurations
- Commercial and industrial temperature ranges
- Low noise op-amps: AZ4558, TL072/82



### CURRENT MONITORS, VOLTAGE REFERENCES AND SPECIAL FUNCTIONS

- ZXCTxx series small footprint high side current sense devices
- Current and voltage output variants
- Up to 60V operation and AEC-Q100 variants
- Industry standard APX8xx reset generator/ $\mu$ P supervisor series
- Industry standard 555 timer in 2 temperature ranges
- Industry standard LM4040 and LM4041 references



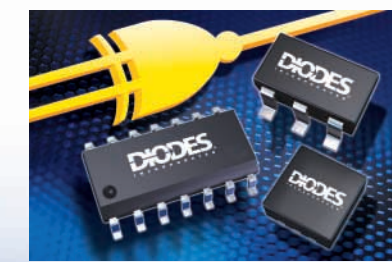
### DBS - LNB/SET-TOP BOX

- Efficient STB LNB controller and power supply
- Multiple channel bias IC for GaAs FET LNAs
- Single chip power management and control IC for single output LNBS
- LNB and satellite distribution controllers
- Integrated IF multiplexer solutions with internal gain and control



### AUDIO AMPLIFIER

- Filterless design allows direct drive of speakers
- Anti-saturation functionality
- 64-step DC volume control minimizes external components, providing volume control for both headphones and speakers
- Small footprint complements highly integrated portable devices



### STANDARD LOGIC PRODUCTS

- LVC - Low Voltage CMOS
- Single-gate, dual-gate and standard logic
- AHC - Advanced High-Speed CMOS
- AHCT - Advanced High-Speed CMOS TTL Compatible
- AUP - Advanced Ultra Low Power
- SOT25/6, SOT353/363/553, DFN1010, DFN1410, SO-14 and TSSOP14

