

XTRA

DISTRIBUTOR
NEWSLETTER
ISSUE NINE

Welcome to Issue 9 of the Diodes XTRA

This edition of the Diodes' XTRA highlights the newest Hall Effect Sensors providing excellent performance in both consumer and industrial applications. The Diodes' packaging advantages continue to provide reduced component count and small footprint which are displayed in the Synchronous Rectifier Controller, HV Regulator Transistor and the continual Logic and MOSFET portfolio expansion. This edition also explores the new application areas of the Internet of Things and the need for high performance space saving solutions.

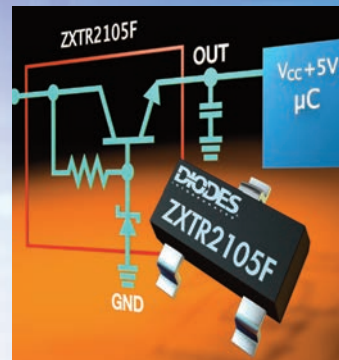
PRODUCT HIGHLIGHTS



Single Channel Low Power Comparator

The Diodes Advantage

- Low Supply Current helps prolong battery life



High-Voltage Regulator Transistor to Deliver 5V Supply for Microcontrollers

The Diodes Advantage

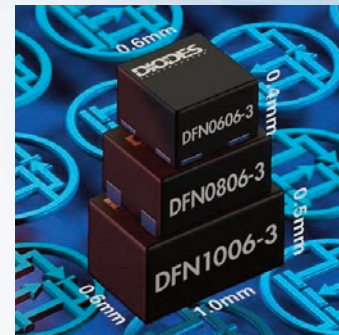
- Reduced component count and small footprint



Micropower Linear Hall Effect Sensor Family with Enable/Control Pin and High Accuracy Options

The Diodes Advantage

- Low voltage and low power
- High sensitivity and high accuracy



Miniature MOSFETs

The Diodes Advantage

- Small footprint, low profile package
- High power density package



Smallest Secondary Side Synchronous Rectifier Controller

The Diodes Advantage

- Small footprint
- Low external component count for low BOM cost



Advanced Ultra-Low Power Logic 74AUP2Gxx

The Diodes Advantage

- Low voltage; low power; small package

XTRA

TOPIC OF THE QUARTER - HIGH PERFORMANCE SPACE SAVING SOLUTIONS FOR IOT APPLICATIONS

The plethora of new application areas for the Internet of Things (IOT) requires key products that are optimized for the typical requirements of space limitation, ultra-low power and high levels of integration.

Diodes Incorporated's high-quality products include rectifiers, MOSFETs, protection devices, USB power switches, DC-DC converters and LED drivers for the efficient management of power and Hall-effect sensors and Class D audio for sensing and sound with the combination being to provide unparalleled commitment to total customer satisfaction for these key and new application areas.

Power Management

Synchronous and asynchronous converters and controllers

- Buck from 2.5V to 40V Vin, 800mA to 5A, 15kHz to 3MHz . fs
- 96% efficiency, single and dual outputs
- Boost from 0.9V to 5.5V Vin to 38V Vout, up to 1.4A, 200kHz to 1.8MHz fs

Load Switches

- General-purpose, USB / HDMI, single and dual
- Up to 2.5A, 70mΩ, includes current limiting/blocking (2μS or less Tss)

MOSFETs

- Small-Signal to Power FETs (12 to 650V)
- Lateral FETs (LD-MOS) with industry-leading figure of merit (FOM)
- Bidirectional FETs using Dual Common-Source/Drain
- DFN0606 for 0.36mm² - 40% smaller than DFN1006
- Chip Scale Packaging (CSP) to give lowest RDS(on) for a given footprint

Data Line Protection

- Wide range of package options
- Uni- and bi-directional singles, duals, and quads
- Up to 30kV rating

SBR® – Super Barrier Rectifier

- Reverse Voltage (VRRM) up to 400V
- Lower normalised reverse leakage current (IR) at high temperatures than a Schottky Diode
- Lower forward voltage (VF) than a Schottky diode

LED Drivers

- Highly efficient, simple and versatile
- Diodes' family of LED drivers provides high efficiency constant current drive for high brightness LEDs – both high and low current. When driving multiple LEDs in a single string, efficiencies greater than 95% may be attained together with very accurate LED current matching.

Sensors and Audio

Hall Effect Sensors

- Omnipolar, Unipolar and Latched Hall Effect Switches
- High in feature integration and performance
- Small, low-profile footprint, high power density solutions
- Small, simple-to-use cost-effective solutions

Linear Hall Sensors

- Detects both positive and negative magnetic field strength
- Wide span with good span linearity (0.7%)
- Low noise, eliminating need for external filter
- Wide supply voltage range 3V to 6V / 8V

Class-D Speaker, Headphone and Piezoelectric/Haptic Drivers

- 1W to 32W per channel, mono and stereo, 2.5V to 24V VIN
- 90% efficiency, less than 0.5% THD+N
- Filter-less, low-EMI architecture, up to 1.5MHz fs
- Features include anti-clipping / saturation, output power limiting, DC volume control, integrated headphone driver
- 25mW stereo, fully-differential, 2.5V to 5.5V VIN, 0.03% THD+N
- Eliminate output DC-blocking capacitors