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Fast 60V Protected High Side N-Channel MOSFET Driver Provides 100% Duty Cycle Capability

MILPITAS, CA & NORWOOD, MA – July 13, 2017 – Analog Devices, Inc., which recently acquired Linear Technology Corporation, announces the [LTC7003](#), a high speed, high side N-channel MOSFET driver that operates up to a 60V supply voltage. Its internal charge pump fully enhances an external N-channel MOSFET switch, enabling it to remain on indefinitely. The LTC7003's powerful 1 Ω gate driver can easily drive large gate capacitance MOSFETs with very short transition times and 35ns propagation delays, ideal for both high frequency switching and static switch applications.

The LTC7003 operates over a 3.5V to 60V (65V abs max) input supply range with a 3.5V to 15V driver supply range. It detects an overcurrent condition by monitoring the voltage across an external sense resistor placed in series with the drain of the external MOSFET switch. When the LTC7003 senses that the switch current has exceeded a preset level, a fault flag is asserted and the switch is turned off for a period of time set by an external timing capacitor. After a predetermined cooldown time period, the LTC7003 automatically retries.

The LTC7003 is designed to receive a ground-referenced, low voltage digital input signal and quickly drive a high side N-channel power MOSFET whose drain can be as high as 60V above ground. The fast 13ns rise and fall times, when driving a 1000pF load, minimize switching losses. The LTC7003 features an adjustable current limit, a current monitoring output, and adjustable overvoltage lockout and enable inputs.

The LTC7003 is available in the MSOP-16 package. Three operating junction temperature grades are available, with extended and industrial versions from –40 to 125°C, a high temperature automotive version from –40°C to 150°C and a military grade from –55°C to 150°C. The 1,000-piece price starts at \$2.30 each. For more information, visit www.linear.com/product/LTC7003.

Photo Caption: 60V High Side N-Channel MOSFET Gate Driver

Summary of Features: LTC7003

- Wide V_{IN} Operating Range: 3.5V to 60V (65V Abs Max)
- Internal Charge Pump for 100% Duty Cycle Capability
- 1 Ω Pull-Down, 2.2 Ω Pull-Up for Fast Turn-On & Turn-Off Times
- Fast 35ns Propagation Delays
- Short-Circuit Protected
- Automatic Restart Timer
- Open-Drain Fault Flag
- Adjustable Turn-On and Turn-Off Slew Rates
- Gate Driver Supply from 3.5V to 15V
- Adjustable Current Limit
- Current Monitor Output
- Adjustable Input Undervoltage & Overvoltage Lockout
- Low Shutdown Current: 1 μ A
- CMOS Compatible Input

Pricing shown is for budgetary use only and may differ due to local duties, taxes, fees and exchange rates.

Analog Devices just got more Powerful. On March 10, Analog Devices acquired Linear Technology, creating the premier high-performance analog company. More info at <http://lt.linear.com/07c>

About Analog Devices

Analog Devices (NASDAQ: ADI) is the leading global high-performance analog technology company dedicated to solving the toughest engineering challenges. We enable our customers to interpret the world around us by intelligently bridging the physical and digital with unmatched technologies that sense, measure, power, connect and interpret. Visit <http://www.analog.com>

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