**Product Brief**

 **Linear Microsystems Overview**

* Fabless semiconductor company
* Founded in 2013
* Design & production of high-performance RF, analog, mixed-signal, and SoC ASICs
* Expertise in Hall Effect, piezoelectric, pressure, temperature, gas, magnetic, optical and various types of medical sensors
* Markets include medical, automotive, industrial, aircraft, and military
* Very Seasoned engineering team
* Key management & technology team together for over 20 years
* Partnered with technology leading foundries & packaging vendors

Linear Microsystems, Inc. (LMI), is a full-service ASIC company located in Irvine, California. LMI develops analog, mixed-signal, digital and RF ASICs. In particular, LMI has specific expertise in Sensor IP and ASICs.

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| **Internal IP** |
| Power Management |
| Low Noise TIA & Voltage Amplifiers |
| Measurement – sensing |
| Data Conversion – ADC, DAC, S/HHigh Speed; resolution to 16 bits  |
| Interfaces (LVDS, SPI, I2C, 2&3 wire)  |
| Integrated µP and DSP |
| Timing (VCO, APLL, DLL, Synthesizer, etc.) |

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| **IP Performance** |
| High Voltage1200V, 650V, 300V, 100V, 20V |
| High Speed>> 28 GHz |
| Low Power<< 1uA |
| Low Noise<< 10 nV/rt Hz, 10 nA/rt Hz |
| High PowerUp to 30A |
| Multiple I/O standards |

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 A typical 6 inch wafer





**Rotary Hall Sensor ASIC**

* Measures angular movement; used numerous times in every automobile
* Very high production volume
* Hall Sensor – uses existing Hall sensor IP
* Proprietary sensing circuitry/hall sensor arrangement
* Uses internal IP for 14 bit ADC, LDO, 12 bit DAC, DSP, OTP, oscillator and PWM
* 16 lead QFN with 2 identical stacked dies for redundancy
* 16 lead dual die QFN

**Programmable Inductive Proximity Sensor SoC**

* Analog Signal Processing, Microprocessor Controller and EEPROM
* Patented architecture based on differential LC tank oscillator
* Senses all metal target at equal and longer sensing distance through phase detection or combined phase shift/amplitude sensing
* High switching frequency
* High level of magnetic field immunity
* 3 wire DC or 2 wire AC/DC interface
* Key circuit blocks include oscillator, signal modulator, ADC, power management, short circuit protection, embedded microprocessor, SRAM and OTP (non-volatile) memories.
* Embedded processor controls various modes of operation, temperature compensation, sensor calibration, signal linearization, system diagnostics and output control
* Die Size: 1.7 mm x 2.6 mm
* Package: 24 lead 4mm x 4 mm QFN
* 180 nm CMOS

**Package Options: Multi-Project Wafers for Low Cost**

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