



## **I<sup>2</sup>C Bus Address Translators Resolve Address Conflicts with No Additional Software Coding or I<sup>2</sup>C Multiplexers**

MILPITAS, CA – June 2, 2015 – Linear Technology Corporation introduces the [LTC4316/LTC4317/LTC4318](#) family of I<sup>2</sup>C/SMBus address translators that enable multiple slaves with identical addresses, such as temperature sensors, to individually communicate with the master without conflicts. Address conflicts arise when slaves with the same hardwired address are placed on the same bus. Traditional solutions have used I<sup>2</sup>C multiplexers or switches to software-select or pin-select the slave that needs addressing. The LTC4316-18 are transparent solutions that replace I<sup>2</sup>C Muxes and switches. The LTC4316/LTC4317/LTC4318 do not require any software programming or ENABLE control lines, allowing masters to make direct calls to slaves using unique translated addresses that are configured by external resistors.

The address translators provide simple address expansion for both I<sup>2</sup>C and SMBus systems, as well as voltage level translation for 2.5V, 3.3V and 5V busses. ±4kV HBM ESD, 1V precharging, and glitch filtering of the bus pins make the address translators rugged enough for live board insertion and removal applications. A pass-through mode enables users to temporarily disable address translation and allows for general call addressing by the master. In addition, a stuck bus timer monitors if the SCL line stays low or high for more than 30ms, aborting the address translation and reconnecting the SDAIN to SDAOUT in any stuck bus situations.

The LTC4316 single (1 input/1 output) is available in 10-lead 3mm x 3mm DFN and 10-lead MSOP packages. The LTC4317 “Y” configuration (1 input/2 outputs) is available in a 16-lead 5mm x 3mm DFN package. The LTC4318 dual (2 inputs/2 outputs) is available in a 20-lead 4mm x 4mm QFN package. Offered over the commercial and industrial temperature ranges, pricing for the LTC4316, LTC4317 and LTC4318, starts at \$1.45, \$1.75 and \$1.95 each, respectively, for 1000-piece quantities. For more information, visit [www.linear.com/product/LTC4316](http://www.linear.com/product/LTC4316), [www.linear.com/product/LTC4317](http://www.linear.com/product/LTC4317) and [www.linear.com/product/LTC4318](http://www.linear.com/product/LTC4318)

**Photo Caption:** Single I<sup>2</sup>C Address Translator Allows Two Identical Slaves to Receive Different Addresses


### Summary of Features: LTC4316-18

- Allows Multiple Slaves with the Same Address to Coexist on the Same Bus
- Multiple Channel Options:
  - o Single (1 Input & 1 Output) (LTC4316)
  - o “Y” Configuration (1 Input & 2 Outputs) (LTC4317)
  - o Dual (2 Inputs & 2 Outputs) (LTC4318)
- Resistor Configurable Address Translation
- No Software Programming Required
- Compatible with SMBus, I<sup>2</sup>C & I<sup>2</sup>C Fast Mode
- Pass-Through Mode Allows General Call Addressing
- ±4kV HBM ESD Ruggedness
- Level Translation for 2.5V, 3.3V & 5V Buses
- Stuck Bus Timeout
- Prevents SDA & SCL Corruption During Live Board Insertion & Removal
- 10-Lead MSOP or 3mm x 3mm DFN Packages (LTC4316), 16-Lead 5mm x 3mm DFN Package (LTC4317), 20-Lead 4mm x 4mm QFN Package (LTC4318)

The USA list pricing shown is for budgetary use only. International prices may differ due to local duties, taxes, fees and exchange rates.

### About Linear Technology

Linear Technology Corporation, a member of the S&P 500, has been designing, manufacturing and marketing a broad line of high performance analog integrated circuits for major companies worldwide for over three decades. The Company's products provide an essential bridge between our analog world and the digital electronics in communications, networking, industrial, automotive, computer, medical, instrumentation, consumer, and military and aerospace systems. Linear Technology produces power management, data conversion, signal conditioning, RF and interface ICs, µModule<sup>®</sup> subsystems, and wireless sensor network products. For more information, visit [www.linear.com](http://www.linear.com)

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