

### FEATURES

- Narrow-band power line communications IC**
- Integrates physical, data link and networking layers**
- Application layer**
  - Supports DL/T 645-1997 or DL/T 645-2007 data protocol (specific to China), as well as a pass through option**
- Networking layer**
  - Automatic baud rate negotiation**
  - Dynamic routing**
- Data link layer**
  - CRC checking**
  - Network key for data security**
- Physical layer**
  - FSK modulation**
  - Up to 2400 bps on a 3-phase network**
- Simple serial interface to host microprocessor**
- Single 3.3 V supply, low power (140 mW typical)**
- Package and temperature range**
  - 40-lead 6 mm × 6 mm LFCSP**
  - Fully specified for –40°C to +85°C operation**

### APPLICATIONS

Power line modems for AMR/AMI systems

### GENERAL DESCRIPTION

In an advanced metering infrastructure (AMI) scenario, the ADE8167<sup>1</sup> IC provides the essential functions for a master modem; maintaining the network configuration and relaying messages between the utility back office and the slave modems associated with the energy meters.

The ADE8167 is a complete digital baseband processor IC that includes physical layer, data link layer, and networking layer functionality. The ADE8167 includes a receive path 12-bit analog-to-digital converter (ADC) and a transmit path digital demodulator to reduce the external analog front-end component count. The ADE8167 UART communicates directly with a host microprocessor. The ADE8167 master modem IC is designed to work with the ADE8157 slave modem IC for a complete power line communications system.

### FUNCTIONAL BLOCK DIAGRAM

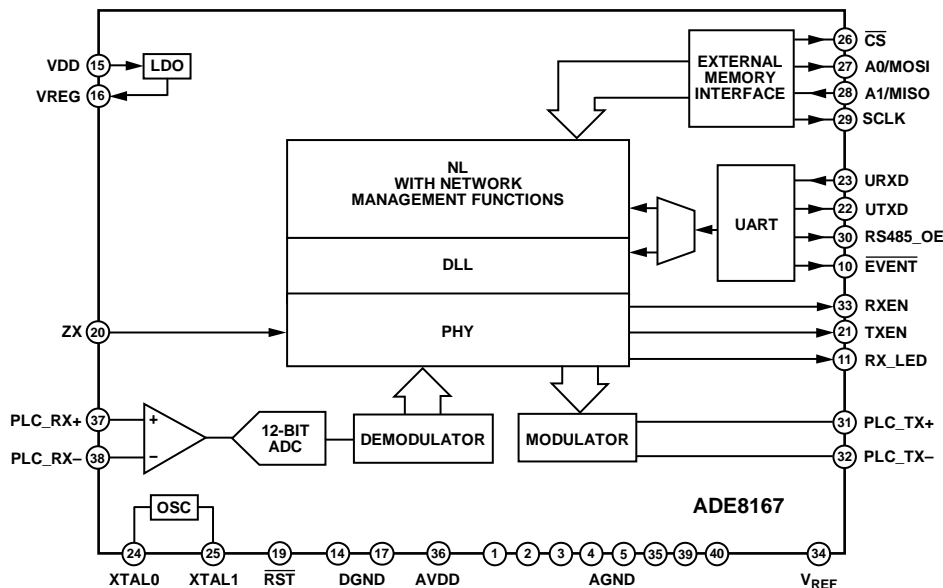


Figure 1.

For more information about the ADE8167, including the complete data sheet, contact your local Analog Devices, Inc., sales office at [www.analog.com/sales](http://www.analog.com/sales).

<sup>1</sup> Patents pending in the United States, European Union, and People's Republic of China.

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One Technology Way, P.O. Box 9106, Norwood, MA 02062-9106, U.S.A.  
Tel: 781.329.4700 [www.analog.com](http://www.analog.com)  
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