Data Sheet

ADEMO139A

Low Noise Amplifier for Use with PCB-Based di/dt Sensors and ADEMA12x ADC

FEATURES

- Single-supply operation: 2.97V to 3.63V
- Three configurable gain options
  - Av setting = 30 (actual gain = 26.37)
  - Av setting = 45 (actual gain = 41.25)
  - Av setting = 60 (actual gain = 57.44)
- Low noise
  - 7nV/√Hz at f = 45Hz to 65Hz, at Av setting = 30 (26.37)
  - 5.9nV/√Hz at f = 45Hz to 65Hz, at Av setting = 45 (41.25)
  - 5.6nV/√Hz at f = 45Hz to 65Hz, at Av setting = 60 (57.44)
- Integrated temperature sensor

APPLICATIONS

- Single-phase energy meters
- Polyphase energy meters
- Split-phase energy meters
- Power quality monitoring
- Protective devices
- Smart breakers
- EV chargers
- Machine health
- Smart power distribution units

PIN CONNECTION DIAGRAM

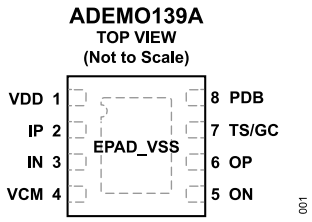

Figure 1. ADEMO139A Pin Configuration, 8-Lead LFCSP

GENERAL DESCRIPTION

The ADEMO139A is a low-drift fully-differential programmable-gain amplifier, for use with a PCB-based di/dt current sensor and the ADEMA12x 4-channel and 7-channel ADC. An output common-mode (CM) voltage of 1.2V and supply voltage of 3.3V allows direct connection to ADEMA12x ADC.

The ADEMO139A has high gain, low noise, and excellent common-mode rejection ratio (CMRR) and power-supply rejection ratio (PSRR) specifications, which makes it ideal for high-accuracy energy measurement applications. The ADEMO139A is specified over the extended industrial temperature (−40°C to +125°C), and is available in a 8-lead LFCSP.

For more details on the ADEMO139A, contact the local Analog Devices, Inc., sales office at www.analog.com/sales.

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