FEATURES
ARC enabled LRA automatic resonance detection and magnitude control
Agile pattern generator enabling HD haptic effects
Fast start and sharp braking
PWM and I2C drive modes
Low latency response (LLR) drive mode
Compatible with Immersion TS3000 and Immersion TS4000
8-bit DAC with programmable, bidirectional output current source capability
2-wire (I2C-compatible) 1.8 V serial interface
Short-circuit protection
Undervoltage protection
Pin-selectable I2C address feature
Available in a 5 × 3 array WLCSP package

APPLICATIONS
Haptics applications
Linear resonant actuators
Eccentric rotating mass actuators
Mobile phones
Portable media players
Portable navigation devices
Tablet PCs

GENERAL DESCRIPTION
The ADUX1001i is a high efficiency linear resonant actuator (LRA) controller that uses the Analog Devices, Inc., proprietary Actuator Response Control™ (ARC™) technology. The ADUX1001i control algorithm detects LRA resonant frequency and provides closed-loop control of drive frequency and magnitude, ensuring compelling, reliable, and repeatable haptic effects for all portable, gaming, and handheld applications. The ADUX1001i features an 8-bit digital-to-analog converter (DAC) that has programmable, bi-directional output current capability. The hardware shutdown mode ensures low power operation over a full 2.3 V to 4.8 V supply range, making it ideally suited for portable mobile device haptic applications. The ADUX1001i is compatible with Immersion TS3000 and Immersion TS4000 engines.

The ADUX1001i features three interface options ensuring that the ADUX1001i can be used in existing haptic implementations as well as in new low latency haptic implementations. The operating modes of the controller are invoked by the ADUX1001i using a PWM- and/or an I2C-compatible interface. The I2C 7-bit address for the ADUX1001i is programmable using two external pins.

For more information about the ADUX1001i, email: haptics@analog.com.