

# IQS390

The IQS390 is a haptics driver capable of driving Linear Resonant Actuator (LRA) motors. The I2C mode features a closed-loop autoresonance algorithm. The autoresonance algorithm matches the resonant frequency of the driven motor in real time. The PWM mode accepts an external Pulse Width Modulated (PWM) signal and a motor drive direction. Both modes implement automatic power mode management and an ultra-low power mode.



## 1.1 Main Features

- **I<sup>2</sup>C Mode**
  - I<sup>2</sup>C interface - Up to Fast Mode Plus (1 MHz)
  - Selectable I<sup>2</sup>C address
  - Fire-and-forget interface
  - Trigger haptic pulse either through I<sup>2</sup>C or with an input pin
  - Real-time closed-loop autoresonance
  - Internal or external H-bridge
  - Selectable LRA drive frequency
- **PWM Mode**
  - Direction and direct PWM input
- **Select between modes using input pin**
- **Internal H-bridge protections**
- **Ultra-low power mode**
- **Automatic power mode management**
- **Design simplicity**
  - PC software for configuration and debugging
- **Supply Voltage:** 1.71 V to 3.6 V
- **QFN20 Package:** (3 × 3 × 0.55 mm) - 0.4 mm pitch

## 1.2 Applications

- **Mouse wheel scrolling feedback**
- **Trackpads**
- **Doorbells and keypads**