# DA7280

## Ultra-Low-Power Wideband Haptic Driver for ERM and LRA Actuators

**The DA7280 high definition (HD) haptic driver combines custom drive sequences (at up to 1 kHz) for HD haptic effects, along with resonant frequency tracking for driving both LRA and ERM actuators. It provides superior click/vibration effects in smartphone, gaming, and wearables applications. The DA7280 is also ideal for use in industrial applications such as touch screen banking ATEs and in automotive areas such as steering wheel driver feedback.**

The DA7280's very low idle state current consumption maximizes the battery life of haptic driver applications, which spend the majority of their time in standby/idle modes. The current consumption of the DA7280 is 80 % lower than the nearest alternative solution.

Multiple general purpose trigger inputs and a low-latency ensure highly reactive triggering of haptic sequences from button, screen, or $I^2C$ inputs. This is ideal for Android systems with a sensor hub and an application processor. The application processor can remain in deep sleep and the sensor hub can trigger up to six haptics events directly. Then, in active modes, the application processor can trigger or stream complex sequences using $I^2C$. This flexibility allows for complex streaming of sequences in active modes, and low-latency tact switch replacement for effects in sleep modes.

Unlike current alternative solutions, sequence storage in the device is achieved using frequency, amplitude and duration snippets, allowing complex, on and off resonant effects to be stored, played, or streamed. Ease of use and flexibility are combined for both simple and complex systems.

The DA7280 comes in both WLCSP packaging for size critical consumer products and in QFN packaging for customers looking to lower PCB assembly costs.

## Features and Benefits

| Features | Benefits |
|---|---|
| Wideband LRA driver: 25Hz to 1kHz with $f_{LRA}$ tracking, supports up to 350Hz | Drive LRAs off-resonance for custom effects, or drive dual-resonant systems for two dimensional vibration |
| Low-latency direct drive | Drive distinct haptic effects triggered by multiple inputs without need to wake the apps processor |
| Idle current consumption 80% lower than alternative solutions | Longer battery life |
| Proprietary current output drive with on-the-fly diagnostics | Faster clicks; no need to stop-to-sense during drive; no need to power-on buzz |
| Custom sequence programming using frequency- time-amplitude snippets | Smaller data download |
| Linux/Android driver and easy to use HAL driver for embedded systems | Shortened software development time; get to market faster |

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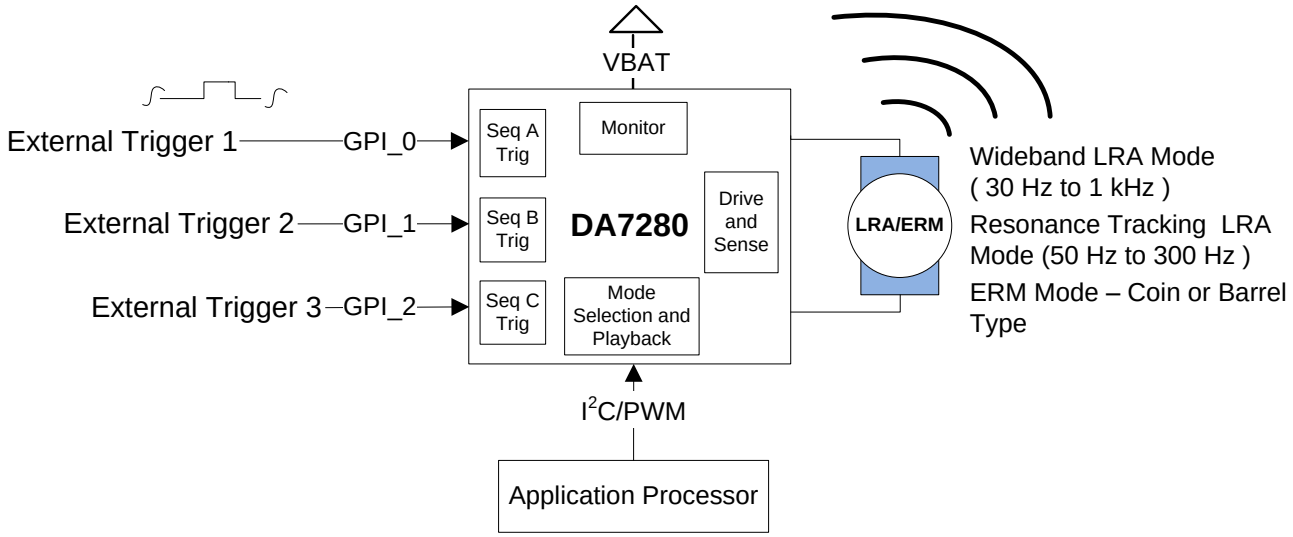


## Ordering Information

| Part | Package | Size (mm) | Shipment Form | Pack Quantity |
|---|---|---|---|---|
| DA7280-00V42 | WLCSP | 1.35 x 1.75 | Tape and reel | 4500 |
| DA7280-00FV1-A | QFN | 3.0 x 3.0 | Tape and reel | 6000 |
| DA7280-00FV2-A | QFN | 3.0 x 3.0 | Tape and reel | **250** |

## Evaluation Tools and Software

Evaluation boards DA7280-EVAL-1 are available from Dialog (through your local distributor) or from Mouser and Digikey respectively.

For more support, see http://www.dialog-semiconductor.com. For additional GUIs, documentation, and quick start guides, register at http://support.dialog-semiconductor.com and look in the Audio, Power, and Haptics section.

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В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

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