



## General Description

The SET4038 is an 8-channel, 32-bit DAC designed for digital audio systems. Its internal circuitry boasts a state-of-the-art 32-bit digital filter that optimizes both audio quality and short group delay. With support for a maximum 192kHz PCM input, it is ideal for reproducing high-resolution audio sources that are increasingly common in network audios, USB-DACs and car audio systems.

Furthermore, the SET4038 incorporates the innovative OSR-doubler technology, enabling it to handle a diverse range of signals while minimizing out-of-band noise and maintaining low power consumption. Additionally, the device provides three types of 32-bit digital filters, which can enable sound making simple and flexible in wide range of applications. It should be noted that SET4038 needs to input the MCLK signal in advance to execute the 3-wire serial/I2C-bus program.

The SET4038 is available in a Green TQFN-5×5-32FL package.

## Features

- ◆ 8ch 32bit DAC
  - 256 x Over sampling
  - 32-bit High Quality Sound Short Delay Digital Filter
  - Single-ended Output, Smoothing Filter
  - THD+N: 91dB
  - DR, S/N: 110dB
  - Channel Independent Digital Volume Control (0dB ~ -127dB, 0.5dB Step, Mute)
  - Soft Mute
  - De-emphasis Filter (supporting 32kHz, 44.1kHz and 48kHz)
  - I/F Format: MSB justified, LSB justified, I2S, TDM
  - Zero Detection
- ◆  $\mu$ P Interface: 3-wire Serial/ I2C bus(Fast Speed Mode: 400kHz ) / Parallel Mode
- ◆ Power Supply
  - Analog Supply: AVDD = 3.0 ~ 3.6V
  - In/Output Buffer: TVDD =2.3~3.6V
  - Integrated LDO for Digital Power Supply
- ◆ Operating Temperature: Ta = - 40 ~ 105°C
- ◆ Package: TQFN-5×5-32FL(0.5mm pitch)

## Applications

- External Amplifiers
- Car Audios System
- CD Players
- Headphones
- Professional Measuring Instruments
- USB DACs