

SMA6302 Product Brief

1. *Description*

This document contains the detailed specifications of the SMA6302 digital class-D stereo audio amplifier with an integrated boost converter. From input voltage or a single cell Li-ion battery power supply, the boost converter converts boosted output voltage into a full digital amplifier to make the large signal of outputs stable for the piezo speaker drive. Maximum output voltage level is $40 V_{PP}$.

Applications

Mobile Phones

Laptops

LCD, OLED TVs

Wireless Mobile Speakers

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Boosted Digital Speaker Amplifier for Piezo Speaker W/ Protection

Features

- 20V Output Voltage for 40Vpp Piezo Drive
- Class-H control by digital processing
- **Full digital stereo class-D audio amplifier: Max 40Vpp output**
- **Piezo class D speaker protection**
- Large capacitive load drive: Max 5uF load drive
- **Low output noise: <math><30\mu\text{Vrms(A)}</math>**
- High audio performance: **SNR 114dB**
- I2S/TDM Digital audio input interface: 8k~192kHz
- DSP for no-series-resistance piezo drive
- Soft volume and soft mute
- Ten band 32-bit PEQ for receiver or speaker sound tuning
- DRC(Dynamic range compressor)
- Digital audio feedback signal for echo cancelation
- Protection(Overcurrent, Under / over voltage & Overcurrent limit for Boost converter)
- Active anti-windup scheme for boost converter loop compensation
- Thermal management / shutdown circuit

