

General Description

ETK2011 is a digital audio power amplifier IC with maximum output of 2.5W (RL=4Ω)×1ch.

ETK2011 has a “Pure Pulse Direct Speaker Drive Circuit” which directly drives speakers while reducing distortion of pulse output signal and reducing noise on the signal, and realizes the highest standard low distortion rate characteristics and low noise characteristics among digital amplifier ICs for mobile use.

In addition, circuit design with fewer external parts can be made depend on the condition of use because corresponds to filter less.

The ETK2011 features non-clip output control function which detects output signal clip due to the over level input signal and suppress the output signal clip automatically. Also the non-clip output control function can adapt the output clip caused by power supply voltage down with battery. This is the difference from the traditional AGC (Auto Gain Control) or ALC (Auto Level Control) circuit.

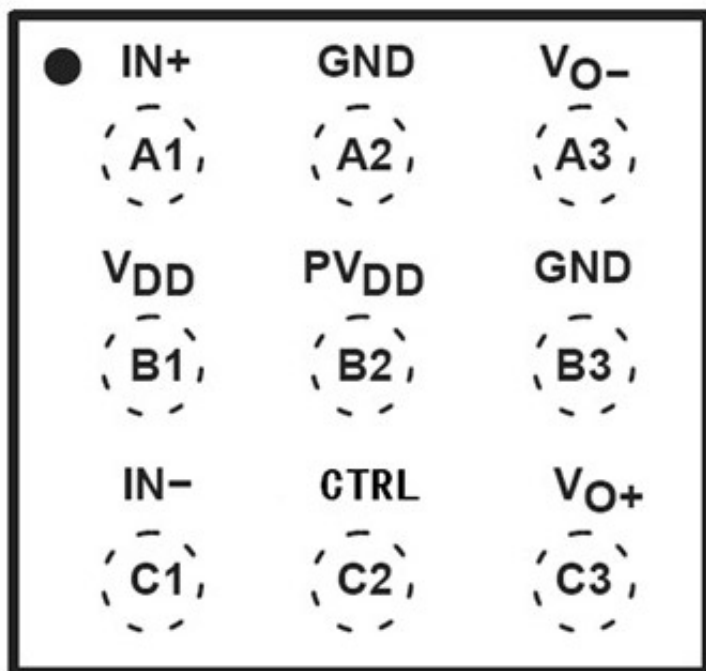
ETK2011 has the power-down function which can minimize the power consumption in the standby state.

As for protection function, over current protection function for speaker output terminal, over temperature protection function for inside of the device, and low supply voltage malfunction preventing function are prepared.

Features

- Maximum output
 - 2.5W×1ch (VDD=5.0V, RL=4Ω, THD+N=10%)
 - 1.3W×1ch (VDD=3.6V, RL=8Ω, THD+N=10%)
- Distortion Rate (THD+N)
 - 0.03% (VDD=3.6V, RL=8Ω, PO=0.4W, 1kHz)
- Residual Noise
 - 45μVrms (VDD=3.6V, Av=18dB)
- Efficiency
 - 84% (VDD=3.6V, RL=8Ω, PO=600mW)
 - 78% (VDD=3.6V, RL=8Ω, PO=100mW)
- S/N Ratio
 - 94dB (VDD=3.6V, Av=18dB)
- Over-current Protection function
- Thermal Protection function
- Low voltage Malfunction Prevention function
- Pop noise reduction function
- Power-down control function
- Power-down High speed Recovery function
- Package: WLCSP

Pin Configuration



Top View