

# Product Technical Brief

## S1M0080X

### April 2007

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### Switch Integrated Mono Class-D Amplifier

#### Overview

The S1M0080X is an High Efficiency Mono Class-D Amplifier in 20-ELP package.(3mmX3 mm)

S1M0080X integrates input and output selection switches internally, it can output various audio signals efficiently to the speaker. ( ex. Audio1,2 and Voice )

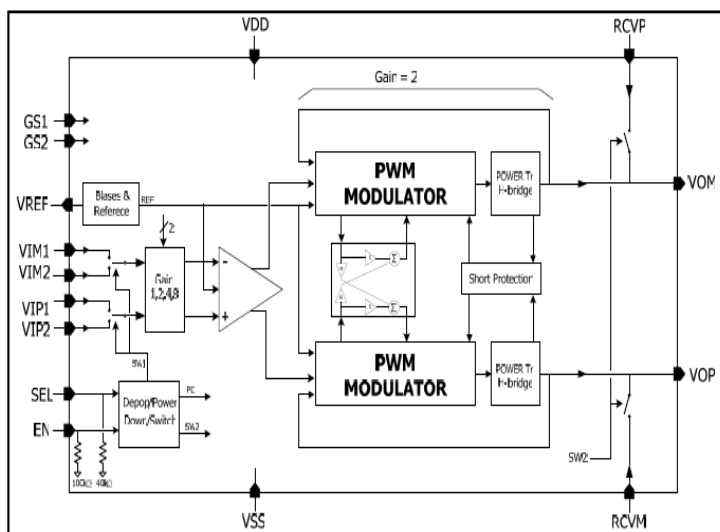
By integrating input and output selection switches, S1M0080X can contribute to the saving BoM cost and area size.

S1M0080X has a good EMI property using Spread spectrum modulation.

#### Applications

- Mobile Phones
- Portable Applications  
: PMP, Navigator, PDA, Note PC etc.

#### Functional Block Diagram



#### Features Summary

- 2.5W into 4  $\Omega$  @ 5V
  - 1.3 W into 8  $\Omega$  @ 5 V
  - 700 mW into 8  $\Omega$  @ 3.6 V
- High Efficiency
  - 91 % Efficiency , @ 3.6V, 0.7W into 8  $\Omega$
  - 86 % Efficiency , @ 3.6V, 1.2W into 4  $\Omega$
- Power Supply Range : 2.8 V to 5.5 V
- Low power consumption
- Low shut down current
- 4 ea Analog switch included
- Selectable gain of 6, 12, 18, and 24 dB
- Internal pull-down resistors in EN/SEL pins
- Fast start-up time (1ms @ Cvref =100nF)
- High Quality sound
  - THD + N < 0.01 % , 1 KHz
- Start-up procedure for preventing Pop-Up Noise
- Space saving package
  - 3mm X 3mm 20 ELP package with 0.4mm pitch
- Internal short protection circuit
  - Load short, Power short
  - Latched operation by EN pin

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