

KEY FEATURES

- Very low voltage 1 - 1.6 V DC supply
- Internal voltage regulator
- Microphone supply 0.9 V
- Class AB operation
- Open drain push-pull output stage
- Differential loudspeaker, 70 ohm min
- THD < 1 %
- 15 mW output power @ 10% THD
- Low quiescent current
- Soft startup for popless/clickless operation
- CMOS technology
- Die size 1220 um x 1220 um

DIE/PACKAGE OPTIONS

- Naked die for space saving chip-on-board mounting
- 24 lead 4X4 QFN package available on request

SHORT DESCRIPTION

The SS0105A is an audio amplifier composed of a variable gain preamp and a power amplifier capable of delivering 15 mW of peak output power to a differential loudspeaker (balanced loudspeaker) with nominal impedance down to 70 ohm.

The amplifier is tailored for medical hearing aid, being able to supply miniature electret condenser microphones and to drive miniature magnetic balanced receivers from a single zinc-air battery.

SS0105A proofs excellent sound quality and low distortion operation over large supply range for long lifetime application.

Capacitors charge transients causing typical annoying click/pop at the startup are not audible thanks to the clickless/popless feature of the SS0105A.

The circuit is designed for chip-on-board direct mounting but packaging can be organized on demand.

MAINSTREAM APPLICATIONS

- Medical hearing aid audio amplifier
- Portable audio systems

PINOUT

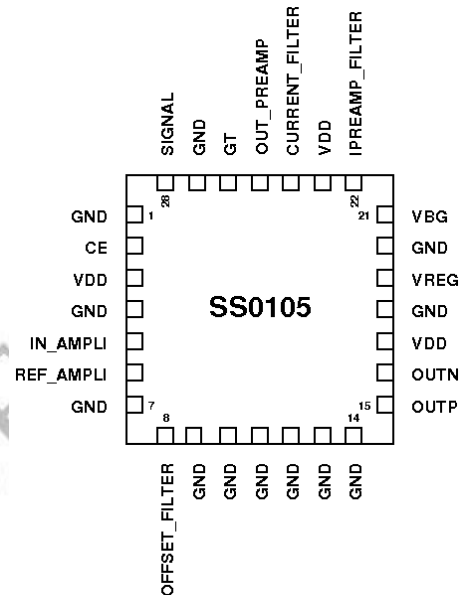


Fig. 1: Naked die version

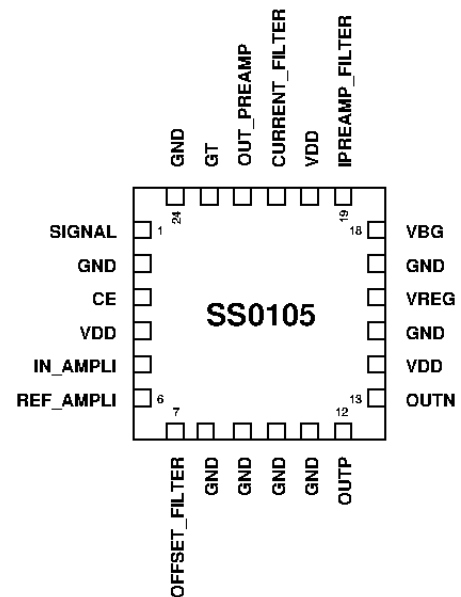


Fig. 2: 24 lead 4x4 QFN version

PIN LIST

N.	Name	Description	Mandatory/ Optional
1	GND	Ground	
2	CE	Chip enable	
3	VDD	Power supply	
4	GND	Ground	
5	IN_AMPLI	Power amplifier signal input	
6	REF_AMPLI	Power amplifier reference input	
7	GND	Ground	
8	OFFSET_FILTER	Offset filter external capacitor	
9	GND	Ground	
10	GND	Ground	
11	GND	Ground	
12	GND	Ground	
13	GND	Ground	
14	GND	Ground	
15	OUTP	Positive output to loudspeaker	
16	OUTN	Negative output to loudspeaker	
17	VDD	Power supply	
18	GND	Ground	
19	VREG	Microphone supply	
20	GND	Ground	
21	VBG	Bandgap reference voltage	
22	IPREAMP_FILTER	Preamp filter	
23	VDD	Power supply	
24	CURRENT_FILTER	Soft startup filter	
25	OUT_PREAMP	Preamplifier output (to volume control network)	
26	GT	Gain trimmer	
27	GND	Ground	
28	SIGNAL	Input signal	

Tab. 1: Naked die version pinlist

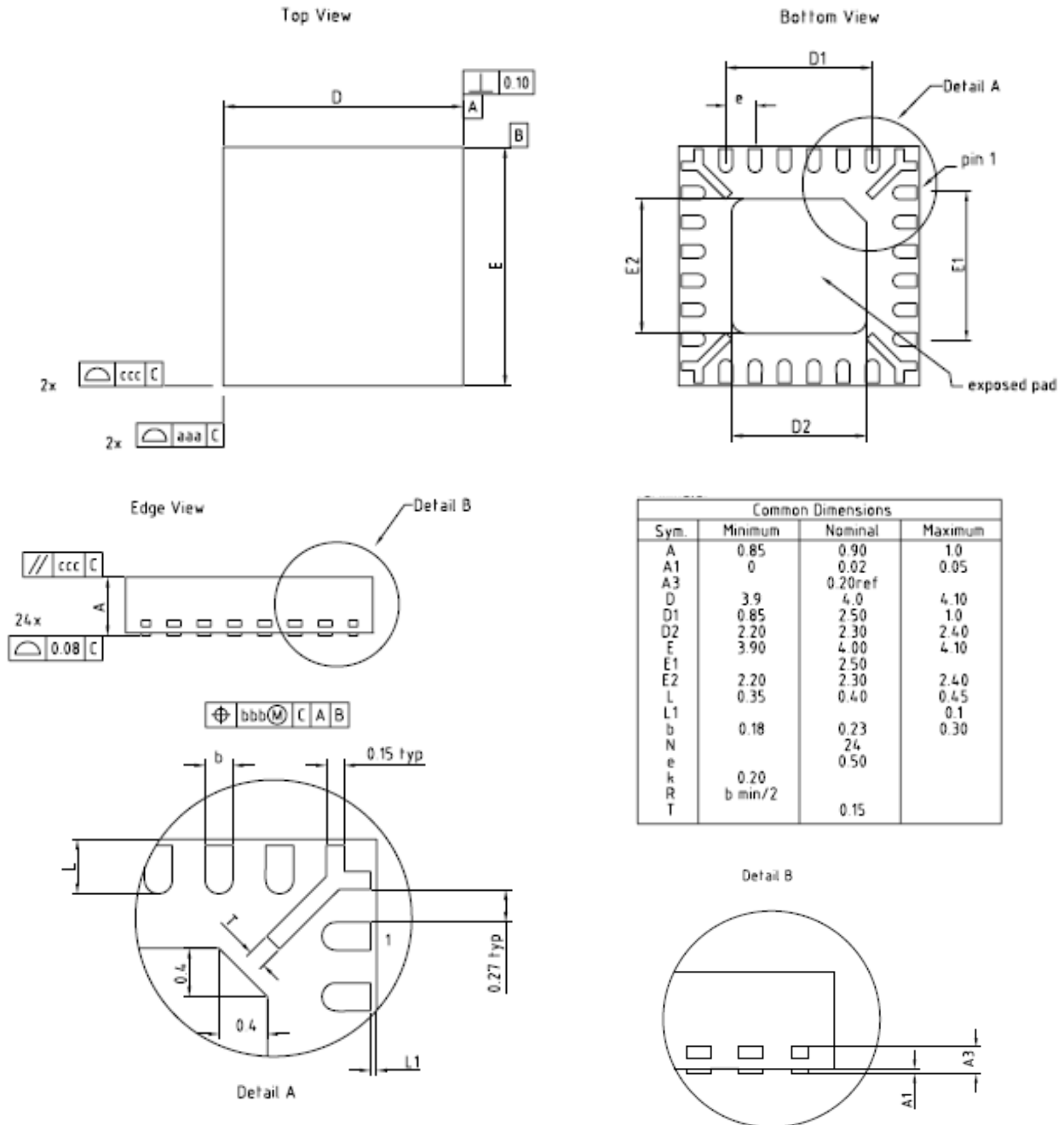
N.	Name	Description	Mandatory/ Optional
1	SIGNAL	Input signal	
2	GND	Ground	
3	CE	Chip enable	

4	VDD	Power supply	
5	IN_AMPLI	Power amplifier signal input	
6	REF_AMPLI	Power amplifier reference input	
7	OFFSET_FILTER	Offset filter external capacitor	
8	GND	Ground	
9	GND	Ground	
10	GND	Ground	
11	GND	Ground	
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23	GT	Gain trimmer	
24	GND	Ground	

Tab. 2: 24 lead 4x4 QFN version pinlist

PACKAGING

Suggested package is 24 lead QFN available under request.



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