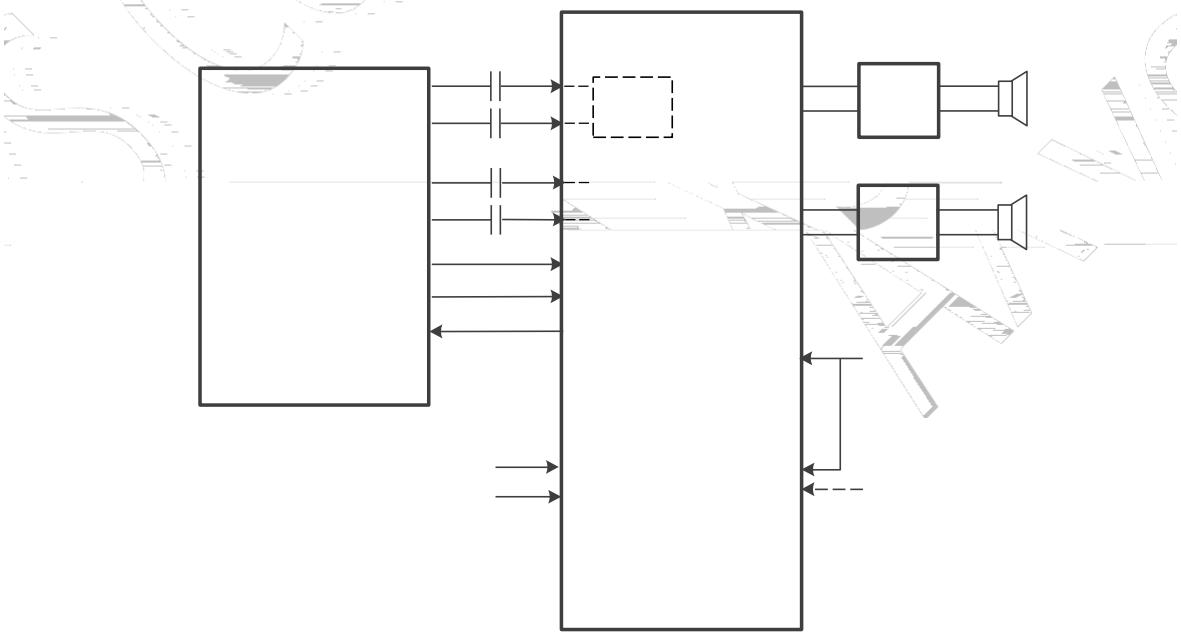
Description

The AXS2045 is a 2 x 40W high-efficiency stereo, low-idle-current Class-D amplifier. It supports single ended or differential input, and can drive 4-8Ω speakers in BTL mode and 2-4Ω speakers in PBTL mode without heat sink on a dual layer PCB.

AXS2045 includes a high PSRR feedback power



Order Information

Part Number	Package Type	Marking	Package Qty	Temp Range (℃)
AXS2045	ETSSOP24	AXS2045 XXXXXXX XXXX	Tape and Reel, 4000	-40 to 125

ESD CAUTION: These devic



4. Thermal Information

THERMAL METRIC		AXS2045 24 PINS	UNIT
R_{JA}	Junction-to-ambient thermal resistance	22	°C/W
$_{JT}$	Junction-to-top characterization parameter	0.3	°C/W
$_{JB}$	Junction-to-board characterization parameter	4.8	°C/W

For the PCB layout, see the AXS2045EVM user guide.

5. DC Electrical Characteristics

T_A

Confidential

7. Typical Characteristics

f_s = 400 kHz (unless otherwise noted)



Typical Characteristics (continued)

f_s = 400 kHz (unless otherwise noted)



Confidential

Typical Characteristics (continued)

f_s = 400 kHz, (unless otherwise noted)



Confidential

Typical Characteristics (continued)

f_s = 400 kHz, (unless otherwise noted)



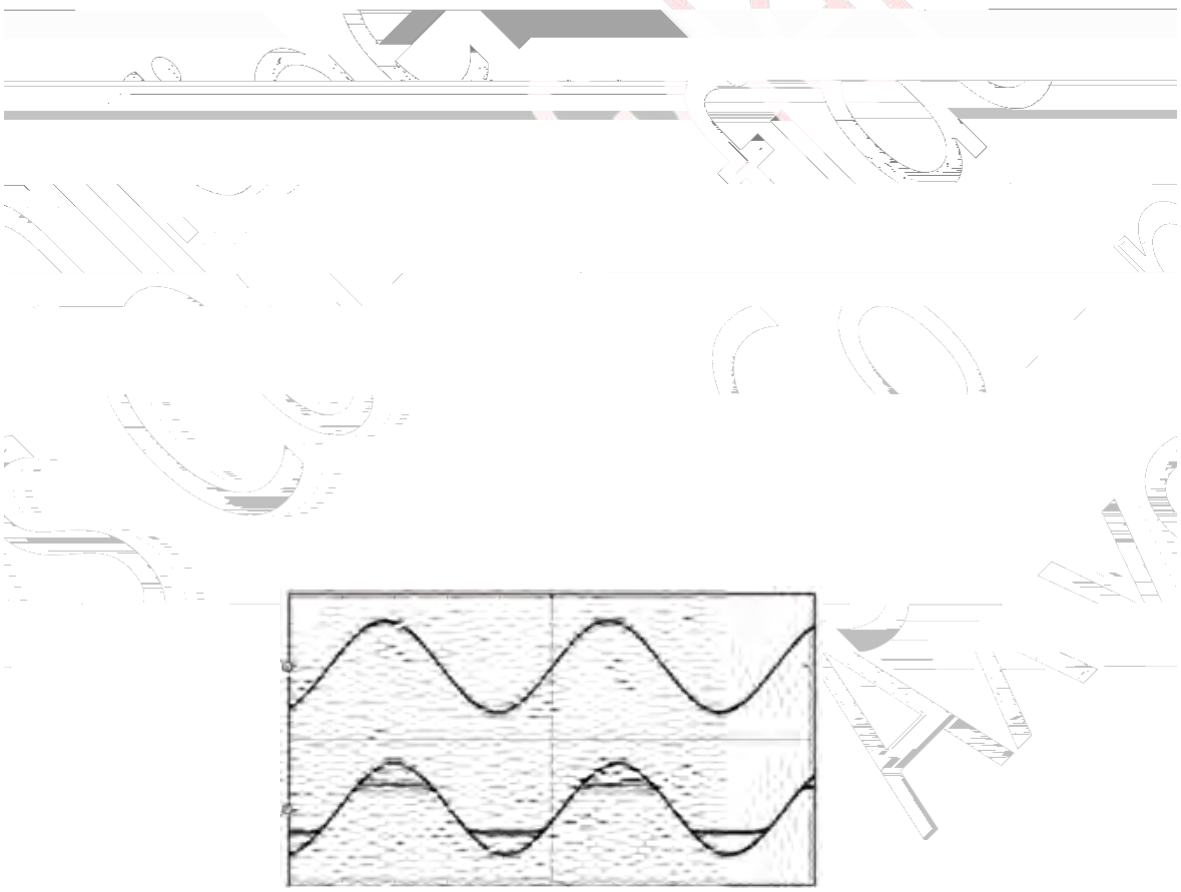
Confidential



Figure 26. Input Impedance

The input capacitors should be a type of low leakage, such as quality electrolytic, tantalum, or ceramic caacitors. If a polarized type is used the positive connection should face the input pins which are biased to 3 Vdc.

8.3.3 Startup and Shutdown Operation



The output voltage can be used to calculate the maximum output power for a given maximum input voltage and speaker impedance.

where

- P_{OUT} (10%THD) = 1.25 × P_{OUT} (unclipped)
- R_L is the load resistance.
- R_S is the total series resistance including $R_{DS(on)}$, and output filter resistance.
- V_P is the peak amplitude, which is limited by the "virtual" voltage rail.

Table 3. Power Limit Example

PV_{CC} (V)

8.3.7 Differential Inputs

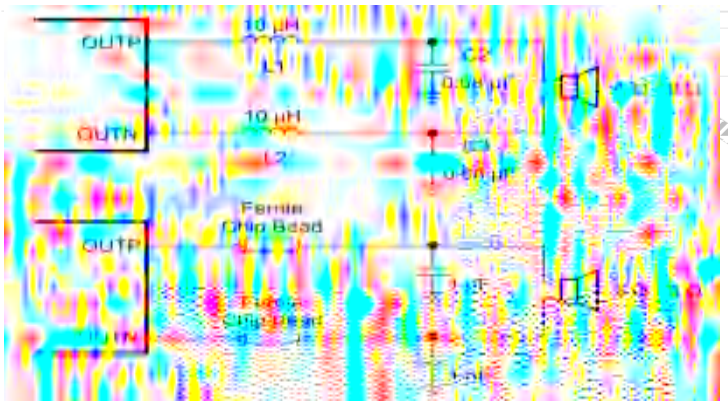
The differential input stage of the amplifier cancels any noise that appears on both input lines of the



Table 5 shows some examples of the typical DC Detect Protection threshold for several values of the supply voltage. The Detect Protection Threshold feature protects the speaker from large DC currents or AC currents less than 2 Hz. To avoid nuisance faults due to the DC detect circuit, hold the SD pin low at power-up until the signals at the inputs are stable. Also, take care to match the impedance seen at the positive and negative inputs to avoid nuisance DC detect faults.

Table 5

The ferrite bead filter should be used to block radiation in the 30-MHz and above range from appearing on the speaker wires and the power supply lines



9. Device Functional Modes

9.1 Mono PBTL Mode

AXS2045 can be configured in mono PBTL mode, the device can deliver up to 60-W output power.

- Connect LINP and LINN directly to Ground (without capacitors), so the device is set in a mono PBTL mode during power up.
- Connect OUTPR and

Packaging ETSSOP24



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